ECM-TS125

SERVICE MANUAL

AEP Model

Ver 1.0 1999. 05

SPECIFICATIONS

Type	Electret condenser microphone
Dimensions	Microphone parts:
	11 × 26 mm (diameter/length)($^{7}/_{16} \times 1^{1}/_{16}$ in.)
	Battery box parts:
	40 × 16.5 × 46 mm (w/h/d)
	($1^{5}/_{8} \times 2^{1}/_{32} \times 1^{13}/_{16}$ in.)
Mass	Microphone parts (including cord):
	Approx. 15 g (0.53 oz.)
	Battery box parts
	(including lithium battery and cord):
	Approx. 17 g (0.6 oz.)
Cord	Microphone parts:
	∅2.2 mm ($^{3}/_{32}$ in.)OFC litz cord (2 core shielded)
	Length: approx. 1 m ($39^{3}/_{8}$ in.)
	Battery box parts:
	∅2.2 mm ($^{3}/_{32}$ in.)OFC litz cord (2 core shielded)
	Length: approx. 0.3 m ($11^{7}/_{8}$ in.)
Supplied accessories	
	Battery box (1)
	Holder clip (1)
Frequently response	
	100 – 16,000 Hz
Directivity	Unidirectional × 2
Output impedance	
	3 kΩ ±30%
Sensitivity	Open circuit output voltage level -42 ±4dB
	0 dB=1V/Pa, 1,000 Hz(1Pa=10μ bar=94 dB_{SPL})
Battery life	Approx. 100 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 × 10^{-5}Pa)
Operating temperature range	
	0°C – 40°C (32°F – 104°F)

Design and specifications are subject to change without notice.

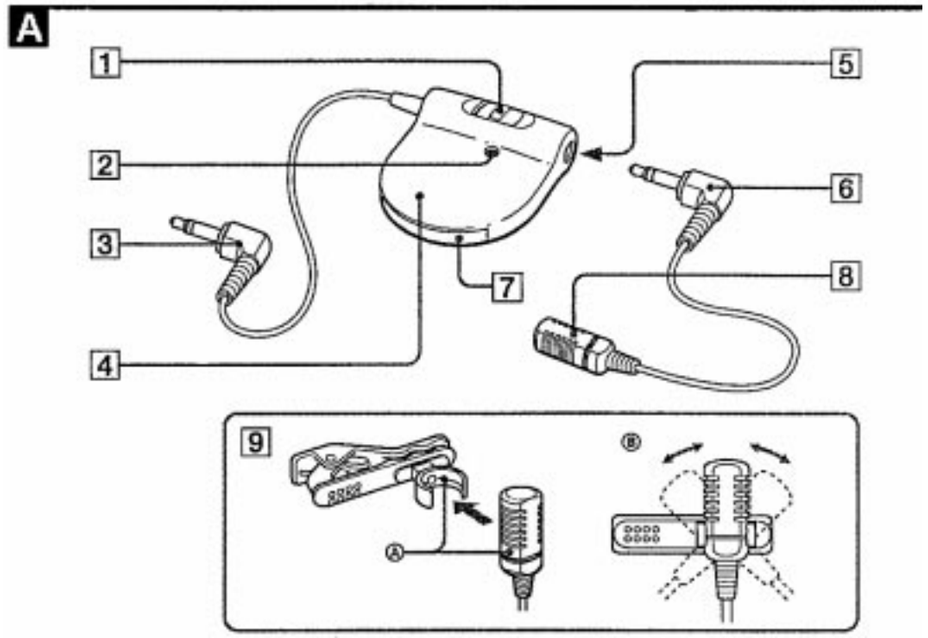
ELECTRET CONDENSER MICROPHONE

MICROFILM

SONY®

SECTION 1
GENERAL

This section is extracted from instruction manual.



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 stereo miniplug (gold plated)
4 Battery box
You can clip the battery box to your tie, lapel or pocket.
5 Microphone jack
6 L-shaped stereo miniplug (gold plated)
7 Battery compartment
8 Microphone
9 Holder clip
Ⓐ Interlock the projection of the holder to the groove on the microphone.
Ⓑ This microphone holder allows you to tilt the microphone 45° backward or forward.

