

# C-55P



## CONDENSER MICROPHONE

### SPECIFICATIONS

**Type:** C-55P FET condenser microphone

**Power Supply:** Standard operating voltage; DC 48-54 V  
Current Drain; less than 2.5 mA

**Frequency Response:** 40-16,000 Hz  $\pm$  2.5 dB

Output Level:	Pad switch position	Output impedance	Effective output level * (dBm)	Open circuit output level ** (dB)	EIA rating GM *** (dB)
0		250 $\Omega$	-49.8	-50 (3.16 mV)	-141.8
-8 dB		250 $\Omega$	-57.8	-58 (1.25 mV)	-149.8

\* 0 dBm = 1 mW/10  $\mu$ bar, 1,000 Hz  
 \*\* 0 dB = 1 V/10  $\mu$ bar, 1,000 Hz  
 \*\*\* EIA standard SE-105

**Directivity:** Uni-directional

**Output Impedance:** 250  $\Omega$   $\pm$  20% at 1,000 Hz balanced

**Noise Level:** S/N ratio; more than 50 dB (1,000 Hz, 1  $\mu$ bar)  
Inherent noise; less than 24 dB SPL  
Wind noise \*1; less than 43 dB SPL  
Induction noise of external magnetic field \* 2;  
less than 5 dB SPL/milligauss

- \*1: The value measured by applying a wind of 6.6 ft/second velocity from all directions to the microphone. The mean value is taken and converted to the equivalent input sound level.  
(0 dB =  $2 \times 10^{-4}$   $\mu$ bar)
- \*2: The external magnetic field induction noise is measured with the microphone placed in the alternating magnetic field of 50 Hz, 1 milligauss. The maximum noise value is taken and then converted to the equivalent input sound level.  
(0 dB =  $2 \times 10^{-4}$   $\mu$ bar)

**Maximum Input Sound Pressure Level \*3:**

154 dB SPL

\*3: This is the maximum input level which produces less than 1% wave distortion at the output with 1,000 Hz, and less than 1% intermodulation distortion at the output signal with 70 Hz-7 kHz.

**Dynamic Range:** 130 dB (0 dB =  $2 \times 10^{-4}$   $\mu$ bar)

**Semiconductors:** 1-module, 1-transistor

**Dimensions:** 1  $\frac{3}{10}$ " diam. x 6  $\frac{9}{16}$ "  
(33 mm diam. x 167 mm)

**Weight:** 10 oz (280 g) without cable

# SONY®

## SERVICE MANUAL

**1. GENERAL DESCRIPTION**

The SONY Model C-55P is a lightweight handy type uni-directional condenser microphone intended for broadcast or recording studio use, featuring as follows.

● **Phantom Powering System**

This microphone is operated on ac power source by using SONY ac adaptor AC-148A (optional). The microphone cable, shielded two-conductor cable, is used as both an audio signal cable and a dc power supply cable by connecting to AC-148A. Positive dc current is supplied to the microphone through the inner two conductors of the cable and negative dc current through the shield conductor.

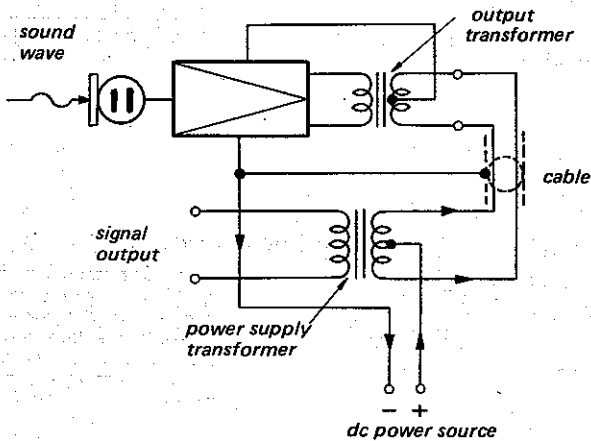


Fig. 1-1. Block diagram

● **Low-cut Switch**

This switch has the following three positions.

- M : Flat frequency response
- M1 : Slight attenuation of low frequency
- V1 : Extreme attenuation of low frequency

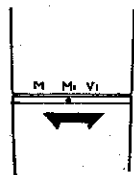


Fig. 1-2. Low-cut switch

● **High-cut Switch**

This switch has the following two positions.

- : Flat frequency response
- : Attenuation in the frequency range higher than 5 kHz

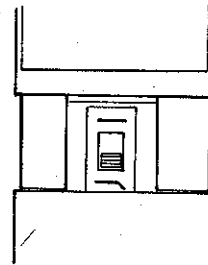


Fig. 1-3. High-cut switch

● **Pad Switch**

This switch has the following two positions.

