

ECM-T115/T145

SERVICE MANUAL

Ver 1.0 1999.02

US Model
Canadian Model
AEP Model
E Model



PHOTO : ECM-T115



PHOTO : ECM-T145

SPECIFICATIONS

Type	Electret condenser microphone	Frequently response	50 - 15,000 Hz
Dimensions	Microphone parts: 9 x 20.2 x 41.5 mm (w/h (including clip parts)/d) (³ / ₈ x ¹³ / ₁₆ x 1 ¹¹ / ₁₆ in.) (ECM-T115) 8.5 x 17.3 mm (diameter/length) (¹¹ / ₃₂ x 1 ¹¹ / ₁₆ in.) (ECM-T145) Battery box parts: 40 x 16.5 x 46 mm (w/h/d) (1 ⁵ / ₈ x 2 ¹ / ₃₂ x 1 ¹³ / ₁₆ in.)	Directivity	Omni-directional
Mass	Microphone parts (including cord): Approx. 11 g (0.39 oz.) (ECM-T115) Approx. 13 g (0.46 oz.) (ECM-T145) Battery box parts (including lithium battery and cord): Approx. 17 g (0.6 oz.)	Output impedance (ECM-T115, ECM-T145)	2.8 kilohms ± 30%
Cord	Microphone parts: OFC litz cord (1 cord shielded) Length: approx. 1 m (39 ³ / ₈ in.) ø 1.5 mm (¹ / ₁₆ in.) (ECM-T115) ø 2.2 mm (³ / ₃₂ in.) (ECM-T145) Battery box parts: OFC litz cord (2 core shielded) ø 2.2 mm (³ / ₃₂ in.) Length: approx. 0.3 m (11 ⁷ / ₈ in.)	Sensitivity	Open circuit output voltage level -42 ± 3 dB 0 dB = 1 V / Pa, 1,000 Hz (1 Pa = 10μ bar = 94 dB _{SPL})
Supplied accessories	Battery box (1) (ECM-T115, ECM-T145) Holder clip (1) (ECM-T145) Wind screen (1) (ECM-T145)	Battery life	Approx. 300 hours (with Sony lithium battery CR2025 (not supplied))
		Maximum sound pressure input level	Approx. 110 dB _{SPL} 1% wave distortion at 1,000 Hz (0 dB _{SPL} = 2 x 10 ⁻⁵ Pa)
		Operating temperature range	0°C - 40°C (32°F - 104°F)

Design and specifications are subject to change without notice.

ELECTRET CONDENSER MICROPHONE



SONY®

SERVICE NOTE

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

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.

Discard used batteries according to the manufacturer's instructions.

ADVARSEL!

Lithiumbatteri - Eksplosjonsfare ved feilagtig håndtering.

Udskiftning må kun ske med batteri
af samme fabrikat og type.

Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.

Benytt samme batteritype eller en tilsvarende
type anbefalt av apparatfabrikanten.

Brukte batterier kasseres i henhold til fabrikantens
instruksjoner.

VARNING

Explosionsfara vid felaktigt batteribyte.

Använd samma batterityp eller en ekvivalent typ som
rekommenderas av apparattillverkaren.

Kassera använt batteri enligt fabrikantens instruktion.

