

**PRASAR BHARATI
(BROADCASTING CORPORATION OF INDIA)
DIRECTORATE GENERAL:ALL INDIA RADIO
(P&D UNIT)**

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SPECIFICATION No. SSE-309/5
October, 2002

SPECIFICATION FOR CONDENSER MICROPHONE (CARDIOID)

1. GENERAL

This specification briefly describes the electro-acoustical and physical requirements of a high quality condenser microphone suitable for use in Broadcast studios. It shall have a sturdy construction and shall be provided with its own pre-amplifier. It shall withstand temperature and humid conditions prevailing in tropical areas without deterioration in performance. It shall be elegant looking and conform to present day standards of broadcasting.

The tenderer must along with the tender documents submit

- (a) Complete printed technical literature of the equipment being offered.
- (b) A point to point compliance statement highlighting deviations, if any, on all clauses of the specification from the manufacturer of the offered equipment duly signed in original.
- (c) The quote should either be from the manufacturer or authorized agent. In case the quote is from the authorized agent, a certificate from the original manufacturer that the tenderer is authorized agent for India should be enclosed with the tender.

Incomplete offers will be rejected.

The tenderer may be required to submit a sample microphone with accessories at the time of technical evaluation in New Delhi. Non-compliance of sample submission will disqualify the offer.

2. FREQUENCY RESPONSE

The frequency response shall be within ± 2.0 dB over the entire range of 40 Hz to 20 KHz.

3. DIRECTIONAL CHARACTERISTICS

The microphone shall have cardioid pattern over the entire frequency range specified in clause 2. The pattern shall not vary from the standard cardioid

pattern within 125 Hz to 8 KHz. Polar diagrams at different frequencies shall be supplied with the offer.

4. FRONT TO BACK RATIO

The front to back ratio shall be better than 10 dB at 125 Hz and 8 KHz and 15 dB at 250 Hz, 500 Hz, 1 KHz and 4 KHz. A frequency curve showing 'On-Axis' and 'Off-Axis' response shall be supplied along with the offer.

5. SENSITIVITY

The sensitivity of the microphone shall be equal to or better than 7.0 kv/Pa (-43 dBV – reference 0 dBV = 1 volt).

6. OUTPUT IMPEDANCE

The output impedance of the microphone pre-amplifier throughout the audio band shall not be more than 200 ohms.

7. EQUIVALENT NOISE LEVEL

The equivalent inherent noise level RMS A-weighted shall be better than 20 dB SPL.

8. DISTORTION

The total harmonic distortion shall not exceed 0.5% at SPL or 130 dB at 1 KHz.

9. POWERING

The microphone shall operate on universal phantom powering system of 9 to 52 volts. Operation of the microphone also on battery powering unit shall be possible. This unit may be quoted as an accessory.

10. CLIMATIC CONDITIONS

The microphone shall perform satisfactorily in dry temperature range of 10⁰ C to +50⁰ C and in humid conditions of 90%RH at 40⁰ C.

11. CONNECTORS

All necessary sockets, plugs and connectors for operation of the microphone shall be supplied.

12. ACCESSORIES

- (a) The microphone shall be supplied complete with following accessories:
 - i) Carrying/Storage Case
 - ii) Swivel Adapter.

- (b) Rates for the following optional accessories may be quoted:
 - i) Phantom Power Supply unit
 - ii) Stereo Microphone Adapter

13. PERFORMANCE CERTIFICATE

Each microphone shall carry a serial number and a test certificate for its functioning as per claimed specifications.

14 INSPECTION

The inspection of microphone will be carried out at the manufacturer/supplier's premises. All the necessary equipment for carrying out the inspection will be arranged by the manufacturer/supplier.

15. GUARANTEE

The microphone shall be guaranteed against any manufacturing defect and for satisfactory performance at least for a period of one year from the date of its supply.