- 0 : No attenuation
- 8 dB : 8 dB attenuation in the entire frequency range, used for high-pressure sound pick-up.

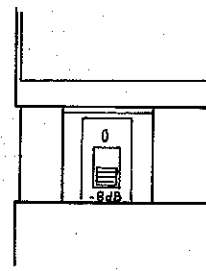


Fig. 1-4. Pad switch

● **Capsule Angle Change**

The capsule angle can be changed for 90 degrees vertically by pushing the two side buttons.

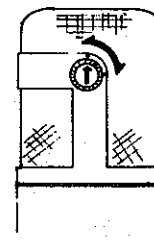


Fig. 1-5. Capsule angle change

## 2. DISASSEMBLY

### 2-1. Grip Removal (Refer to Fig. 2-1.)

1. Slide down the switch cover along the grip in the direction of the cable.
2. Remove the four screws marked (A) in Fig. 2-1.
3. Remove the grip and the switch cover.

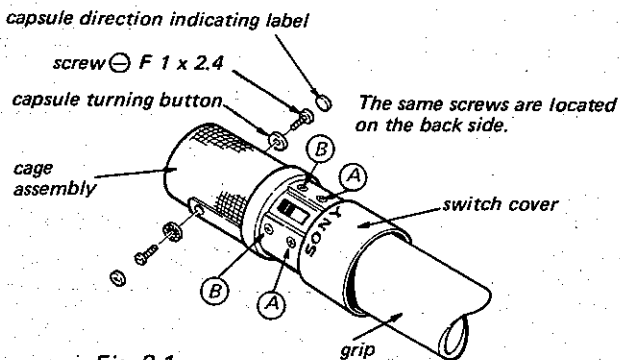


Fig. 2-1.

### 2-2. Cage Removal (Refer to Fig. 2-1.)

1. Remove the capsule direction indicating labels with a knife.
2. Remove the screws (F 1 x 2.4) with a jeweler's screwdriver and remove the capsule turning buttons.
3. Remove the four screws marked (B) in Fig. 2-1.
4. Carefully remove the cage assembly.

### 2-3. Capsule Removal (Refer to Fig. 2-2.)

1. Remove the cage assembly referring to Procedure 2-2.
2. Pull off the capsule in the direction shown by the arrow in Fig. 2-2.

3. Unsolder the lead wires at the terminal on the back side of the capsule.

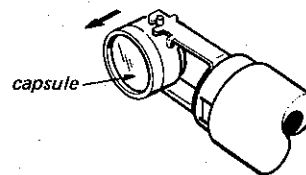


Fig. 2-2.

### 2-4. Pad and High-cut Switch Removal (Refer to Fig. 2-3.)

The both switches can be removed in the same way as follows:

1. Remove the grip referring to Procedure 2-1.
2. Carefully remove the switch panel with a knife.

Note: Do not deform the panel since it is attached with the contact cement.

3. Remove the screws marked (F) in Fig. 2-3.
4. Remove the switch and unsolder the lead wires.

### 2-5. Circuit Board Removal (Refer to Fig. 2-3.)

1. Remove the grip referring to Procedure 2-1.
2. Remove the two screws marked (B) in Fig. 2-3.
3. Remove the circuit board in the direction shown by the arrow in Fig. 2-3.

Note: By removing the two screws marked (A) in Fig. 2-3, the circuit board is removable along with bosses on the circuit board.

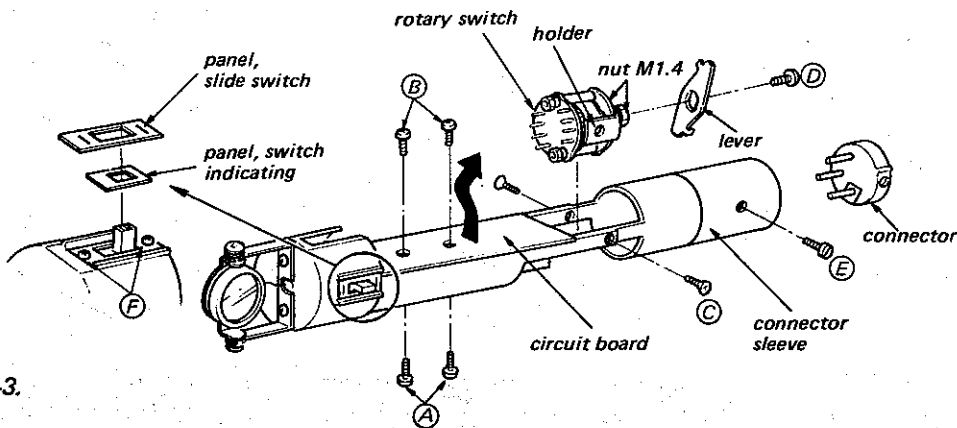


Fig. 2-3.