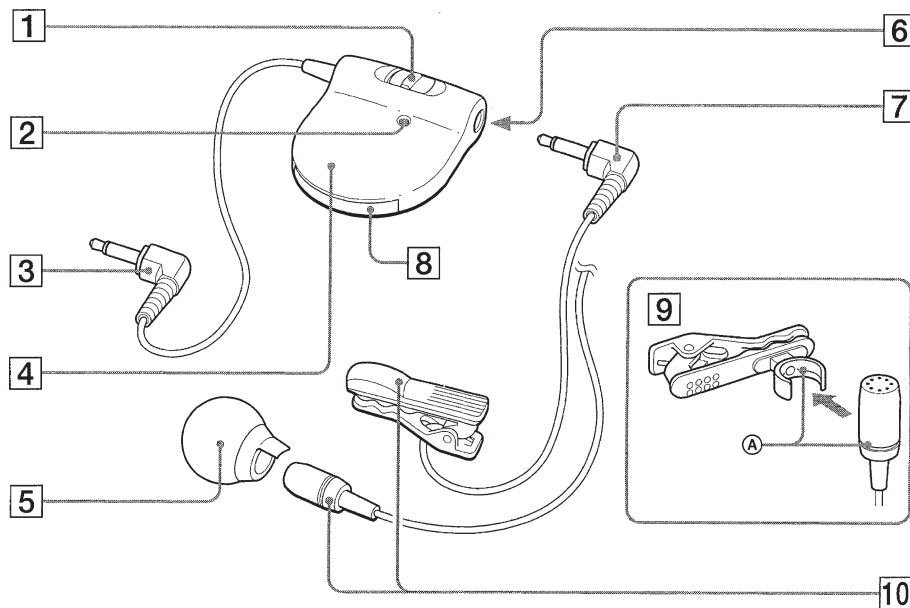
VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

SECTION 1 GENERAL

This section is extracted
from instruction manual.

