



**GENERAL**

The Shure Model SM12 Professional Head-Worn Microphone with Receiver is a low-impedance, unidirectional, dynamic microphone with an integral earphone assembly. Designed for sports and news announcing, interviewing and intercommunication systems, and for special-events remote broadcasting, the SM12 offers convenient, hands-free operation without user fatigue. A close-talking unit, the SM12 may be used under noisy conditions without loss or masking of voice signals. The SM12 is a small, lightweight, rugged and reliable unit, with provisions for mounting to a supplied cushioned headband. A pivot housing permits the microphone boom to be moved 20° in any direction, and the distance between the microphone and pivot to be changed by up to 3½ inches. The receiver ear tube, attached to the bottom of the pivot housing, may be moved through a 55° arc. A miniature windscreen to protect against wind noise and explosive breath sounds, and two connector belt clips are also supplied.

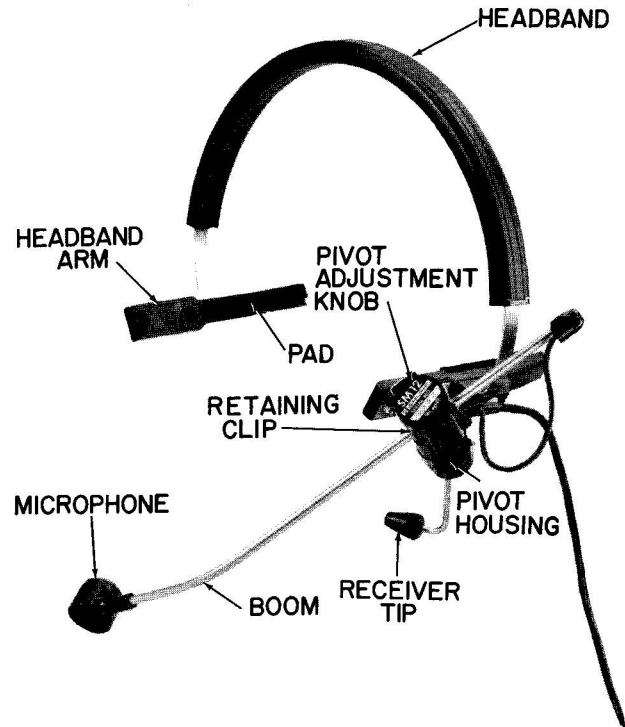
**Model SM12 Features:**

- Close-talk operation and unidirectional polar pattern for effective noise reduction
- Smooth natural voice frequency response
- Locking adjustment knob permits boom to pivot 20° in any direction
- Boom length adjustment through 3½ inch range
- Receiver ear tube adjustable through 55° arc
- Light weight plus padded headband eliminate user fatigue
- Does not interfere with eyeglasses
- Ruggedly constructed of stainless steel, aluminum and high-impact thermoplastic
- Convenient, secure clips attach connectors to belt or clothing

**ASSEMBLY**

Assemble the SM12 for use as follows:

1. Twist the lower headband arms 90° so they are perpendicular to the headband. The headband pads must be located toward the rear of the user's head. For left side usage, the retaining clip will be on the left side of the user's head; for right side usage, the clip will be on the right (see photo and Figure 1). Swivel the retaining clip forward (top of clip away from the headband) until it snaps into position.
2. Snap the microphone pivot housing into the retaining clip with the pivot adjustment knob upward and the microphone toward the front. (Note that the microphone position—left or right side—may be reversed by twisting the headband arms 180°, swiveling the retaining clip 90°, and repositioning the pivot housing.) Loosen the pivot adjustment knob, position the boom so that the microphone is near where the side of the mouth will be, and tighten the pivot adjustment knob.
3. Place the assembled microphone on the user's head and pull the headband arms downward until they rest against the head just over the ears. Position the receiver tip at the entrance to the ear. (Make certain cable is free of receiver ear tube.)



SM12 POSITIONED FOR LEFT SIDE OPERATION  
**FIGURE 1**

## WARNING

Sustained high volume levels in conjunction with a tightly fitting receiver tip may adversely affect the user's hearing. Make certain the volume is set to a comfortable listening level and position the receiver tip at the entrance of the ear.

