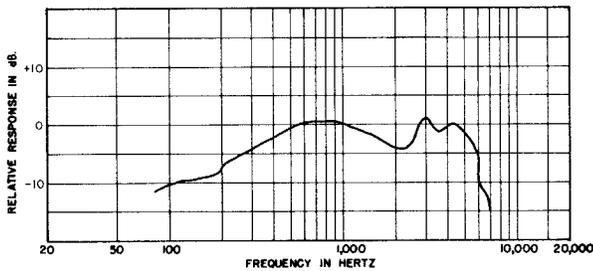


The Model 520D dual-impedance, CONTROLLED MAGNETIC®, Green Bullet Microphone is especially popular for harmonica pickup. The microphone can be cupped in the hands, used with a Quick Disconnect Adapter (Shure Model A47) on a stand, or boom- or gooseneck-mounted, to suit the needs of each individual performer. It has a sturdy all-metal case and a reliable two-conductor shielded cable. The 520D can be connected as is to high- or unbalanced low-impedance microphone inputs; or it can be connected to balanced low-impedance inputs after a simple internal modification.

SPECIFICATIONS

Type
CONTROLLED MAGNETIC

Frequency Response
100 to 5,000 Hz (see Figure 1)



TYPICAL FREQUENCY RESPONSE
FIGURE 1

Polar Pattern
Omnidirectional

Impedance (at 1,000 Hz)
Dual. Microphone rating impedance is 150 ohms (160 ohms actual) and "High".

Load Impedance Range

	Minimum	Recommended
Low Impedance	150 ohms	1,000 ohms
High Impedance	15 kilohms	100 kilohms

Output Level (at 1,000 Hz)

	Impedance	
	Low	High
Open Circuit Voltage*	-73.0 dB (0.22 mV)	-56.0 dB (1.6 mV)
Power Level**	-51.0 dB	
*0 dB = 1 volt per microbar		
**0 dB = 1 milliwatt per 10 microbars		

Cable
6.1 m (20 ft) two conductor shielded, attached

Case
Green and chrome die casting

Dimensions
62.7 mm (2½ in.) diameter, 82.6 mm (3¼ in.) long

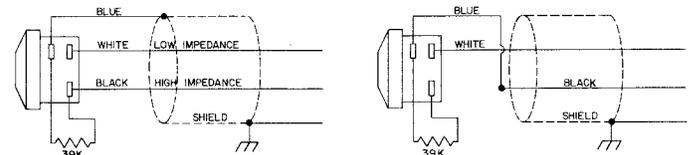
Net Weight (with cable)
630g (22 oz)


CONNECTIONS

For unbalanced microphone inputs, the WHITE lead of the 520D is the low-impedance audio output; the BLACK lead is the high-impedance audio output; the SHIELD is the audio return and case ground.

If long cables are used (over 20 feet), a balanced low-impedance circuit will prevent electromagnetic noise pickup. To modify the 520D for balanced low-impedance output, remove the two screws that hold the grille in place, and carefully take the cartridge out of the case. Cut the BLUE and BLACK leads in half; and solder the BLUE lead from the cartridge to the BLACK lead from the cable (see Figure 2). Insulate this connection and the free ends of the BLUE and BLACK leads. Replace the cartridge and grille and fasten with the previously removed screws.

The modified microphone is balanced low impedance only; the WHITE and BLACK leads are now the balanced audio output; and the SHIELD is case ground.



Dual Impedance (as shipped) Balanced Low Impedance
INTERNAL CONNECTIONS
FIGURE 2

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.

REPLACEMENT PARTS

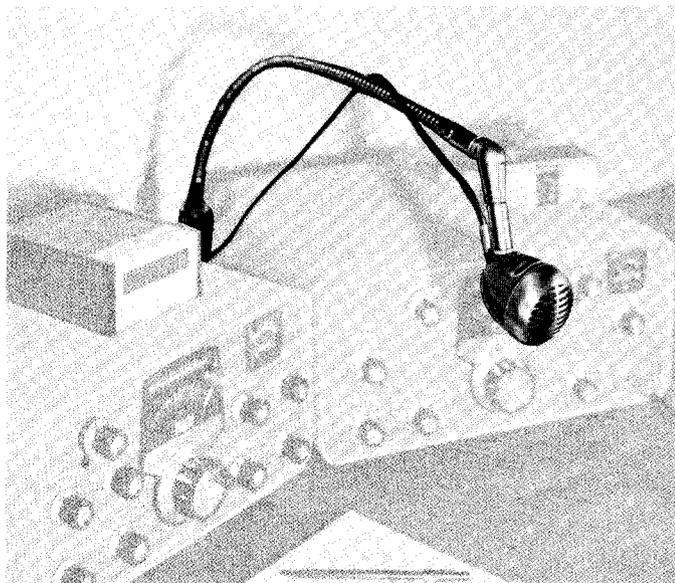
Cartridge	R44D
Cable	70A2047
Rubber Plug	66A174
Accessory Resonator	90A3051