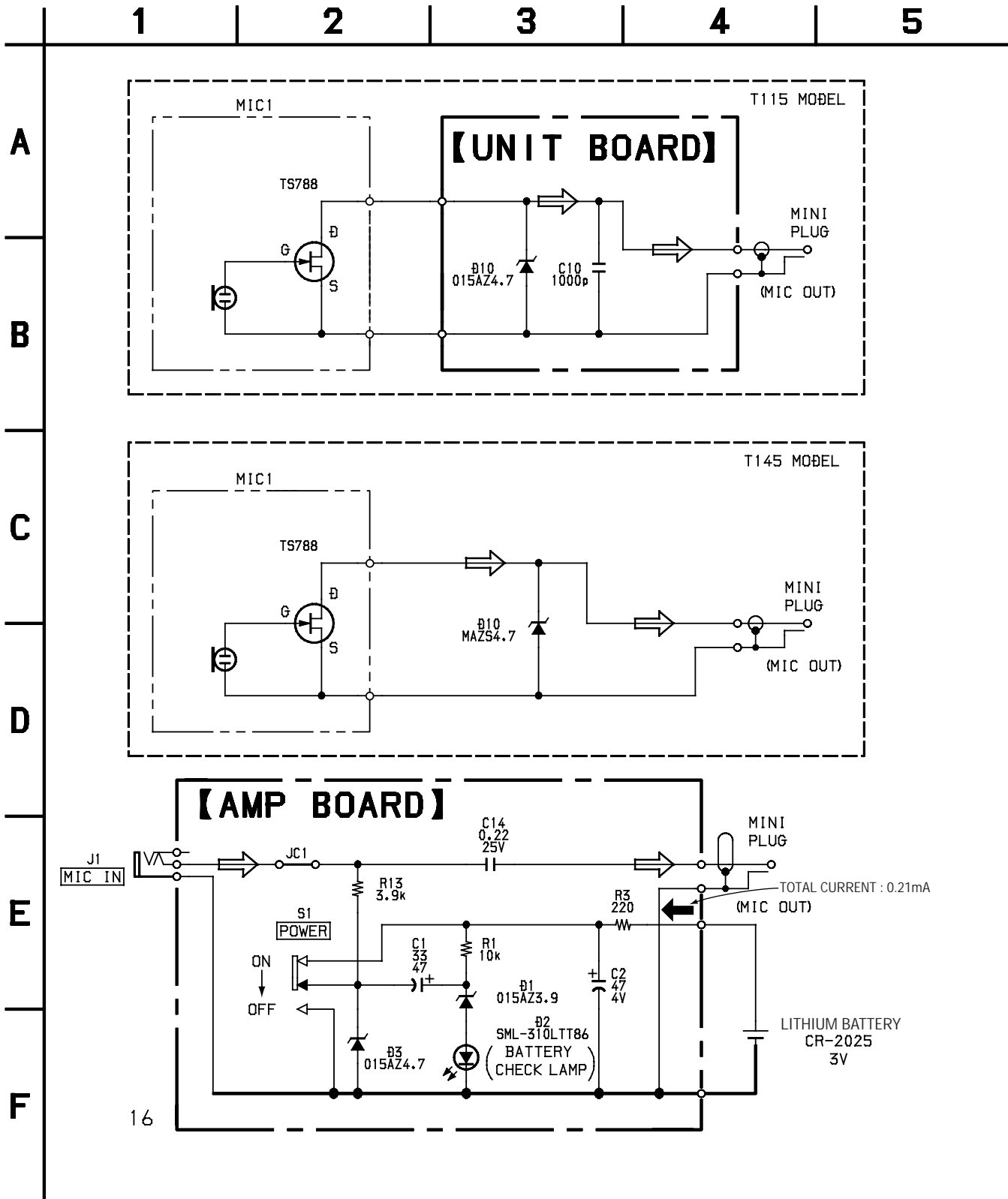


Parts Identification

- 1 POWER switch**
- 2 Battery check indicator**
When you turn the power on, the battery check indicator lights up momentarily. This is normal. The light tells you that the battery still has life. When the battery becomes weak, the indicator lights dimly or does not light at all.
- 3 L-shaped monaural miniplug (gold plated)**
- 4 Battery box**
(Supplied only to ECM-T115/T145)
You can clip the battery box to your tie, lapel or pocket.
- 5 Wind screen**
(Supplied only to ECM-T145)
Attach to reduce hollow noise caused by the direct exposure to direct wind or breath.
- 6 Microphone jack**
- 7 L-shaped monaural miniplug (gold plated)**
- 8 Battery compartment**
- 9 Holder clip**
(Supplied only to ECM-T145)
Ⓐ Interlock the projection of the holder to the groove on the microphone.
- 10 Microphone**

