

SHURE

PROFESSIONAL ENTERTAINER MICROPHONES



MODEL PE5EQ

Equalizer™

**EQUALIZER
MICROPHONE**

Slips out of swivel adapter
easily and quickly
for hand-held use.

Your selection of this Shure Equalizer Cardioid Microphone will contribute significantly to the professional quality of your performance. Now you can equalize — make selective changes in frequency response — without the need for more elaborate audio equipment. Four switches, conveniently located on the microphone handle, activate filters that attenuate microphone response by approximately 6 dB at each switch frequency. (Sixteen different shaped microphone response curves can be obtained by use of these four switches.)

Antifeedback control is also accomplished through the PE5EQ's four switches. These switches help eliminate that annoying howl or squeal that means feedback is present.

Your microphone also helps control feedback because it is unidirectional. Since it picks up sound only from the front of the microphone, audience noise and other unwanted sounds occurring at the rear or sides of the microphone are suppressed. This permits a greater working distance from the microphone with minimal background sound pickup. The PE5EQ also features an excellent wind and "pop" filter, and instant usage with low- or high-impedance microphone inputs using the line matching transformer supplied.

*(See inside for information on how to use your
Shure Microphone more effectively.)*

HOW TO CONTROL FEEDBACK

A performer's number one enemy in using a microphone is "feedback." This is a harsh hum, howl or squeal which occurs when the microphone picks up sound from the loudspeakers, re-amplifies and rebroadcasts it over and over again.

The key factor in the prevention of feedback is the position of the loudspeakers in relation to the microphone. Feedback occurs if the microphone picks up sound coming from the loudspeakers. Keep the loudspeakers as far to the sides as possible — so they do not point toward the microphone. Always keep the microphone pointed toward the performer and away from the loudspeakers. When stage monitor loudspeakers are used, make sure they are positioned in front of the performers and face the rear of the microphone.

If you are in a room with hard walls, floor, and ceiling, the sound from the loudspeakers may bounce back into the microphone and create feedback. Solve this problem by using the microphone filter switches or by turning down the amplifier volume control and working closer to the microphone.

To minimize feedback, adjust the microphone filter switches as follows. Raise the amplifier gain until feedback occurs. Locate and turn on (IN) the one filter switch that eliminates the feedback. (Use a pencil or other instrument to move switches.) Gain or tone controls may then be increased until another feedback pitch is heard. Locate the filter switch that eliminates this feedback. NOTE: No more than two filter switches should be used simultaneously for feedback control; otherwise overall gain may be reduced and tone quality is likely to be affected.

(Important Note: If you cannot solve the feedback problem with your E-Qualidyne Microphone, a Shure PE610 Feedback Controller is suggested.)

EQUALIZATION

When it is not necessary to use the filter switches to control feedback, their response-shaping or equalization function can be utilized. For instance, the LO switch will roll off the low end to compensate for room boominess or proximity effect; the HI switch will remove undesirable sibilance ("sss" sounds) from speech or vocals.

Experimenting with other switches (or combinations) will demonstrate suitable effects for other applications. (See graph on page 8 for typical attenuation provided at each frequency.)

BASIC POINTS FOR PROFESSIONAL MICROPHONE TECHNIQUE

Proper microphone technique will add to the overall effectiveness with which you project yourself to your audience. Keep the following points in mind when using the microphone:

1. Maintain the proper distance from the microphone. When you wish to achieve an intimate tonal quality, get closer to the microphone and lower your voice. For wide-open "driving" effects, raise your voice and back away from the microphone so that you do not overdrive the amplifier to distortion.
2. Don't change your distance from the microphone needlessly, as this will affect the level of sound coming from the loudspeakers.
3. Consider the microphone as an instrument and practice your technique to enhance your performance.

YOUR SHURE MICROPHONE IS BUILT TO LAST!