## 2-6. Rotary Switch Removal (Refer to Fig. 2-3.)

1. Remove the grip referring to Procedure 2-1.
2. Remove the two screws marked (C) in Fig. 2-3 and take off the rotary switch out of the chassis.
3. Remove the lever by removing the screw marked (D) in Fig. 2-3.
4. Remove the holder by removing the two nuts (M1, 4).
5. Unsolder the lead wires.

## 2-7. Connector Removal (Refer to Fig. 2-3.)

1. Remove the grip referring to Procedure 2-1.
2. Remove the screw marked (E) in Fig. 2-3.
3. Take out the connector from the connector sleeve.

## 3. ELECTRICAL PARTS LIST

*Ref. No. Part No. Description*

### SEMICONDUCTORS

Q1 Module, CL-112  
Q2 Transistor, 2SC632A

### TRANSFORMER

T 1-429-042 Output

### CAPACITORS

Ref. No.	Part No.	Value	Voltage	Material
C1	1-103-206	70 pF	125V	styrol
C2	1-121-395	4.7 $\mu$ F	25V	electrolytic
C3	1-105-681	0.047 $\mu$ F	50V	mylar
C4	1-131-149	4.7 $\mu$ F	25V	tantalum
C5	1-105-679	0.033 $\mu$ F	50V	mylar
C6	1-105-677	0.022 $\mu$ F	50V	mylar
C7	1-121-738	10 $\mu$ F	50V	electrolytic

### RESISTORS

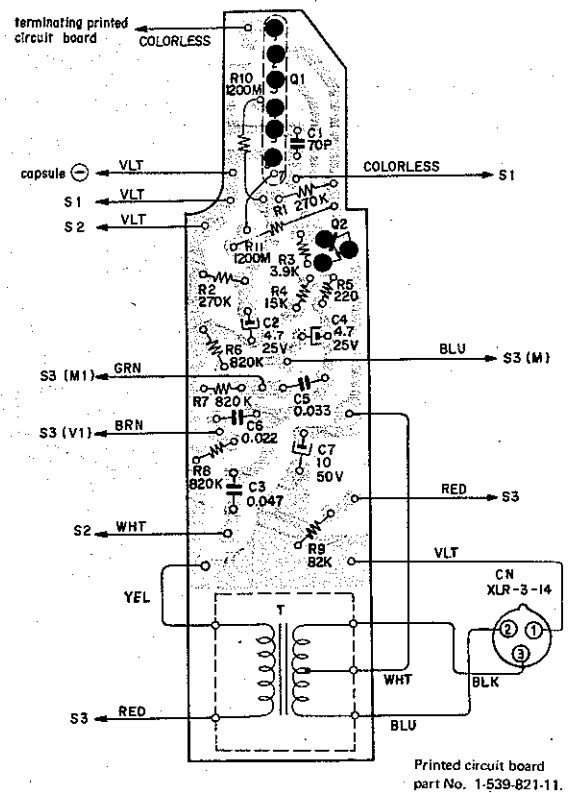
Ref. No.	Part No.	Value	Power	Material
R1, R2	1-244-531	270 k $\Omega$	1/8W	carbon
R3	1-244-487	3.9 k $\Omega$	1/8W	carbon
R4	1-244-501	15 k $\Omega$	1/8W	carbon
R5	1-244-457	220 $\Omega$	1/8W	carbon
R6, R7	1-244-543	820 k $\Omega$	1/8W	carbon
R8				

Ref. No.	Part No.	Value	Power	Material
R9	1-244-519	82 k $\Omega$	1/8W	carbon
R10		1,200 M $\Omega$	1/8W	metal oxide
R11		1,200 M $\Omega$	1/8W	metal oxide

