

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

Specification No. SSE-5001  
Dated: April, 2004.

**SPECIFICATION FOR DYNAMIC CARDIOID MICROPHONE**

**1. GENERAL**

- 1.1 This specification briefly describes the electro-acoustical and physical requirements of a high quality dynamic microphone suitable for use inside broadcasting studios, The microphone shall have sturdy construction and shall withstand temperature and humid conditions prevailing in tropical zones without deterioration in quality.
- 1.2 The tenderer must submit following documents along with the tender document:
- (i) 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.
  - (ii) Detailed printed literature of the equipment giving complete electrical and mechanical data including detailed dimensions and mounting requirements.
  - (iii) The quote should either be from the manufacturer or their authorized representative/dealer. In case the quote is from the authorized representative/dealer, a certificate from the original manufacturer that the tenderer is authorized representative/dealer should be enclosed with the tender.
- 1.3 The tenderer may be required to submit a sample of microphone for subjective and objective evaluation at the time of technical evaluation in New Delhi, if necessary. Non-submission of sample shall debar the offer from consideration.
- 1.4 Incomplete offers liable to be rejected outright.

**2. FREQUENCY RESPONSE**

The frequency response shall be within  $\pm 3$  dB over a range of 150 Hz to 12 kHz and having presence going up to maximum of 8 dB peak with reference to 1 kHz in the high frequency range starting from approximately 3 kHz to 10 kHz.. BASS roll-off giving roughly 8 to 10 dB attenuation at 50 Hz shall be available.

### **3. DIRECTIONAL CHARACTERISTICS**

- 3.1 The microphone shall have cardioid/super cardioid pattern over frequency range of 250 Hz to 4 kHz.
- 3.2 Typical polar diagrams at different frequencies shall be supplied with the tender,

### **4. FRONT TO BACK RATIO**

The front to back ratio shall be at least 10 dB from 250 to 4 kHz along vertical axis.

### **5. SENSITIVITY**

The sensitivity shall be equal to or better than 2.4 mV/Pa (-52.4 dBV -reference 0 dBV =1 volt/Pa)

### **6. OUTPUT IMPEDANCE**

Not more than 600 ohm,

### **7. HUM PICKUP**

In a 50 Hz A.C. field of 0.001 Gauss, the hum pickup by the microphone shall not exceed -130 dBV. (reference 0 dBV = 1 volt).

### **8. DISTORTION**

The total harmonic distortion shall not exceed 1% at SPL at 120 dB at 1 kHz.

### **9. WEIGHT**

Net weight of the microphone, without cable, shall not exceed 350 gms.

### **10. VIBRATION ISOLATION**

The microphone shall have shock proof mounting to reduce mass related or "SEISMIC" type vibrations without compromising its acoustic properties.

### **11. ACCESSORIES**

- 11.1 Standard accessories manufactured by original manufacturer of the microphone like carrying case, stand adapter and gold plated mating connectors (a pair of male and female) shall be supplied along with the microphone.
- 11.2 Adaptors, accessories and stands suited for the microphones and not included as standard accessories shall be quoted separately as additional items and shall be accompanied by illustrative leaflets.

## **12. TESTS**

Each microphone shall be accompanied with its test data sheet incorporating sensitivity, polar pattern, frequency response etc. from the manufacturer.

## **13. ENVIRONMENTAL CONDITIONS**

The microphone shall be suitable for operation within dry temperature range of 0 °C to +45 °C and humid conditions of 90% RH at 40 °C.

## **14. INSPECTION**

The inspection of microphones will be carried out at the supplier's premises free of cost. Inspection will include physical checkup & subjective listening of 100% microphones. Frequency response, polar pattern and THD of at least 3% of microphones shall be measured at a mutual agreed laboratory/institute at supplier's cost. All the necessary equipment for carrying out the inspection will be arranged by the supplier.

## **15. GUARANTEE**

The equipment shall be guaranteed for satisfactory performance and against all manufacturing defects for a period of one year from the date of supply. Servicing facility shall exist for servicing of the quoted equipment within India.

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