

Low-Cost Crystal Microphones

General: Model "710" series microphones are pressure operated diaphragm type crystal microphones. The crystal used is a Bimorph, Rochelle salt unit. The microphones have high impedance, high output, smooth response, and a semi-directional pickup characteristic. The Model "710" Series microphones have a sturdy die-cast case.

The models 710A and 710S are suitable for placement on the table top, desk top, or other flat surfaces; they fit conveniently in the palm of the hand for use as a hand microphone; the microphones are provided with a stand adapter having a $\frac{5}{8}$ "-27 thread which fits the conventional floor stand. The adapter attaches to the base of the microphone by using the #8-32 machine screw provided. Model 710S has a built in switch to control the microphone circuit. Model 710A has no switch.

The Models 710G and 710GS microphones have an adapter with a $\frac{5}{8}$ "-27 thread assembled to the microphone and are especially designed to be used with a flexible gooseneck mounting or customized installation where a concealed cable is desired. The model 710GS has a built in switch to control the microphone circuit. Model 710G has no switch.

Each of the microphones in the "710" series is provided with a 7 foot (2.1m) fabric covered, single-conductor shielded cable.

Applications: Model "710" series microphones are designed for voice and music reproduction and are ideal for amateur communications, home recording on disc, tape or wire, fixed and mobile public address systems, call systems, language lab system and similar applications. The "710" series microphones are rugged units, are designed for dependability and are recommended for use where good quality is required at low cost.

Connections: The inner or "hot" conductor of the cable should be connected to the grid of the first tube in the amplifier across a load resistance of 5 megohms. Input resistances as low as 1 megohm may be used if necessary, but higher values are recommended because of better low-frequency response obtained. The shield should be connected to the amplifier chassis or ground. The shield, chassis or amplifier ground should be securely grounded to a water pipe or similar ground to prevent shock hazard during operation of the amplifying system.

The cable may be lengthened if desired; low capacity shielded microphone cable should be used for this purpose. Added lengths of connecting cable will be accompanied by a decrease in output level.

Operation: No polarizing voltage is required for crystal microphones.

Crystal microphones may be seriously damaged if accidentally connected to loud speaker or power supply outlets carrying high voltage. Check your connections carefully.

Crystal microphones should not be used or kept in places where the temperature exceeds 125°F. They should not be exposed to the rays of the sun in very hot weather for any considerable length of time — or left in closed automobiles parked in the sun during hot weather, as the temperature inside the automobile may easily build up to



over 125° and permanently damage the crystal.

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

SPECIFICATIONS

	MODELS 710 and 710S	MODELS 710G and 710GS
Length	3 $\frac{3}{8}$ " (81.8mm)	4 $\frac{3}{8}$ " (104mm)
Width	2 $\frac{1}{8}$ " (68.3mm)	2 $\frac{1}{8}$ " (68.3mm)
Thickness (body)	1 $\frac{7}{16}$ " (36.5mm)	1 $\frac{7}{16}$ " (36.5mm)
Finish	Metallic Red	Gray
Net Weight (with 7' (2.1m) cable)	$\frac{3}{4}$ lb. (340g)	$\frac{7}{8}$ lb. (397g)
Shipping Weight	1 $\frac{1}{4}$ lb. (567g)	1 $\frac{1}{4}$ lb. (567g)

Voltage Sensitivity: 3.15 millivolts r.m.s. per microbar at the end of a 7-foot (2.1m) cable across 1 to 5 megohms at 1000 c.p.s. This is equivalent to 50 db below 1 volt per microbar at the terminals of the 7-foot (2.1m) cable.

Frequency Response: 60 to 9000 c.p.s.

Internal Output Impedance: Equivalent to a 900 micro-microfarad condenser.

Recommended Load Impedance: 1 to 5 megohms.

Guarantee: Each microphone is guaranteed to be free from electrical and mechanical defects for a period of one year from date of shipment from the 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 case is opened.

License Notice: Shure patents pending.