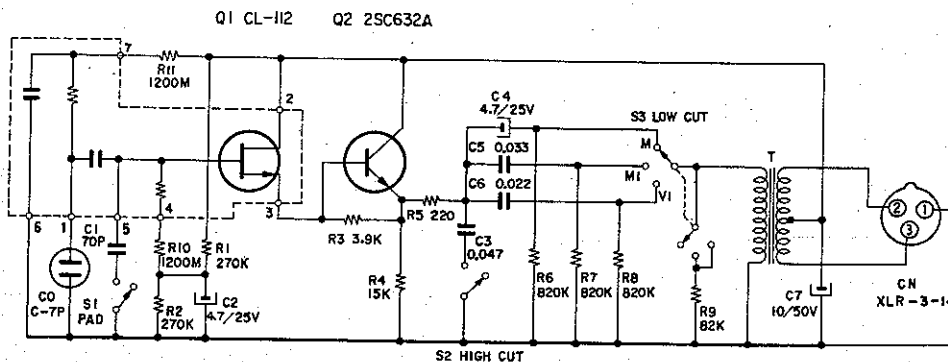
### MISCELLANEOUS

Ref. No.	Part No.	Description
S1	1-513-358-11	Switch, slide; pad
S2	1-513-358-11	Switch, slide; high-cut
S3	1-513-359-13	Switch, rotary; low-cut
CO	Y-20444-11	Capsule, C-7P
CN	1-509-096-11	Connector, male; CANNON XLR-3-14
	1-539-746-11	Printed Circuit Board, terminal
	1-539-821-11	Printed Circuit Board, main Mounted Circuit Board, main