SECTION 2
DIAGRAMS

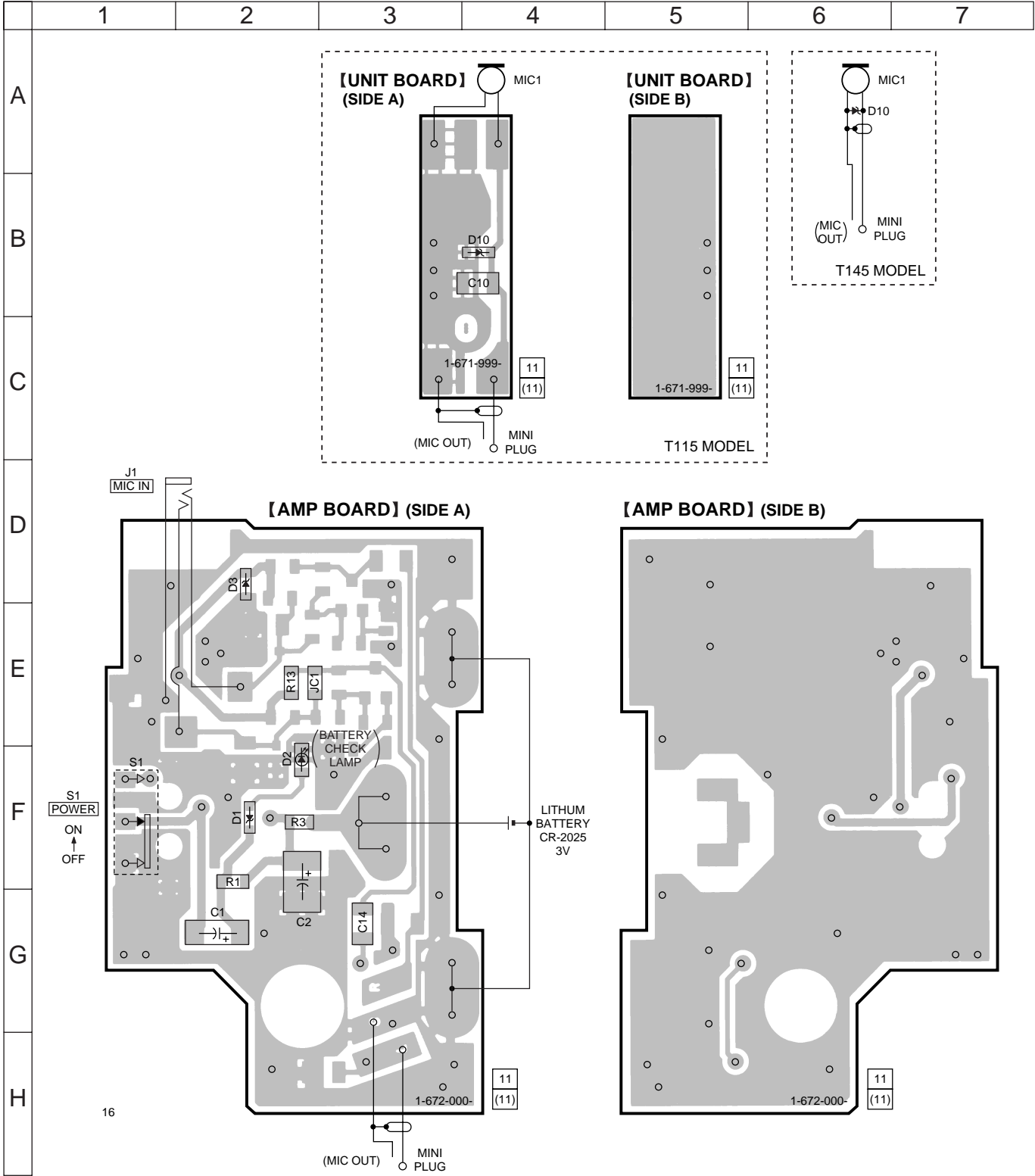
2-1. SCHEMATIC DIAGRAM



Note on Schematic Diagram:

- All capacitors are in μF unless otherwise noted. pF : μpF
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4 \text{ W}$ or less unless otherwise specified.
- % : indicates tolerance.
- : panel designation.
- Signal path.
- \Rightarrow : MIC

2-2. PRINTED WIRING BOARD



• Semiconductor Location

Ref. No.	Location
D1	F-2
D2	F-2
D3	D-2
D10	B-4, A-6

Note on Printed Wiring Board:

- : parts extracted from the component side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing.

