

# ECM-S80

## SERVICE MANUAL

Ver 1.0 2002. 02



*US Model  
Canadian Model  
AEP Model  
E Model*

### SPECIFICATIONS

Type	Electret condenser microphone
Cord	Ø 2.2 mm ( $^3/32$ in.)OFC litz cord (2 core shielded) Length:Approx.70 cm ( $27\ 5/8$ in.) Attached with gold plated L-shaped stereo miniplug
Power source	2 way power supply system plug-in power alkaline manganese battery LR44 (1)
Dimensions	Approx.54 × 11 × 86 mm (w/h/d) ( $2\ 1/4 \times 7/16 \times 3\ 1/2$ in.)
Mass	Approx.39 g (1 oz.)(including battery)
Frequently response	100 – 10,000 Hz
Directivity	Unidirectional × 2
Output impedance	1.6 k $\Omega$ ± 30%
Sensitivity	Open circuit output voltage level $-40 \pm 4$ dB/Pa 0 dB = 1 V /Pa,1,000 Hz (1 Pa = 10 $\mu$ bar = 94 dBsPL)
Battery life	Approx.80 hours (continuous operation)
Operating temperature range	0 °C – 40 °C (32 °F – 104 °F)

Design and specifications are subject to change without notice.

## ELECTRET CONDENSER MICROPHONE

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2002B0200-1  
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**Sony Corporation**  
Personal Audio Company  
Published by Sony Engineering Corporation

# SONY®

## SECTION 1 SERVICING NOTES

### 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.

### ● UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead. (Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

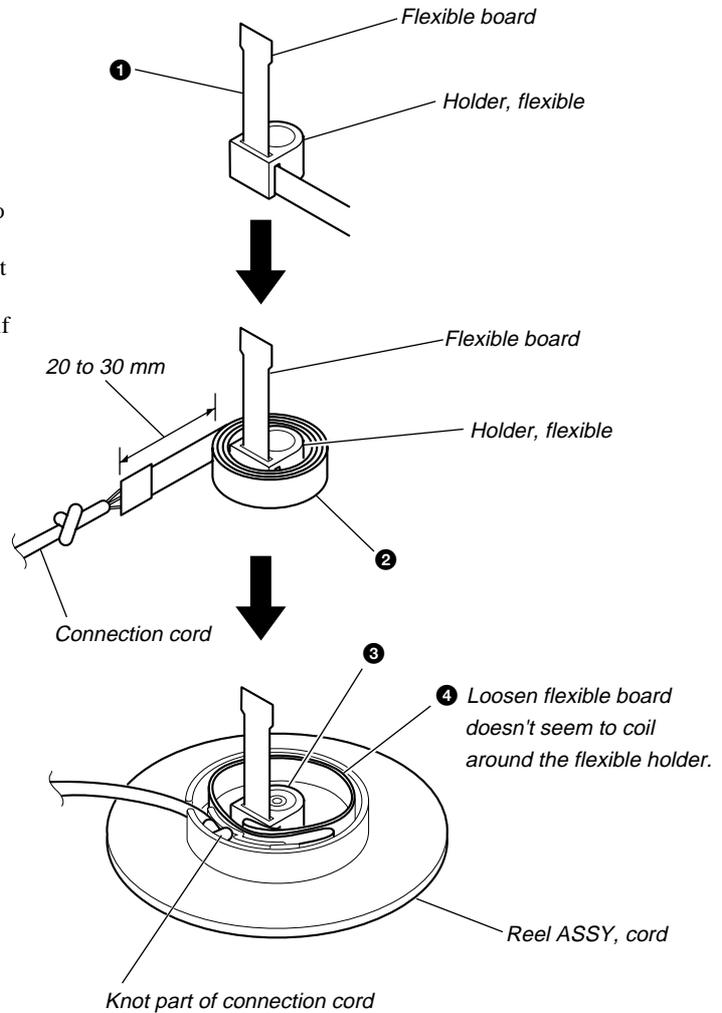
#### **LF** : LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.  
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time. Soldering irons using a temperature regulator should be set to about 350°C.  
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity  
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder  
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