- Loosen the pivot adjustment knob and position the microphone as close as possible to the corner of the mouth. For optimum close-talking operation, the microphone should be less than 25 mm (1 in.) from the corner of the mouth. Be sure to position the microphone at the corner (not the center) of the mouth to eliminate explosive breath sounds ("pop"). Tighten the adjustment knob.
- Snap the microphone connector belt clip over the groove in the 3-pin male audio connector and the receiver connector belt clip over the groove in the phone plug. The clips can now be fastened to the user's belt or other clothing. Attach the 3-pin audio connector to the microphone cable and the phone plug to the monitoring unit cable.
- NOTE: A decrease in receiver output may be due to clogging of the receiver tip. The tip may be cleaned by removing it from the ear tube and inserting a toothpick or similar device through the tip hole. If clogging is apparent in the ear tube, carefully remove the obstruction from the ear tube tip. **CAUTION:** Do not disturb the foam damping material located just inside the ear tube tip.

## SPECIFICATIONS

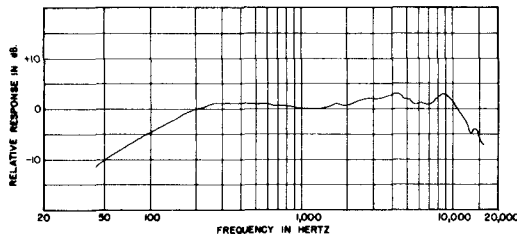
### MICROPHONE

#### Type

Dynamic, Close-Talking

#### Frequency Response (at 8 mm [5/16 in.]

50 to 15,000 Hz (see Figure 2)

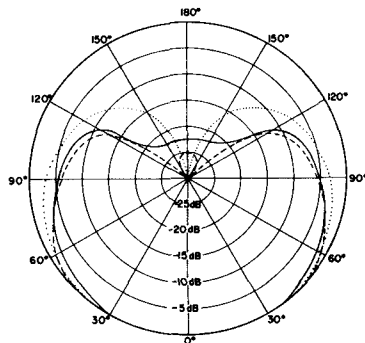


TYPICAL MICROPHONE FREQUENCY RESPONSE

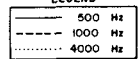
FIGURE 2

#### Polar Pattern

Cardioid (unidirectional) response—uniform with frequency, symmetrical about axis (see Figure 3)



LEGEND



POLAR PATTERN

FIGURE 3

### Impedance

Microphone rating impedance is 150 ohms (200 ohms actual) for connection to microphone inputs rated at 19 to 300 ohms

### Output Level (close-talked at 1,000 Hz)

Open Circuit Voltage ..... -47.0 dB (4.5 mV)  
(0 dB = 1 volt per 100 microbars)

Power Level ..... -66.0 dB  
(0 dB = 1 milliwatt per 10 microbars)

### Hum Sensitivity (typical)

38.4 dB equivalent SPL in a 1 millioersted field

### Phasing

Positive pressure on diaphragm produces positive voltage on pin 2 of microphone connector

### Connector

Professional three-pin male audio connector designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connectors.

## RECEIVER

### Type

Dynamic

### Frequency Response

70 to 12,000 Hz

### Impedance

2,000 ohms at 1 kHz (200-ohm cartridge with matching transformer in phone plug)

### Output Level

105 dB SPL with 1.414V at 1 kHz (1.0 mW into 2 cc cavity)

### Phasing

Positive voltage on phone plug tip produces positive pressure in ear tube

### Connector

Phone Plug (contains matching 200:2,000 ohm transformer)

## GENERAL

### Cable

Non-detachable, 1.5m (5 ft), four-conductor, shielded, plastic-jacketed; additional 762 mm (2.5 ft), two-conductor receiver cable attached to microphone connector

### Case

Black thermoplastic microphone and pivot housing, anodized aluminum end caps, stainless steel grille, ear tube and boom