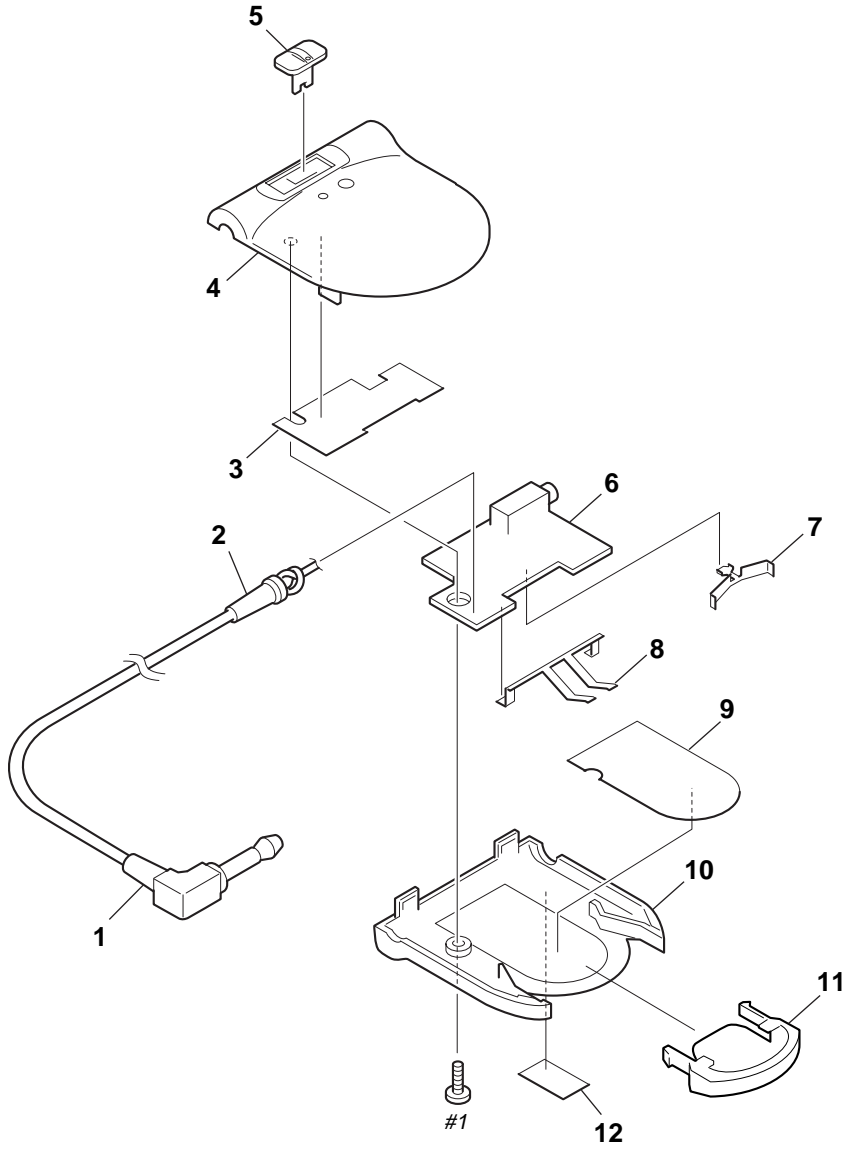
Caution:
 Pattern face side: Parts on the pattern face side seen from the pattern face are indicated.
 Parts face side: Parts on the parts face side seen from the parts face are indicated.

SECTION 3 EXPLODED VIEWS

NOTE:

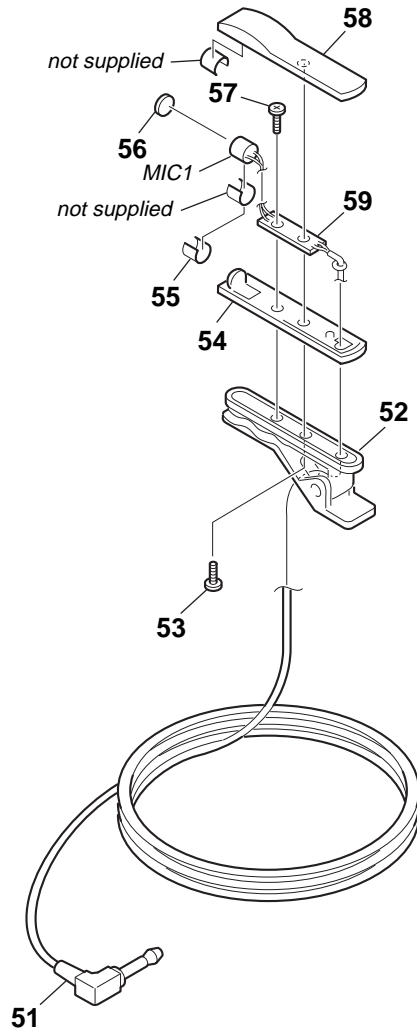
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded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