### “REEL ASSY, CORD” INSTALLATION

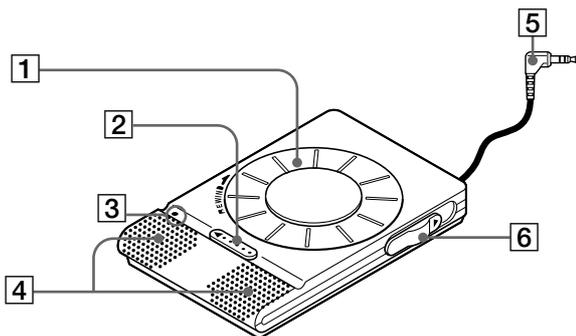
- 1 Put the flexible board through the hole of the flexible holder.
  - 2 Wind flexible board around the flexible holder.
- Note :** Leave the flexible board for 20 to 30mm.
- 3 Attach the flexible holder to the "reel ASSY, cord".
  - 4 Loosen flexible board doesn't seem to coil around the flexible holder.



## SECTION 2 GENERAL

### LOCATING THE CONTROLS

This section is extracted from instruction manual.



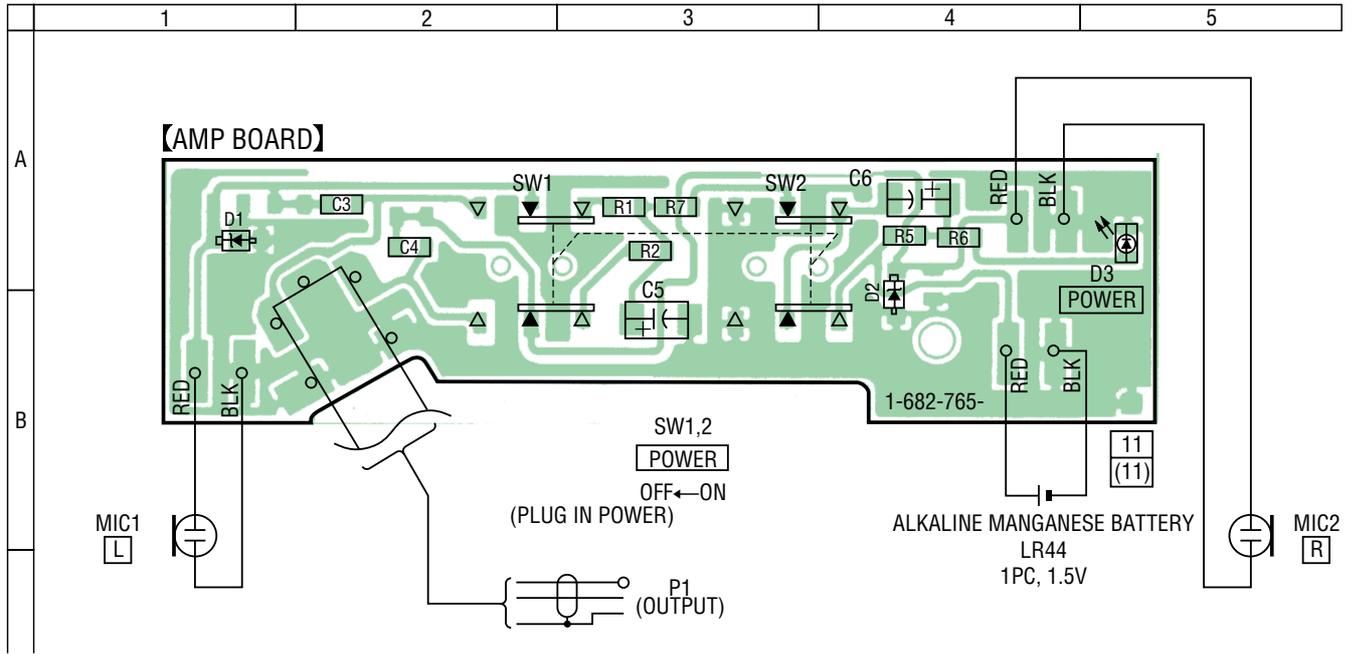
- 1 **Cord retracting wheel**
- 2 **POWER switch**  
When the microphone is powered by plug-in power, turn its own power off.
- 3 **Battery check indicator**
- 4 **Microphone**
- 5 **Stereo miniplug**  
To the microphone jack of the recording equipment
- 6 **Slide**