Your Shure Microphone is ruggedly built and should give you years of uninterrupted service; however, remember that it is a sensitive instrument. Avoid dropping the microphone, or subjecting it to unnecessarily rough treatment. Normal usage, of course, will not impair performance of the unit. Use the protective carrying case to prevent damage not only when traveling, but also when storing the microphone.

MICROPHONE CHECK-LIST

1. Check microphone impedance — is it correct for the amplifier input being used?
2. Check microphone cable connectors to microphone, mixer, and amplifier — are they tightly plugged in?
3. Check microphone, amplifier and/or mixer.
 - a. Are they turned on?
 - b. Are volume controls turned up?
4. Are microphone filter switches properly set?

IF THE MICROPHONE DOES NOT WORK

Check the above list. If the microphone still does not appear to be operating, check it on a spare cable. If the microphone still does not appear to be operating, have the microphone and cable checked by your Shure Professional Entertainer Products Dealer, or write Service Department, Shure Brothers, Inc.

PHASING

To test two microphones and/or their cables for proper phasing, connect them to an amplifier and talk or sing into them while holding them three or four inches apart. The sound from the speakers should be the same when talking into either microphone or directly between them if they are in phase with each other. If the sound drops drastically, or if a dead spot is found when talking between the two microphones, one of them or its cable (low impedance only) is out of phase. All cables and microphones should be tested in this manner to insure that they are in phase with each other.

To change the phase of a low-impedance microphone cable, either use a Shure A15PR Phase Reverser or interchange the wires connected to pins 2 and 3 of the connector. To change the phase of a microphone, the microphone cartridge leads must be interchanged (see Figure B). This should be performed by your dealer, the Shure Factory Service Department, or other qualified service personnel.

IMPEDANCE

Your microphone as supplied is wired for low impedance for connection to microphone inputs rated at 25 to 200 ohms. For optimum filter operation, load impedance should be 100 ohms or greater. To use the microphone with high-impedance microphone inputs, simply plug the furnished A95FP Line Matching Transformer into the amplifier end of the cable supplied with your microphone.



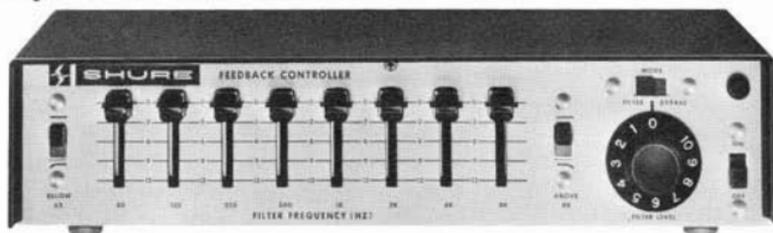
USING MORE THAN ONE MICROPHONE

It is often desirable for a group to use a separate microphone for each individual performer. In this case, the following points should be remembered:

1. It is best if the microphones are individually controlled for volume through a separate microphone mixer such as the Shure PE68M Mixer or PE70RM Reverb/Mixer. Optimum filter response will be achieved with each microphone connected to a separate mixer input.
2. Check the placement of the microphones with relation to loudspeakers (as previously mentioned) so that feedback is minimized.
3. As additional microphones are added the possibility of feedback increases. Turn off, or down, unused microphones to help solve this problem.

MODEL PE610 FEEDBACK CONTROLLER

Lets you "tune" your sound system to the acoustics of the room. The result is more overall sound power *without* feedback. Eight linear-motion filter controls are infinitely variable from 0 to 12 dB cut. Below 63 Hz and Above 8 kHz roll-off switches attenuate low and high frequencies. Can be installed between mixer or console and amplifier for total system control, or following each microphone as a single-channel pre-amplifier with feedback control.





