The Shure Model PE70RM is a four-channel, completely transistorized, portable microphone/instrument mixer with built-in reverberation, for use with public address systems and musical instrument amplifiers. The Model PE70RM provides a practical, efficient and economical way to use up to four electric guitars, basses, console organs, or microphones, or any combination of four with your existing amplifier or system.

The Mixer features:
- Adjustable reverberation to simulate the natural reverberation or echoes of a large concert hall.
- Connection provided for use with remote reverberation On-Off switch.
- No interaction between channels when volume controls are changed.
- Connection for battery power supply.
- Listed by Underwriters’ Laboratories, Inc. and listed by Canadian Standards Association as certified.

**OPERATION**

**Input Connections**

NOTE: Before using mixer, remove shipping screw (located on top of chassis) holding small tag and discard.

Up to 4 inputs per mixer—electric guitars, basses, console organs, high-impedance dynamic or ribbon microphones or any combination. If you desire to use even more instruments and microphones, the mixer can be connected together with a Shure Model PE68M Mixer. (See paragraph on Interconnecting Two Units.)

The input connections are standard phone jacks marked 1, 2, 3, 4. Crystal or ceramic microphones are not recommended for use with the PE70RM Mixer.

**Volume Controls**

Each input has a separate volume control for balancing sound between instruments or vocalist. A master volume control simultaneously adjusts volume of the entire sound system and is an indispensable feature where the regular amplifier controls are not readily accessible.

The individual gain controls should generally be set near maximum (8 or 9 on dial) and the master gain control adjusted to required output. Individual channel volume controls not being used should be kept at minimum gain (0 on dial).

**Identifying Controls**

Pressure-sensitive adhesive labels are supplied with the PE70RM Mixer as a means of identifying the control and indicating the control position when optimum results have been obtained. The labels are easily removed or easily erased (when using pencil) when their use is no longer required.

**Output Connections**

Connect it to any amplifier. Standard output connections work into musical instrument amplifiers, microphone inputs, or the power amplifier of the existing sound system.

**Guitar Amplifier Output:**

The jack marked GUITAR AMP. OUTPUT is a high-impedance medium level output designed to feed a musical instrument amplifier. Any high-quality shielded guitar cable may be used to connect the mixer to the amplifier.

**Microphone Output:**

The receptacle marked MIC. OUTPUT is a high- or low-impedance output (selected by the switch above the receptacle). The output is the “mixed” output of all input sources and is designed to feed a 50 to 250 ohm microphone input, a high-impedance amplifier, or tape recorder. The MIC. OUTPUT receptacle on the mixer is a professional three-pin male audio connector.† (See Figure A for output plug connections.) The Model A68C Output Cable Kit (Accessory) provides a simple and effective method of connecting the mixer to virtually any PA microphone input.

**Power Amplifier Output:**

The jack marked POWER AMP. OUTPUT is a high-impedance high level output designed to feed a power amplifier in a PA system, the auxiliary input of a tape recorder, or the tuner input of a high-fidelity amplifier.

All outputs may be used simultaneously. Example: The Guitar Output can be used to feed a guitar amplifier while using the Microphone Output to feed the sound system in a club.

When all connections have been made, turn on the unit and advance the volume controls for desired results.

**Power:**

Connect the microphone/instrument mixer power line cord to a 108-132 volt 50/60 Hz ac power outlet. Voltage is 26 Vdc open circuit (20 Vdc at 4 mA max.).

† Designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connector.
Accessory 28-volt DC: To convert to dc operation, this jack is used as a power input when using the Model A68B Battery Power Supply (Accessory). When not using the mixer turn off the switch to conserve battery life (pilot light does not operate when using A68B).

Grounding
If there should be objectionable hum, connect the metal chassis of the mixer to a good ground such as a metal frame of a wall outlet or a water or steam pipe. This is normally accomplished automatically through the ground wire of the power cord.

Reverberation
The red control knob (on front panel) marked REVERBERATION is used to adjust the amount of reverberation to the desired effect.

The standard phone jack (on back panel marked REVERBERATION REMOTE SWITCH) is used to connect an On-Off switch which can be operated through a single-conductor shielded cable at a remote location to turn reverberation on and off. See Figure B for switch connections.

**CONDUCTOR**

<table>
<thead>
<tr>
<th>TIP</th>
<th>SHIELD</th>
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<tbody>
<tr>
<td>PHONE PLUG</td>
<td></td>
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</table>

**SHIELD**

**Switch**

**REMOTE REVERBERATION SWITCH**

**FIGURE B**

**CAUTION:** The PE70RM Reverberation Mixer should not be set on or mounted against a loudspeaker, as vibrations from the speaker cabinet may cause improper operation of reverb. Avoid accidental jarring during operation.