# SECTION 3 DIAGRAMS

ECM-S80

## 3-1. PRINTED WIRING BOARD

 : Uses unleaded solder.

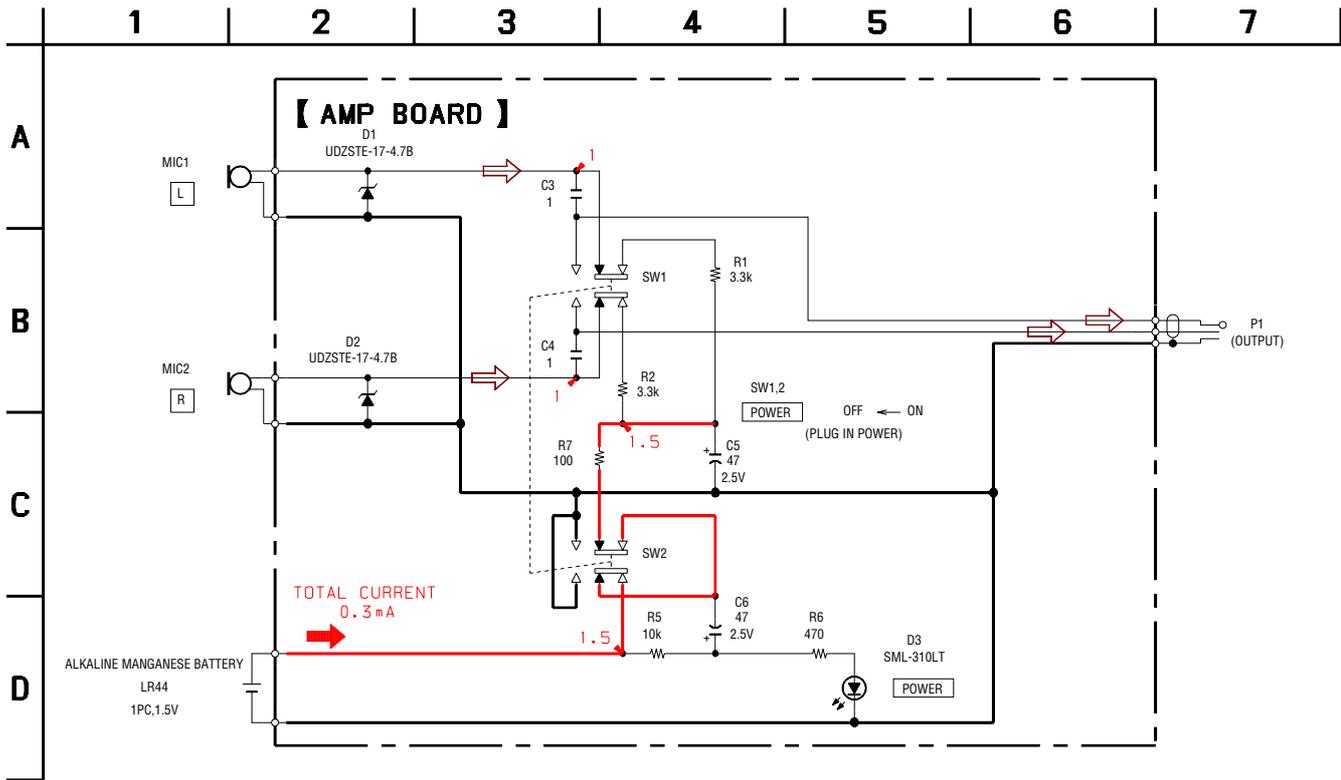


**Note:**

- — : parts extracted from the component side.
- : Pattern from the side which enables seeing.