3-1. BATTERY BOX SECTION



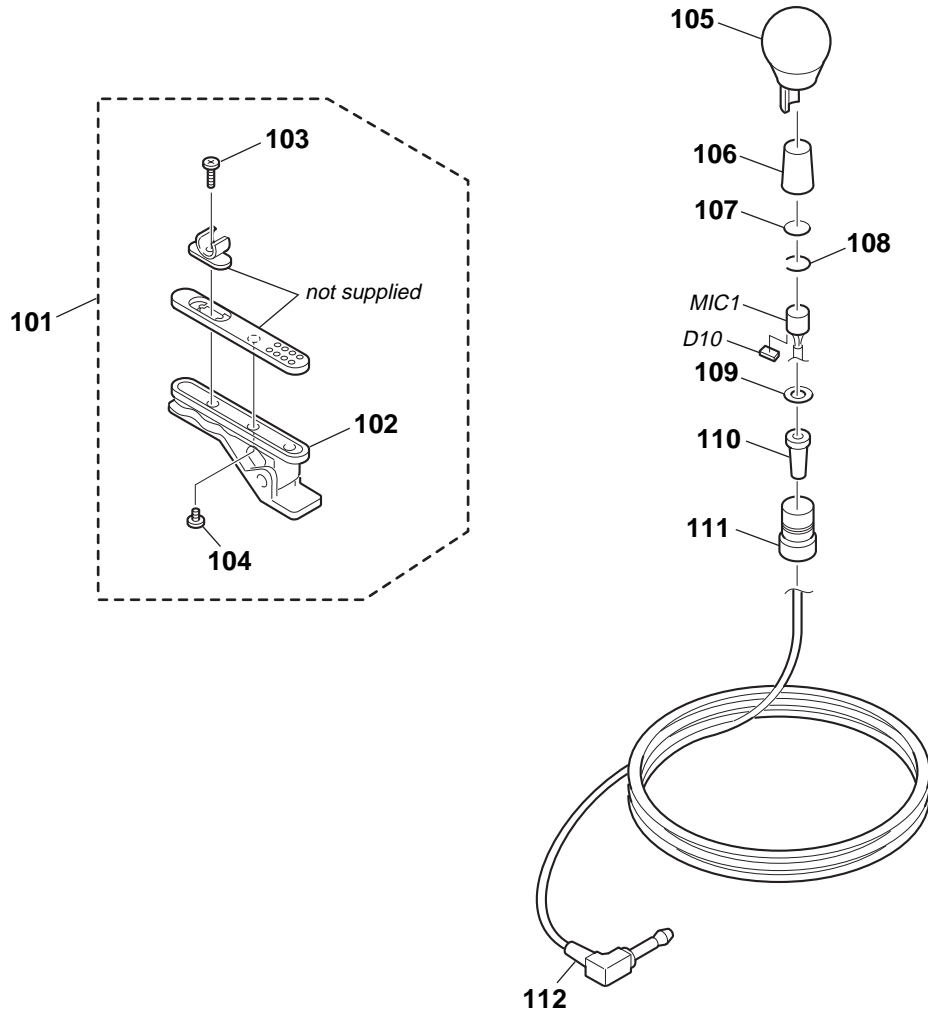
Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	1-790-104-11	CORD, MICROPHONE (1 CORE)		8	2-545-590-01	TERMINAL, MINUS	
2	2-545-592-01	BUSHING		9	2-545-599-01	SHEET, BLIND	
3	2-545-593-01	SHEET, SHIELD		10	2-545-586-01	CASE (LOWER), BATTERY	
4	X-2542-165-1	CASE (UPPER) ASSY, BATTERY		11	2-545-587-01	HOLDER, BATTERY	
5	2-545-588-01	KNOB, SWITCH		12	2-545-601-01	LABEL, MODEL NUMBER (T115)	
* 6	A-4542-561-A	AMP BOARD, COMPLETE		12	2-545-606-01	LABEL, MODEL NUMBER (T145)	
7	2-545-589-01	TERMINAL, PLUS		#1	7-685-103-19	SCREW +P 2 x 5 TYPE2 NON-SLIT	