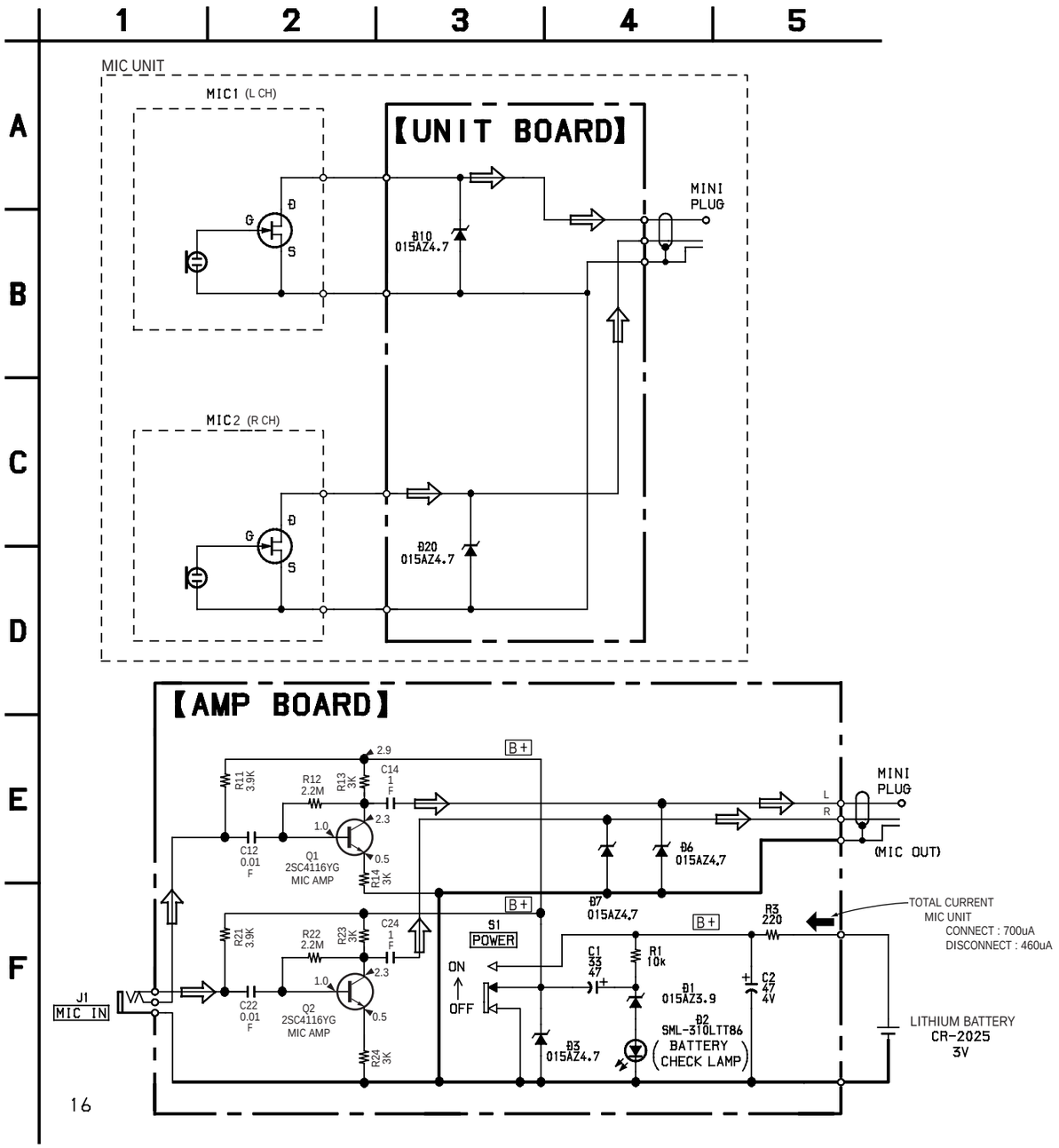
SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270˚C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

