

**TRANSISTORIZED DYNAMIC HAND-HELD MICROPHONE**

**GENERAL**

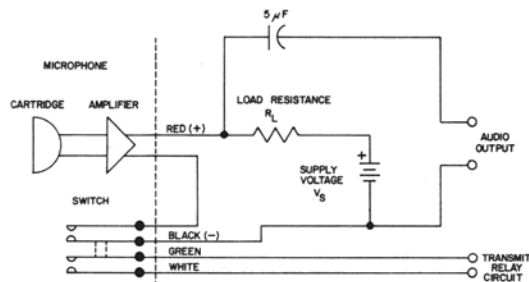
The Shure Model 524C is a transistorized, dynamic, hand-held microphone designed for rugged and reliable operation in a variety of mobile and fixed-station communications applications. The Model 524C has an omnidirectional pickup pattern and provides highly intelligible speech communication in police, fire, taxi, bus, utility, forestry, transportation, industrial, radio-telephone, amateur radio and similar applications. In addition to a clear, crisp, natural voice response, the Model 524C offers extremely low sensitivity to hum pickup and low susceptibility to radio-frequency interference. The silicon transistor amplifier of the Model 524C provides sufficient output signal to permit the use of up to 30m (100 ft) of unshielded cable.

**Model 524C Features:**

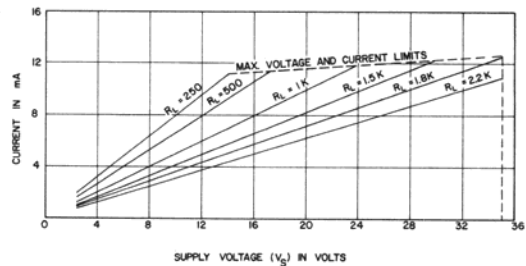
- Built-in transistor amplifier (powered by carbon microphone type circuit)
- Frequency response from 300 to 5,000 Hz, tailored for voice communications use
- Low sensitivity to hum pickup
- Low susceptibility to radio-frequency interference
- Small, light, compact case for minimum space and maximum comfort
- Rugged 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**

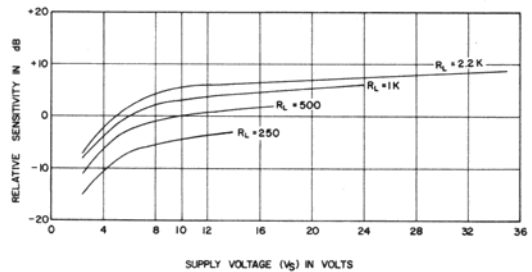
The internal wiring and switch connections of the Model 524C are shown in Figure 1, and a typical external operating circuit is shown in Figure 2. The design parameters of the operating circuit (supply voltage, load resistance, current and sensitivity) may be selected using the curves shown in Figures 3 and 4. If, for instance, the available supply voltage is 16 Vdc and a maximum current drain of 8 mA is desired, Figure 3 shows that a load resistance ( $R_L$ ) of 1K is necessary. Referring to Figure 4, it can be seen that with a supply voltage of 16 Vdc and a load resistance of 1K, the relative sensitivity is approximately +5 dB, or +1 dB output level referenced to the specified output level of -4 dB with 10 Vdc and a 500-ohm load (see *Specifications*).



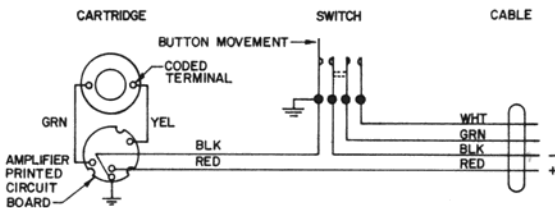
TYPICAL OPERATING CIRCUIT  
**FIGURE 2**