# ECM-S80

## 3-2. SCHEMATIC DIAGRAM



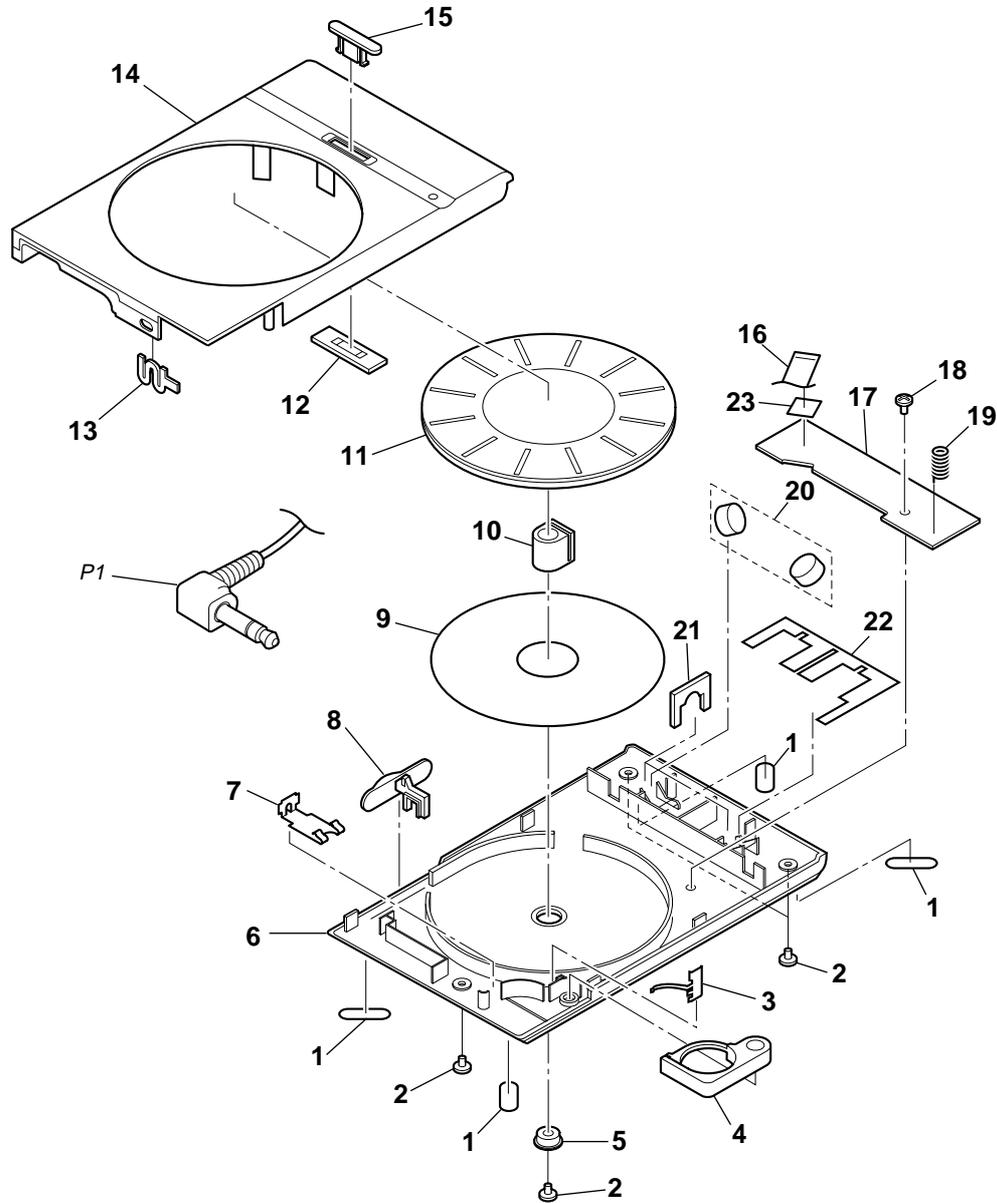
**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\mu\text{F}$  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.
- — : B+ Line.
- Voltages are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
- Signal path.  
⇒