SECTION 2
DIAGRAMS

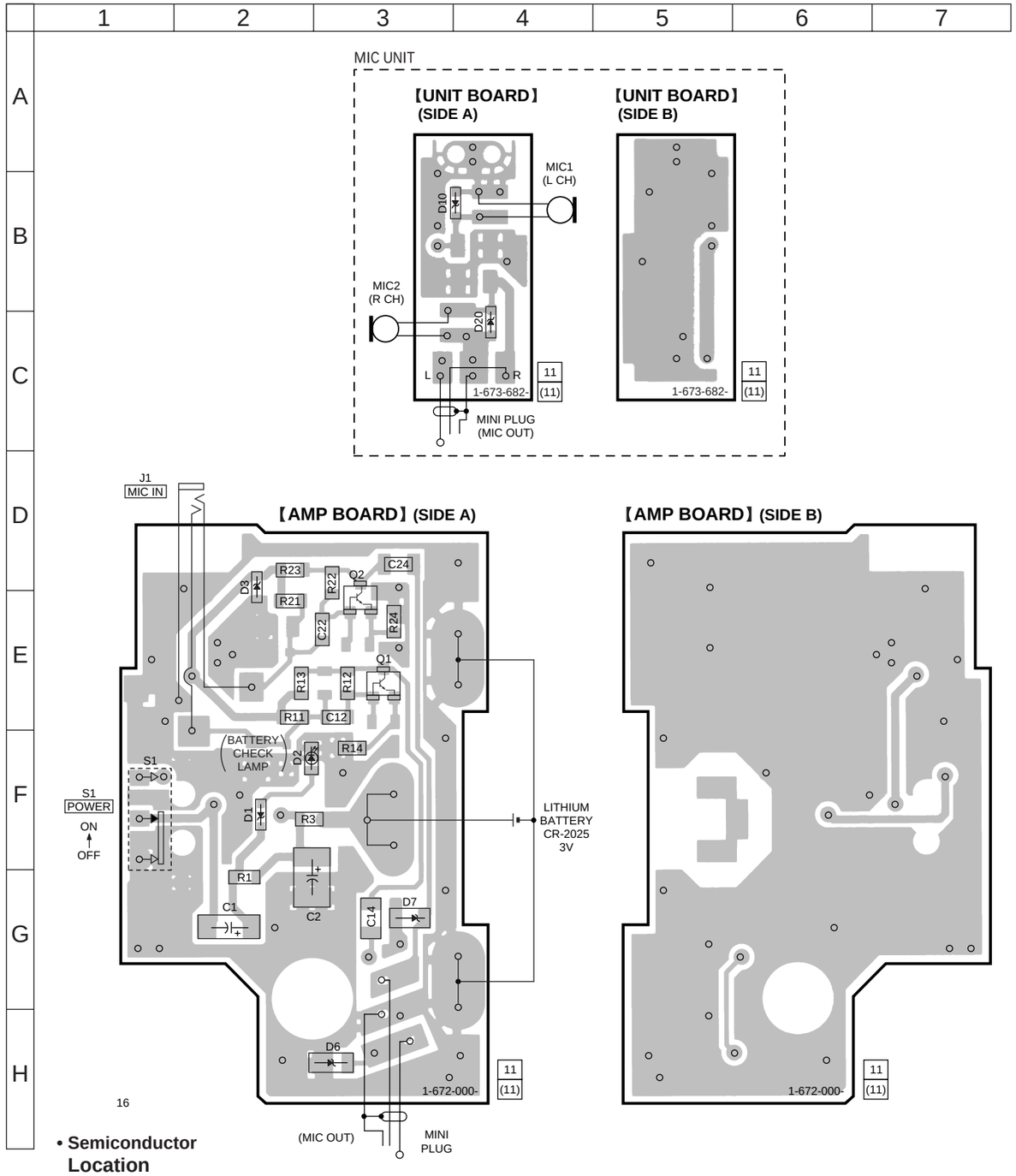
2-1. SCHEMATIC DIAGRAM



Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : MIC

2-2. PRINTED WIRING BOARD



- **Semiconductor Location**

Ref. No.	Location
D1	F-2
D2	F-3
D3	D-2
D6	H-3
D7	G-3
D10	B-3
D20	B-4
Q1	E-3
Q2	D-3