### Dimensions

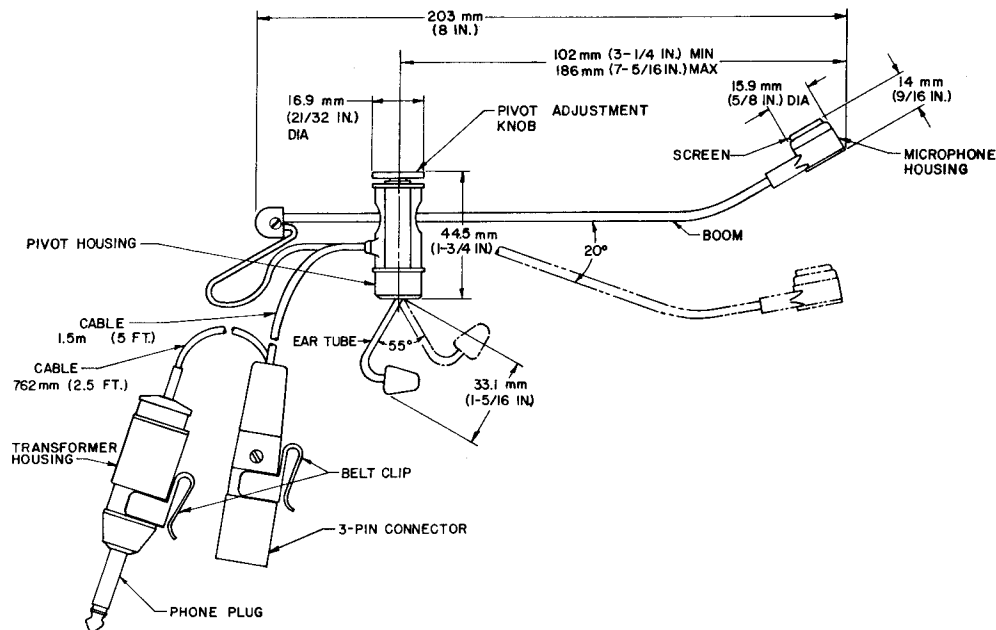
See Figure 4

### Net Weight

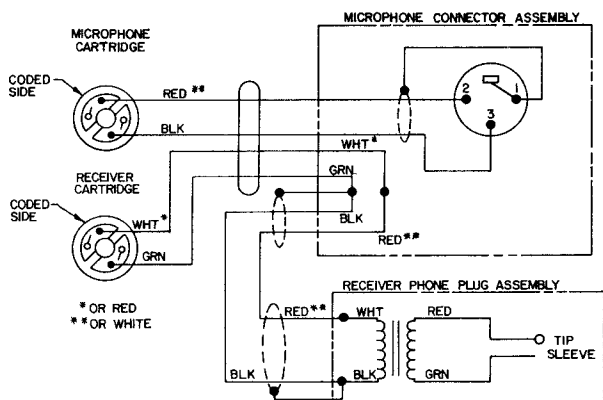
84 grams (3 ounces) less cable and connectors

### Packaged Weight

797 grams (1 lb, 12 oz)



OVERALL DIMENSIONS  
FIGURE 4



INTERNAL CONNECTIONS  
FIGURE 5

### ARCHITECTS' SPECIFICATIONS

The microphone with receiver shall be the Shure Model SM12 or equivalent. The microphone shall be a moving-coil (dynamic) type with a frequency response of 50 to 15,000 Hz. The unit shall have a cardioid polar characteristic. The cancellation at the rear shall be 15 to 20 dB. The microphone shall be low impedance with a rated impedance of 150 ohms for connection to microphone inputs rated at 19 to 300 ohms.

The microphone output shall be  $-66.0$  dB where  $0$  dB = 1 milliwatt per 10 microbars.

The receiver shall be a dynamic type with a frequency response of 70 to 12,000 Hz. The receiver shall be supplied with an integral connector-mounted matching transformer designed with an impedance of 2,000 ohms.

The microphone with receiver shall be a head-worn type, and shall be provided with a 1.5m (5 ft), non-detachable, four-conductor (two-conductor shielded) cable with a professional, three-pin, male audio connector designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connectors. An additional 762 mm (2.5 ft) cable length shall be provided between microphone and receiver (phone plug)

connectors. The microphone shall also be provided with a headband, two connector belt clips, and a foam windscreen.

The overall dimensions of the microphone shall be 203 mm (8 in.) in length and 44.5 mm (1-3/4 in.) in maximum height (pivot housing). The microphone housing shall be 15.9 mm (5/8 in.) in diameter and 14 mm (9/16 in.) in height.

### ACCESSORIES AND REPLACEMENT PARTS

The following furnished accessories and replacement parts may be ordered through your Authorized Shure Professional Products Dealer or from Shure Brothers Inc.

Connector Belt Clip .....	RK200BC
Windscreen .....	RK184WS
Carrying Case .....	.90A2255
Microphone Cartridge .....	R93
Receiver Cartridge .....	R94
Headband Assembly .....	.90A2260
Receiver Tip .....	RK190

### OPTIONAL ACCESSORY

Cough Button .....	A10CH
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### GUARANTEE

This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor. This guarantee is in lieu of any and all other guarantees or warranties, express or implied, and there shall be no recovery for any consequential or incidental damages.

### SHIPPING INSTRUCTIONS

Carefully repack the unit and return it prepaid to:  
Shure Brothers Incorporated  
Attention: Service Department  
1501 West Shure Drive  
Arlington Heights, Illinois 60004  
If outside the United States, return the unit to your dealer or Authorized Shure Service Center for repair. The unit will be returned to you prepaid.