OPTIONAL ACCESSORIES

Quick Disconnect Adapter	A47
Gooseneck (6, 12, or 18 in.)	G6, G12, G18
Gooseneck Mounting Flange	A12

AMATEUR RADIO USAGE

The Model 520D is ideal for amateur radio contests. The microphone can be VOX- or footswitch operated. The $\frac{5}{8}$ "-27 thread at the bottom of the case permits wall- or table-mounting using standard-threaded microphone accessories. Suggested accessories are the Shure 6-, 12-, and 18-inch goosenecks (Models G6, G12, and G18); and gooseneck mounting flange (Model A12); and the Atlas Sound Model SW-1B boom-swivel mount.



CONNECTIONS

The WHITE lead of the 520D is the low-impedance audio output; the BLACK lead is the high-impedance audio output; the SHIELD is the audio return and case ground. Most transmitters with a 3-conductor phone jack audio input use the tip for the keying circuit, the ring for the audio, and the sleeve for the ground.

Connect the microphone to a phone plug as follows: *either* the WHITE or BLACK lead of the 520D to the ring (depending on whether low or high impedance is required); the 520D SHIELD to the sleeve. This is for VOX operation.

If a footswitch is used, connect the switch "hot" lead to the phone jack tip and the switch shield to the sleeve.

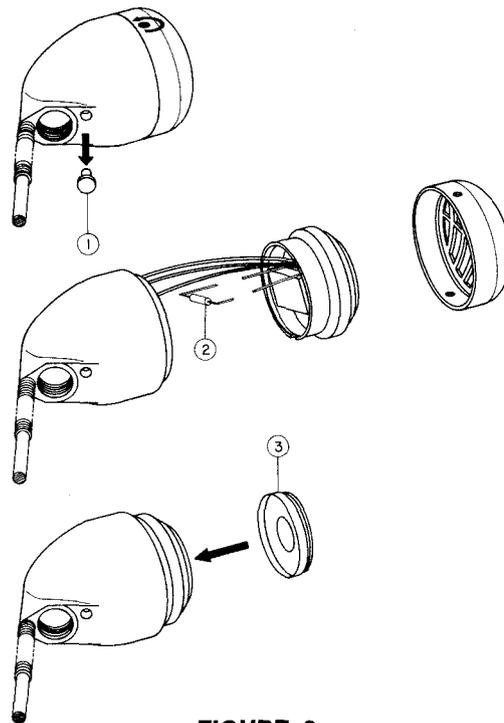


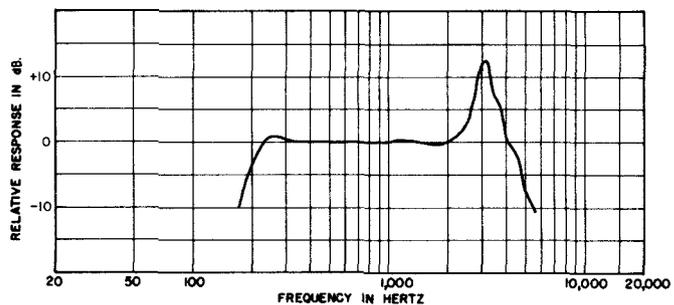
FIGURE 3

FREQUENCY RESPONSE

To tailor the response for optimum speech intelligibility (especially suitable for amateur radio communication), make the following modifications (see Figure 3).

1. Remove the black rubber plug to the rear of the nameplate.
2. Clip off and remove the 39k resistor on the cartridge terminals.
3. Insert the supplied accessory resonator in front of the microphone cartridge (attached rubber washer toward microphone grille). The cartridge shock mount is cut out to accept the resonator and hold it in place.

After the modifications are made, the response will be as shown below.



TYPICAL TAILORED FREQUENCY RESPONSE
FIGURE 4