Note on Printed Wiring Board:

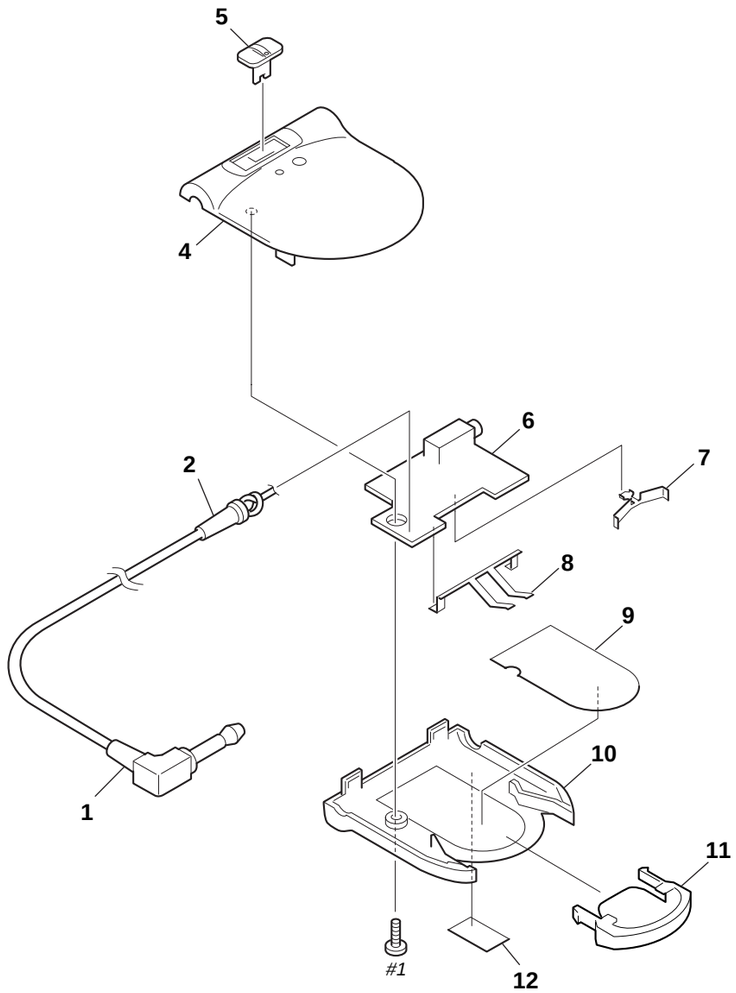
- o——— : parts extracted from the component side.
- ○ : Through hole.
- ▒▒ : Pattern of the rear side.

Caution:	
Pattern face side: (Conductor B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component A)	Parts on the parts face side seen from the parts face are indicated.

SECTION 3
EXPLODED VIEW

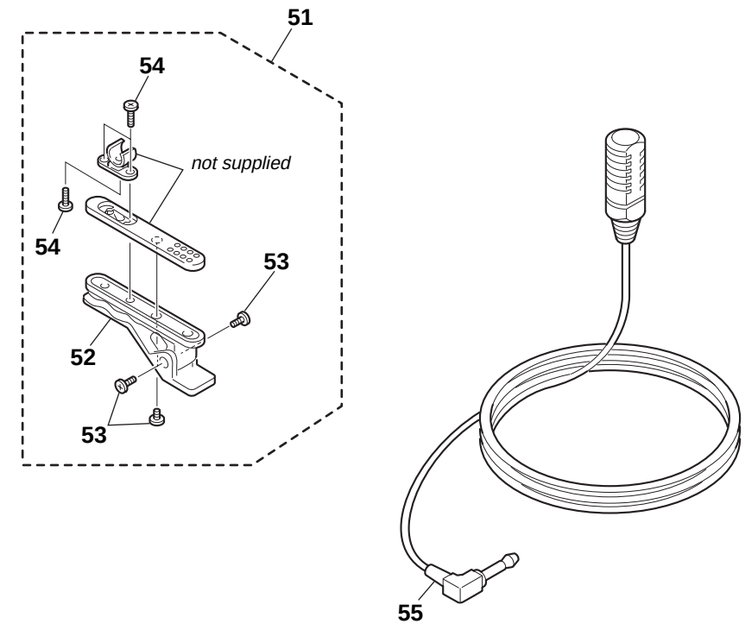
NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded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

