

## Ceramic and Crystal Microphones

**GENERAL:** Models 215 and 715 are pressure-operated diaphragm type microphones. Model 215 utilizes a ceramic barium titanate element and the Model 715 utilizes a Rochelle salt crystal element.

For use under adverse climatic conditions the Ceramic Model 215 is recommended because it is relatively immune to adverse temperature and humidity conditions. However, for those applications where level is the important factor, the higher-output Model 715 is recommended.

Both types have high internal impedance and similar internal capacitance with high output, smooth response and a semi-directional pickup characteristic.

The microphone is provided with a 7-foot (2.1m) fabric-covered, single conductor, shielded cable.

**APPLICATIONS:** The Models 215 and 715 are excellent for voice or music reproduction and are ideal for amateur communications, home recording and low cost paging, intercom, or public address systems.

**CONNECTIONS:** The center conductor of the cable is "hot" and should be connected to the grid input of the amplifier. The amplifier input impedance should be approximately 5 megohms. Resistances as low as 1 megohm can be used but will result in a loss of low frequency response. The cable shielding should be connected to the amplifier chassis or ground. The shield, chassis, and amplifier should have a mutual connection to a water pipe or a similar good ground to prevent shock hazard from a faulty amplifier.

If additional cable is required, a low capacity shielded type should be used.

**OPERATION:** No polarizing voltage is required for Models 215 and 715. Microphones may be seriously damaged if accidentally connected to a high voltage source.

The Model 215 Ceramic microphone will operate under conditions of high humidity and temperatures to 140°F.

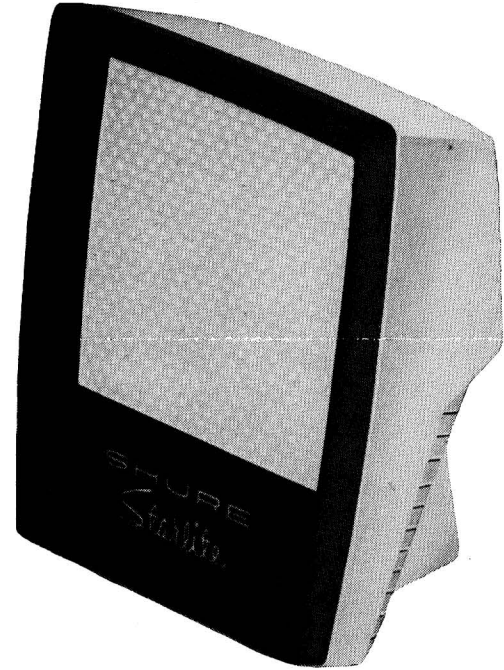
**CAUTION:** Caution must be observed in using and storing the Model 715, crystal microphone, as the element will begin to deteriorate at temperatures above 125°F. Temperatures in a closed car parked in the sun can easily exceed 125°F. and permanently damage the crystal.

When operating near a radio transmitter, use the minimum length of cable consistent with placement requirements. Careful grounding of the cable shield is advisable.

### SPECIFICATIONS: VOLTAGE SENSITIVITY.

**Model 215:** (CERAMIC) 1.5 millivolt per microbar at the end of the 7-foot (2.1m) cable across 5 megohms at 1,000 Hertz. This is equivalent to 56.5 db below 1 volt per microbar. E.I.A. Microphone Rating  $G_M$  (Sensitivity) = -156.5db.

**Model 715:** (ROCHELLE SALT) 3.16 millivolt per microbar at the



end of the 7-foot (2.1m) cable across 5 megohms at 1,000 Hertz. This is equivalent to 50 db below 1 volt per microbar. E.I.A. Microphone Rating  $G_M$  (Sensitivity) = -150 db.

**INTERNAL IMPEDANCE:** Equivalent to a 900 Micro-microfarad condenser.

**RECOMMENDED LOAD IMPEDANCE:** 1-5 megohms.

### SPECIFICATIONS

Models	215	715
Case Finish	Black Front Gray Back	Gray Front Black Back
Grille Finish	Light Gray	Dark Gray
Dimensions: Height x Width x Thickness	3 $\frac{3}{32}$ " x 2 $\frac{3}{16}$ " x 1 $\frac{1}{32}$ " (80.2mm x 55.6mm x 32.5mm)	
Cable	7-foot (2.1m) Single Conductor, Shielded	
Net Weight	3.5 ounces (99g)	
Shipping Weight	1 $\frac{1}{2}$ lbs. (680g)	

**GUARANTEE:** The Models 215 and 715 are guaranteed to be free from electrical and mechanical defects for a period of one year from date of shipment from factory provided all instructions are complied with fully. In case of damage return the microphone to the factory for repairs. Our guarantee is voided if the microphone is subjected to abuse or if the case is opened.