Interconnecting Two Units

1. A PE70RM Reverberation Mixer and a Shure PE68M five-channel Mixer may be combined to give a total of eight microphone/instrument channels. In this case, four channels could have reverberation and four channels would NOT have reverberation. Unit 1 is the PE70RM, and Unit 2 is the PE68M.
   A. Connect GUITAR AMP. OUTPUT on Unit 1 to fifth MICROPHONE/INSTRUMENT INPUT on Unit 2.
   B. Connect microphones or instruments to mixers and set each input control to #0 position.
   C. Take output signal for desired application from appropriate output jack on Unit 2.
   D. Set Master Control on Unit 1 to position #4.
   E. Set fifth MICROPHONE/INSTRUMENT INPUT Control on Unit 2 to position #10.
   F. Master Control on Unit 2 is now Master for all inputs.
   G. Advance Master Control (Unit 2) to about #5 position and adjust individual microphone controls for proper level. If overall gain is too low or too high, Master Control (Unit 2) may be adjusted.

2. A PE70RM Reverberation Mixer and a Shure PE68M five-channel Mixer may, also, be combined to permit reverberation in all eight microphone/instrument channels. In this case, Unit 1 is the PE68M, and Unit 2 is the PE70RM.
   A. Connect GUITAR AMP. OUTPUT on Unit 1 to the fourth MICROPHONE/INSTRUMENT INPUT on Unit 2.
   B. Connect microphones or instruments to mixers and set each input control to #0 position.
   C. Take output signal for desired application from appropriate output jack on Unit 2.
   D. Set Master Control on Unit 1 to position #4.
   E. Set fourth MICROPHONE/INSTRUMENT INPUT Control on Unit 2 to position #10.
   F. Master Control on Unit 2 is now Master for all inputs.
   G. Advance Master Control (Unit 2) to about #5 position and adjust individual microphone controls for proper level. If overall gain is too low or too high, Master Control (Unit 2) may be adjusted.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Gain</th>
<th>Outputs</th>
</tr>
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<tbody>
<tr>
<td>5.0 mV produces</td>
<td>.63 mV</td>
</tr>
</tbody>
</table>

**Frequency Response**
Flat ±3 dB, 40 Hz to 20,000 Hz

**Hum-Noise**
60 dB below rated output.

**Input Impedance**
Inputs suitable for high-impedance dynamic and ribbon microphones and electrified instruments.

**Recommended Load Impedance**

| LO IMPEDANCE MIC. OUTPUT | ........................................ | 25 to 600 ohms |
| HI IMPEDANCE MIC. OUTPUT | ........................................ | 20,000 ohms or greater |
| POWER AMP. OUTPUT | ........................................ | 47,000 ohms or greater |
| GUITAR AMP. OUTPUT | ........................................ | 47,000 ohms or greater |

**Distortion**
Less than 1% THD with LO IMPEDANCE MIC. OUTPUT at 20 mV, HI IMPEDANCE MIC. OUTPUT at 200 mV, and POWER and GUITAR AMP. OUTPUTS at 2.0V.

**Phase**
All inputs and AMP. OUTPUTS are in phase; MIC. OUTPUTS are out of phase with AMP. OUTPUTS.
Output Clipping Level

<table>
<thead>
<tr>
<th>OUTPUT</th>
<th>MIN. CLIPPING LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LO IMPEDANCE MIC.</td>
<td>50 mV</td>
</tr>
<tr>
<td>HI IMPEDANCE MIC.</td>
<td>0.80V</td>
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<tr>
<td>POWER AMP.</td>
<td>4.0V</td>
</tr>
<tr>
<td>GUITAR AMP.</td>
<td>1.4V</td>
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</tbody>
</table>

Operating Voltage
108-132 volts, 50/60 Hz

Case
Painted metal

Dimensions
See Figure C

OVERALL DIMENSIONS
FIGURE C

Net Weight
1.36 kg (3 pounds)

OPTIONAL ACCESSORIES
- Attaché Case ..................... Model AC60
- Battery Power Supply ............ Model A68B
- Locking Panel ..................... Model A68L
- Output Cable Kit ................. Model A68C
- Rack Panel Kit .................... Model A68R
- Stacking Kit ...................... Model A68S
- Handle/Tilt Stand ................ Model A68H
- Line Matching Transformers ...... Model A95 Series

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.
MODELS PE70RM, PE70RM-2 and PE70RM-2E
REVERBERATION MIXERS