MAXIMUM VOLTAGE AND CURRENT LIMITS  
**FIGURE 3**



SENSITIVITY AS A FUNCTION OF SUPPLY VOLTAGE AND LOAD RESISTANCE  
**FIGURE 4**



INTERNAL CONNECTIONS  
**FIGURE 1**

**CAUTION:** The following should be observed to avoid damage to the Model 524C:

1. Supply voltage (V) must be between 2.5 and 35 Vdc. Voltages in excess of 35 Vdc may substantially reduce the life of the microphone. Voltages less than 2.5 Vdc are not sufficient for microphone amplifier operation (although no damage will occur).
2. The top (dashed) line of Figure 3 determines the maximum allowable current (dissipation limit) for the various combinations of supply voltages and load resistances.
3. Make certain proper polarity is followed for the red (+) and black (-) leads as shown in Figures 1 and 2. In mobile equipment installations especially, battery polarity verification is extremely important.

### MOUNTING

The Model 524C is provided with a mounting bracket for use with associated equipment. The bracket has mounting holes with clearance for No. 8 screws (see Figure 7).

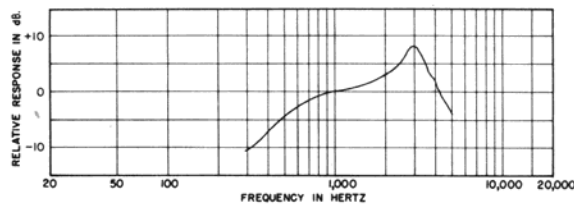
## SPECIFICATIONS

### Type

Dynamic (with transistor preamplifier)

### Frequency Response

300 to 5,000 Hz (see Figure 5)



TYPICAL FREQUENCY RESPONSE  
FIGURE 5

### Output Level (at 1,000 Hz, 5/16 in.)

-4 dB (632V) with 10 Vdc, 500-ohm load  
(0 dB = 1 volt per 100 microbars) (see Figure 4)

### Load Impedance Range

250 to 2,200 ohms (see Figures 3 and 4)

### Maximum Signal (with 10 Vdc, 500-ohm load)

118 dB SPL at 1,000 Hz produces 0 dBV (1.0V) at 10% THD

### DC Supply Voltage and Current

2.5 to 35 Vdc (see Figure 3)

### Switch

Double-pole, single-throw, leaf-type, push-to-talk

### Cable

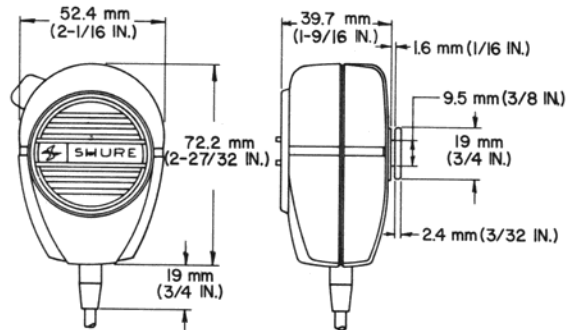
Non-detachable, 1.5m (5 ft), 4-conductor, neoprene-jacketed coil cord

### Case

High-impact ARMO-DUR®

### Dimensions

See Figure 6



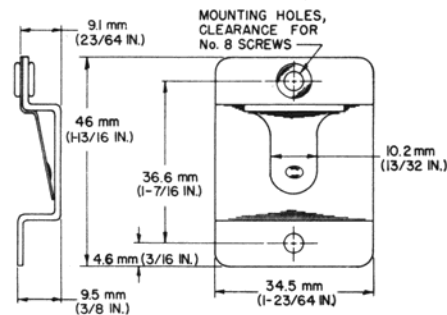
OVERALL DIMENSIONS  
FIGURE 6

### Net Weight

218 grams (7½ oz)

### Packaged Weight

359 grams (12½ oz)



MOUNTING BRACKET  
FIGURE 7

### FURNISHED ACCESSORY

Mounting Bracket .....RK6MB

### REPLACEMENT PARTS

Cartridge and Amplifier Circuit Board .....R95  
Switch Assembly .....RK15S  
Cable .....70A4013

### 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.