**THE VITAL LINK
BETWEEN YOU AND
THE AUDIENCE**

**SHURE PROFESSIONAL ENTERTAINER
MICROPHONES**

MODEL PE5EQ SPECIFICATIONS

Type: Dynamic, Cardioid (Unidirectional), Equalizer (switch-selectable)

Frequency Response: 50 to 15,000 Hz (see Figure A)

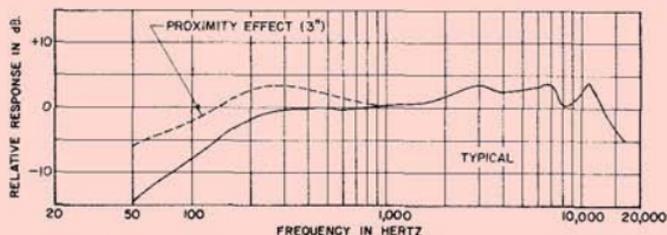


FIGURE A

Impedance: Microphone rating impedance is 150 ohms (170 ohms actual) for connection to microphone inputs rated at 25 to 200 ohms. (For optimum filter operation, load impedance should be 100 ohms or greater.)

May be connected as high impedance with supplied transformer (see Page 4).

Output Level
(at 1,000 Hz):

Open Circuit Voltage:

-81 dB (.09 mV)
(0 dB = 1 volt per microbar)

Power Level:

-59 dB
(0 dB = 1 milliwatt with 10 microbars)

Phasing: Positive pressure on diaphragm produces positive voltage on Pin 2 (see Page 4).

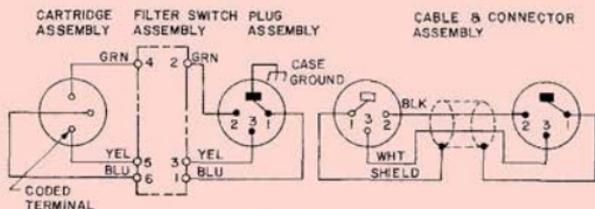


FIGURE B

Filter Switches: Four filter switches in case. Switches provide 6 dB cut at 190 (LO), 560, 1650 and 4900 (HI) Hz (see Fig-

GUARANTEE

This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from the date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor.

SHIPPING INSTRUCTIONS

Carefully repack the unit and return it prepaid to the factory. 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.

MODEL PE5EQ SPECIFICATIONS (Continued)

ure C). Filter attenuation varies with load impedance.

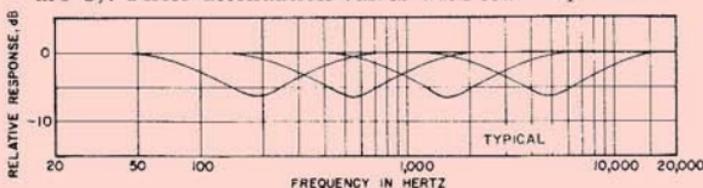


FIGURE C

- Connector:** Equipped with professional three-pin audio connector (male) designed to mate with furnished cable or Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connectors.
- Shock Mount:** Internal rubber vibration-isolator.
- Case:** Satin-chrome die casting with stainless steel grille.
- Swivel Adapter:** Adjustable through 90° from vertical to horizontal, to fit $\frac{3}{8}$ "-27 stand thread.
- Cable:** 6.1m (20 ft), two-conductor, shielded cable, equipped with professional three-pin audio connectors (male and female)
- Net Weight:** 340 grams (12 oz) less cable
- Packaged Weight:** 1.26 kilograms (2 lb 12½ oz)

FURNISHED ACCESSORIES

- Line Transformer:** Model A95FP
- Swivel Adapter:** Model A25B
- Carrying Case:** 90M1404

OPTIONAL ACCESSORIES

- Desk Stand:** Models S33B, S37A, S38B, S39A, S40A
- Disconnect Adapter:** Model A45

REPLACEMENT PARTS

- Cartridge:** R97
- Grille Assembly:** RK82G
- 3-pin Plug Element:** RK40P
- Filter Switch Assembly:** RK185
- Cable:** C50CN

AREA CODE 312/328-9000

CABLE SHUREMICRO



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222 HARTREY AVENUE
EVANSTON, ILLINOIS 60204
U.S.A.

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