3-1. BATTERY BOX SECTION



Ref. No.	Part No.	Description	Remarks
1	1-790-506-21	CORD,MICROPHONE (2 CORE)	
2	2-545-592-01	BUSHING	
4	X-2542-165-1	CASE(UPPER) ASSY, BATTERY	
5	2-545-588-01	KNOB,SWITCH (POWER)	
* 6	A-4542-575-A	AMP BOARD, COMPLETE	
7	2-545-589-01	TERMINAL, PLUS	
8	2-545-590-01	TERMINAL, MINUS	
9	2-545-599-01	SHEET, BLIND	
10	2-545-586-01	CASE(LOWER), BATTERY	
11	2-545-587-01	HOLDER, BATTERY	
12	2-545-668-01	LABEL, MODEL NUMBER	
#1	7-685-103-19	SCREW +P 2 × 5 TYPE2 NON-SLIT	

3-2. MAIN SECTION



Ref. No.	Part No.	Description	Remarks
51	A-4540-182-A	CLIP ASSY, HOLDER	
52	X-2542-079-1	CLIP ASSY	
53	3-704-197-12	SCREW (M1.4 × 2.0), LOCKING	
54	3-309-597-31	SCREW (1.4), TAPPING,PRECISION	
55	A-4540-570-A	MICROPHONE ASSY, LAVALIER (MIC UNIT)	

AMP

SECTION 4
ELECTRICAL PARTS LEST

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: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH

- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

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

Ref. No.	Part No.	Description			Remarks
*	A-4542-575-A	AMP BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C2	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C12	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C14	1-164-346-11	CERAMIC CHIP	1uF		16V
C22	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C24	1-164-346-11	CERAMIC CHIP	1uF		16V
		< DIODE >			
D1	8-719-072-95	DIODE 015AZ3.9-X-TPL3			
D2	8-719-064-07	LEDSML-310LTT86 (BATTERY CHECK UNIT)			
D3	8-719-056-29	DIODE 015AZ4.7-TPL3			
D6	8-719-056-29	DIODE 015AZ4.7-TPL3			
D7	8-719-056-29	DIODE 015AZ4.7-TPL3			
		< JACK >			
J1	1-764-624-51	JACK(MIC IN)			
		< TRANSISTOR >			
Q1	8-729-230-63	TRANSISTOR 2SC4116-YG			
Q2	8-729-230-63	TRANSISTOR 2SC4116-YG			
		< RESISTOR >			
R1	1-216-833-91	RES,CHIP	10K	5%	1/16W
R3	1-216-813-11	METAL CHIP	220	5%	1/16W
R11	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R12	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R13	1-218-703-11	METAL CHIP	3K	0.50%	1/16W
R14	1-218-703-11	METAL CHIP	3K	0.50%	1/16W
R21	1-218-706-11	METAL CHIP	3.9K	0.50%	1/16W
R22	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R23	1-218-703-11	METAL CHIP	3K	0.50%	1/16W
R24	1-218-703-11	METAL CHIP	3K	0.50%	1/16W
		< SWITCH >			
S1	1-692-397-21	SWITCH, SLIDE (POWER)			
**********					

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
1	1-790-506-21	CORD, MICROPHONE (2 CORE)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-866-282-11	MANUAL, INSTRUCTION (ENGLISH)	
	A-4540-182-A	CLIP ASSY, HOLDER	

9-926-940-11

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