



SOUND REPRODUCTION EQUIPMENT

PA/42
Ed. 1/1
(Provisional)

Type 4108 CONDENSER (Cardioid) MICROPHONE

Principal features:

- ★ Maximum forward pick-up for individual use
- ★ Ideal for modern television studio use
- ★ Uniform directionality over frequency range 30-15 000 c/s
- ★ Unwanted background noise reduced

The 4108 is a new addition to the STC range of high quality microphones. It has a cardioid directional characteristic which is specially suited to modern television studio techniques. Maximum pick-up is forward, in line with the longitudinal axis, which makes this microphone ideal for use by individual artists, and its high performance makes it eminently suitable for use in radio broadcasting, film and recording studios where high fidelity reproduction is an essential requirement.

The 4108A consists of a microphone capsule within a protective cap, approximately 0.875 in (2.2 cm) diameter, which is plugged and screwed on to a head amplifier in a housing of equal diameter. The head amplifier is driven by a small mains supply unit to which it is normally connected by 30 ft of special connecting cable. Up to a maximum of 100 ft of cable may be used and compensation for the different resistance values of various lengths of connecting cable is provided by means of a tapped resistance. The microphone output transformer is housed within the supply unit, thus avoiding the need for mounting a miniature transformer in the amplifier housing.

Sound has access to both sides of the microphone diaphragm and the cardioid directional properties are produced by an acoustic phase shift. Uniform directionality is obtained over the full frequency range of 30 to 15 000 c/s.

The diaphragm and other materials used in this instrument are unaffected by temperatures up to 80°C and the excellent properties of the diaphragm material prevent any noise due to small currents induced by damp or other adverse conditions.

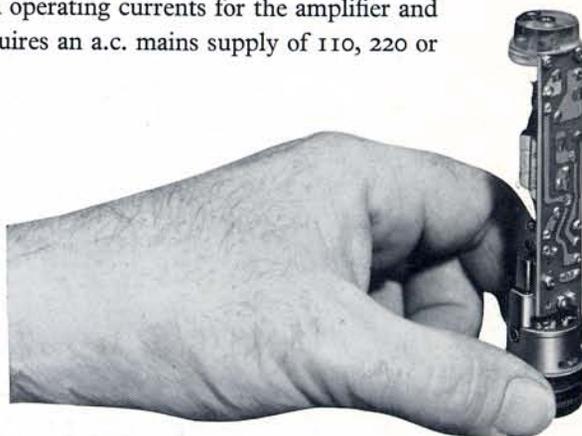


In the design of the amplifier and mains supply unit, particular care has been taken to eliminate sources of noise. A special valve, which can tolerate an extremely high grid resistance without significant increase in noise level, is used in the first stage of amplification. This is followed by a transistor buffer stage that increases amplification and greatly eases matching problems.

The power supply unit provides stabilised and smoothed operating currents for the amplifier and the polarising supply for the microphone capsule. It requires an a.c. mains supply of 110, 220 or 240 volts, 40-60 c/s.

Technical Data:

Frequency range 30 c/s — 15 000 c/s
 Directional characteristic Cardioid*
 Front to back response difference 25 db average
 Output impedance 30 ohms (or 300 ohms)
 Sensitivity (front response, plane wave)
 1 mV/dyne/cm²



Self noise of microphone plus amplifier
 Non-linear distortion for 130 db above 0.0002 dyne/cm²
 Polarising voltage
 Valve type
 Heater voltage
 Anode voltage
 Transistor type
 Dimensions (approximate)
 Capsule and head amplifier
 diameter
 length (excluding connecting sockets)
 Power supply unit
 length
 width
 height (including carrying handle)

22-28 phons

1%

50V

3A/170G not specified

6.3V (100 mA)

110 135V (0.5 mA)

TK23C

7/8 in (2,2 cm)

5 3/8 in (13,6 cm)

8 3/4 in (22,2 cm)

4 1/4 in (10,7 cm)

6 in (15,2 cm)

*Note : A pressure operated capsule with an omnidirectional pick-up pattern can be supplied if required.



Standard Telephones and Cables Limited

PUBLIC ADDRESS DEPARTMENT

ESTERBROOKE STREET LONDON, S.W.1

Telephone: VICToria 7741

Telegrams: Relay, London W.C.2.

Enquiries concerning Public Address equipment may be made at any of the following Branch Offices of the Private Communication Equipment Division

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S.T.C. Leaflet C/PA42 Ed.1 (Provisional)

Type 4108 Condenser (Cardioid) Microphone

Since the publication of this provisional leaflet, certain modifications have been made to the microphone.

As a result, para.2 on page one now reads:-

"The 4108A consists of a microphone capsule within a protective cap, one inch (2.6 cm) diameter, which is plugged and screwed on to a head amplifier in a housing of equal diameter. The head amplifier is driven by a small mains supply unit to which it is normally connected by 30 ft of special cable. Up to a maximum of 100 ft of cable may be used."

Also the following information under the heading Technical Data, page 2, supersedes that given in the leaflet:-

"Self noise of microphone plus amplifier - 22 phons

Valve type	
Heater voltage supply	6V (100 mA)
Anode voltage	110V (0.5 mA)

Dimensions:

Capsule and head amplifier -	
Diameter	1 inch (2.6 cm)
Length	6½ inches (16.5 cm)."