Transistorized Dynamic Hand-Held Microphone

The Shure Model 527C is a dynamic hand-held communications microphone for use in a variety of mobile and fixed-station applications, including police, transportation, amateur radio and similar applications. The 527C offers extremely low sensitivity to hum pickup and low susceptibility to radio-frequency interference. A built-in solid state amplifier permits the use of up to 30 m (100 ft) of unshielded cable. The modular construction of the 527C allows the cartridge, switch, and cable to be replaced in a matter of minutes, if necessary. The 527C fits naturally and comfortably in the hand and is not adversely affected by heat or humidity. The ARMO-DUR® case is immune to oil, grease, fumes, salt spray, sun, rust and corrosion, and is outstanding in its ability to withstand mechanical shocks and vibration.

FEATURES

- Built-in amplifier
- Frequency response from 300 to 5,000 Hz, tailored for voice communications
- Low sensitivity to hum
- Low susceptibility to radio-frequency interference
- "Million-Cycle" leaf-type switch stands up under severe operating conditions and constant use
- High-impact ARMO-DUR® case—lighter and stronger than die-cast metal, comfortable to the touch in hot or cold weather
- Rugged and dependable under all operating conditions
- Long-life neoprene-jacketed coil cord

CONNECTIONS

A typical external operating circuit is shown in Figure 1. Circuit parameters such as supply voltage, load, current and sensitivity may be selected using the curves shown in Figures 3 and 4. If, for instance, the available supply voltage is 16 Vdc and a current drain of 4 mA is desired, a load resistance (RL) of 2.2KΩ is necessary. With a supply voltage of 16 Vdc and a load resistance of 2.2KΩ, the relative sensitivity is approximately +8 dB, or –3 dB output level referenced to the specified output level of –11 dB with 10 Vdc and a 470Ω load.

### TABLE 1

<table>
<thead>
<tr>
<th>WIRE COLOR</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>AUDIO GROUND</td>
</tr>
<tr>
<td>RED</td>
<td>AUDIO</td>
</tr>
<tr>
<td>GREEN</td>
<td>RELAY CIRCUIT</td>
</tr>
<tr>
<td>WHITE</td>
<td></td>
</tr>
</tbody>
</table>

#### TYPICAL OPERATING CIRCUIT FIGURE 1

**CAUTION:**

To avoid damage to the 527C, observe the following:

- Supply voltage (V) must be between 4 and 35 Vdc. Voltages exceeding 35 Vdc may substantially reduce the life of the microphone. Voltages below 4 Vdc are not sufficient for microphone amplifier operation (although no damage will occur).
- Do not exceed the maximum allowable current (dissipation limit) for the various combinations of supply voltages and load resistances.
- Maintain proper polarity for the red (+) and black (–) leads as shown in Figure 1.
SPECIFICATIONS

Type
Dynamic (with transistor preamplifier)

Frequency Response
300 to 5,000 Hz (see Figure 2)

Sensitivity (at 1,000 Hz)
Open Circuit Voltage.......................... –31 dBV/Pascal (28 mV)
(1 Pascal = 94 dB SPL)

Load Impedance Range
220 to 2,200 ohms (see Figures 3 and 4)

Maximum Signal (with 10 Vdc, 470Ω load)
135 dB SPL at 1,000 Hz produces +10 dBV (3.2 V) at 10% THD

DC Supply Voltage and Current
4 to 35 Vdc (see Figure 3)

Switch
Double-pole, single-throw, leaf-type

Cable
Non-detachable, 1.8 m (6 ft), 4-conductor, neoprene-jacketed coil cord

Case
Black high-impact ARMO-DUR®

Dimensions
See Figure 5

Net Weight
342 grams (12 oz)

Packaged Weight
483 grams (17 oz)

FURNISHED ACCESSORY

Mounting Bracket* ......................................... RK6MB
*Three in replacement kit.

REPLACEMENT PARTS

Cartridge ............................................................... R132
Switch Assembly ............................................. RK319C
Cable .....................................................................C30C

For additional technical assistance, phone Shure at 1-847-600-8440. In Europe, phone 49-7131-72140.