## SECTION 4 EXPLODED VIEW

**NOTE :**

- -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.
- The mechanical parts with no reference number in the exploded views are not supplied.



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-234-433-01	FOOT, RUBBER		13	3-234-424-01	SPRING, LOCK	
2	3-318-203-01	SCREW (B 1.7X6), TAPPING		14	A-3174-081-A	CASE ASSY, FRONT	
3	3-234-420-01	TERMINAL, PLUS		15	3-234-423-01	KNOB, SWITCH	
4	3-234-425-01	CASE, BATTERY		16	1-682-766-11	FLEXIBLE BOARD	
5	3-234-430-02	SLEEVE		* 17	1-682-765-11	AMPLIFIER BOARD	
6	3-234-418-01	CASE, REAR		18	3-318-203-34	SCREW (B1.7X2.5), TAPPING	
7	3-234-421-01	TERMINAL, MINUS		19	3-237-418-01	SPRING, GROUND COIL	
8	3-234-427-01	SLIDE, CORD		20	A-3174-087-A	UNIT ASSY (MIC L, R)	
9	3-234-434-01	RING, SLIP		21	3-237-422-01	CUSHION	
10	3-234-431-01	HOLDER, FLEXIBLE		22	3-238-572-01	PLATE, GROUND	
11	A-3174-083-A	REEL ASSY, CORD		23	3-237-420-01	SHEET (E), DOUBLE-FACE ADHESIVE	
12	3-234-422-01	LEVER, SWITCH		P1	1-823-289-11	CORD, CONNECTION (2 CORE) (OUTPUT)	

**SECTION 5  
ELECTRICAL PARTS LIST**

Note:

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

- 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.
- RESISTORS  
All resistors are in ohms  
METAL: Metal-film resistor  
METAL OXIDE: Metal Oxide-film resistor  
F : nonflammable
- 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

Ref. No.	Part No.	Description	Remarks
*	1-682-765-11	AMPLIFIER BOARD ***** <CAPASITOR>	
C3	1-125-837-11	CERAMIC CHIP 1uF	10% 6.3V
C4	1-125-837-11	CERAMIC CHIP 1uF	10% 6.3V
C5	1-119-663-11	TANTAL. CHIP 47uF	20% 2.5V
C6	1-119-663-11	TANTAL. CHIP 47uF	20% 2.5V
		<DIODE>	
D1	8-719-083-60	DIODE UDZSTE-174.7B	
D2	8-719-083-60	DIODE UDZSTE-174.7B	
D3	8-719-074-30	DIODE CL-190UR-CD-T	
		<RESISTOR>	
R1	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R2	1-216-827-11	METAL CHIP 3.3K	5% 1/16W
R5	1-216-833-11	METAL CHIP 10K	5% 1/16W
R6	1-216-817-11	METAL CHIP 470	5% 1/16W
R7	1-216-809-11	METAL CHIP 100	5% 1/16W
		<SWITCH>	
SW1	1-572-018-11	SWITCH, SLIDE (POWER)	
SW2	1-572-018-31	SWITCH, SLIDE (POWER)	
*****			

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS *****	
16	1-682-766-11	FLEXIBLE BOARD	
20	A-3174-087-A	UNIT ASSY (MIC L, R)	
P1	1-823-289-11	CORD, CONNECTION (2 CORE) (OUTPUT)	
*****			
		ACCESSORIES *****	
	3-241-661-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, ITALIAN, PORTUGUESE)	