## 4. MOUNTING DIAGRAM

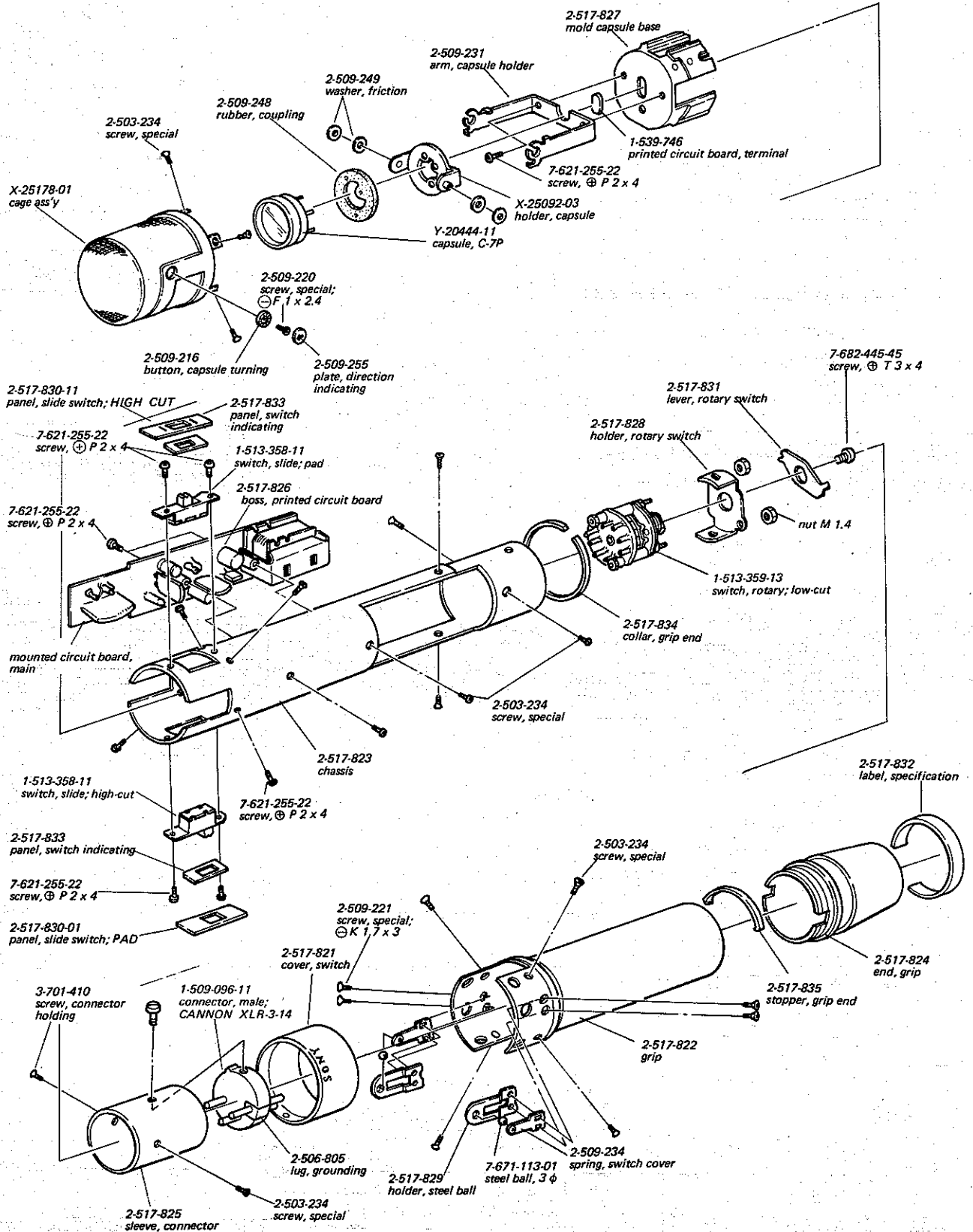


## 5. SCHEMATIC DIAGRAM

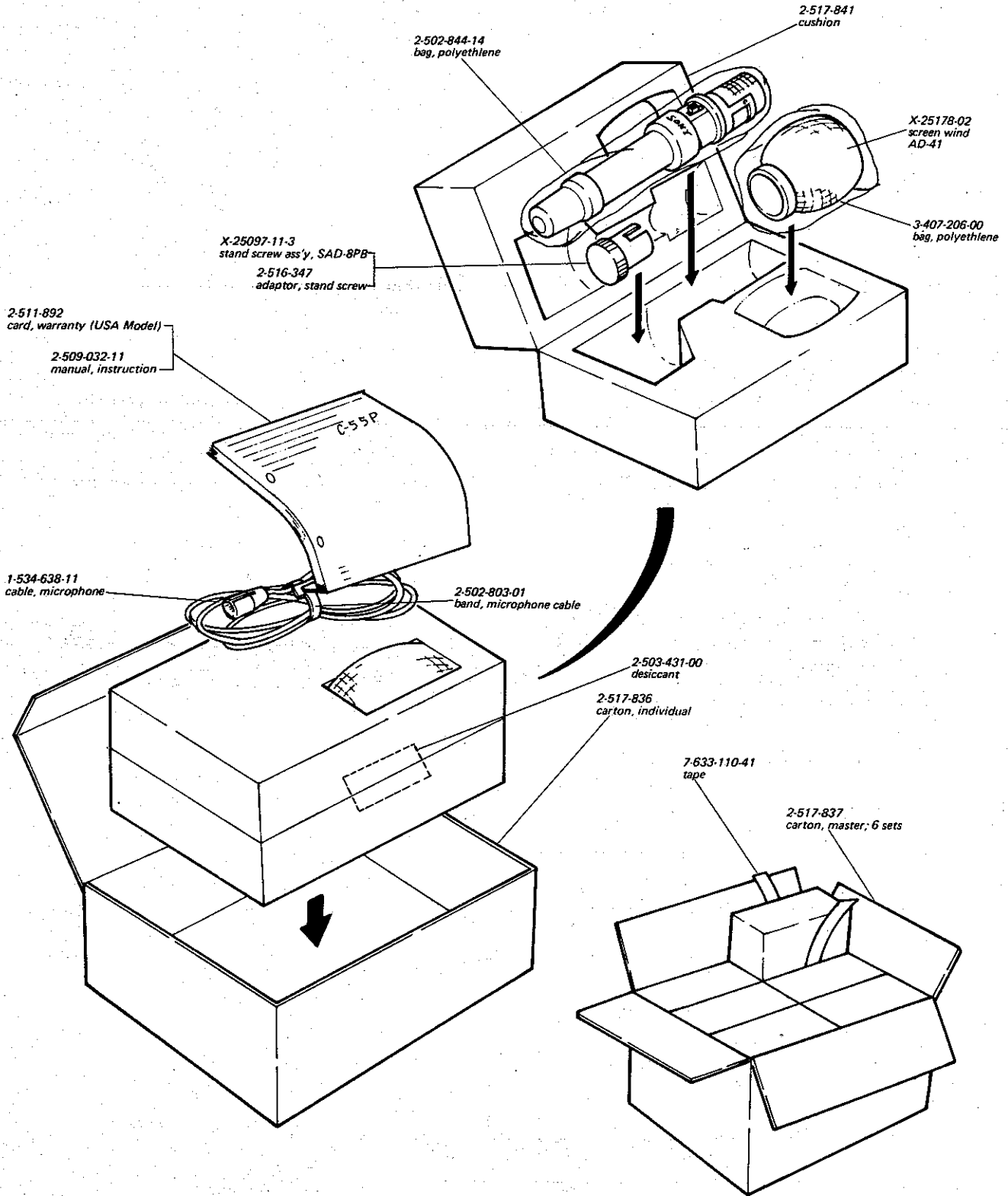


Note:  
All resistors and capacitors are in ohms and microfarads, unless otherwise indicated.

6. EXPLODED VIEW



**7. PACKING**



**SONY CORPORATION**

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