3-2. MIC SECTION (T115 MODEL)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	1-790-102-11	CORD, MICROPHONE (1 CORE)		56	2-543-437-01	REGISTER	
52	X-2542-079-1	CLIP ASSY		57	3-309-597-31	SCREW (1.4), TAPPING,PRECISION	
53	3-704-197-72	SCREW (M1.4X4.5), LOCKING		58	2-545-583-01	COVER, MICROPHONE	
54	2-545-584-01	BASE, MICROPHONE		* 59	1-671-999-11	UNIT BOARD	
* 55	4-916-272-01	SPACER		MIC1	8-814-294-00	MICROPHONE CAPSULE C-1053	

3-3. MIC SECTION (T145 MODEL)



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
101	A-4540-185-A	CLIP ASSY, HOLDER		108	2-545-596-01	SPACER	
102	X-2542-079-1	CLIP ASSY		109	2-536-803-01	STOPPER	
103	3-704-197-12	SCREW (M1.4X2.0), LOCKING		110	2-545-592-01	BUSHING	
104	3-309-597-51	SCREW (1.4), TAPPING,PRECISION		111	2-545-591-01	CASE, BUSHING	
105	X-2542-166-1	SCREEN ASSY, WINDOW		112	1-790-103-11	CORD, MICROPHONE (1 CORE)	
106	2-545-564-01	CASE, MICROPHONE		D10	8-719-056-29	DIODE 015AZ4.7-TPL3	
107	2-545-595-01	NET, INNER		MIC1	8-814-294-00	MICROPHONE CAPSULE C-1053	

SECTION 4 ELECTRICAL PARTS LIST

AMP
UNIT

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

- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H

- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... , uPA... , μ PA... ,
uPB... , μ PB... , uPC... , μ PC... ,
uPD... , μ PD...

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

Ref. No.	Part No.	Description	Remarks		Ref. No.	Part No.	Description	Remarks
*	A-4542-561-A	AMP BOARD, COMPLETE *****			*	1-671-999-11	UNIT BOARD (T115) *****	
		< CAPACITOR >					< CAPACITOR >	
C1	1-119-749-11	TANTAL. CHIP	33uF 20% 4V		C10	1-163-009-11	CERAMIC CHIP 0.001uF 10% 50V (T115)	
C2	1-104-908-11	TANTAL. CHIP	47uF 20% 4V				< DIODE >	
C14	1-164-222-11	CERAMIC CHIP	0.22uF 25V		D10	8-719-056-29	DIODE 015AZ4.7-TPL3 (T115)	
		< DIODE >			*****			
D1	8-719-072-95	DIODE 015AZ3.9-X-TPL3					MISCELLANEOUS	
D2	8-719-064-07	LED SML-310LTT86 (BATTERY CHECK LAMP)					*****	
D3	8-719-056-29	DIODE 015AZ4.7-TPL3			1	1-790-104-11	CORD, MICROPHONE (1 CORE)	
		< JACK >			51	1-790-102-11	CORD, MICROPHONE (1 CORE) (T115)	
J1	1-764-624-51	JACK(MIC IN)			112	1-790-103-11	CORD, MICROPHONE (1 CORE) (T145)	
		< RESISTOR >			D10	8-719-056-29	DIODE 015AZ4.7-TPL3 (T145)	
JC1	1-216-864-11	METAL CHIP 0 5% 1/16W			MIC1	8-814-294-00	MICROPHONE CAPSULE C-1053	
		< RESISTOR >			*****			
R1	1-216-833-11	METAL CHIP 10K 5% 1/16W					ACCESSORIES & PACKING MATERIALS	
R3	1-216-813-11	METAL CHIP 220 5% 1/16W					*****	
R13	1-216-828-11	METAL CHIP 3.9K 5% 1/16W			3-865-088-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, SWEDISH, ITALIAN, PORTUGAL)		
		< SWITCH >						
S1	1-692-397-21	SWITCH, SLIDE (POWER)						
