

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

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**SPECIFICATION OF HAND HELD DIGITAL RECORDER**

**1. GENERAL**

1.1 This specification pertains to Hand Held Digital Recorder for out door sound recordings, using Compact Flash memory Card or internal flash memory as a recording medium. The equipment shall be rugged and reliable to meet the stringent requirements of outdoor recording applications. The recorder shall be lightweight and designed to withstand tropical conditions. It should have a built-in microphone and provision for connecting external microphone.

1.2 The tenderer must submit the following documents along with tender.

- (i) **A point-to-point compliance statement as per Annexure highlighting deviations, if any, on all the clauses of specification from the manufacturer of the offered equipment duly signed in original. Actual performance figures should also be quoted under remarks column. If compliance statement is in format other than Annexure-I, the tender will be rejected out rightly.**
- (ii) **A certificate in original from the original manufacturer that the tenderer has been authorized to quote the tender for All India Radio should be enclosed. No sub authorization will be allowed.**
- (iii) **Complete printed technical literature and specification of the equipment being offered to support the compliance statement.**

1.2.1 **Incomplete tenders are liable to be rejected without any notice to the tenderer.**

1.3.1 The tenderer may be required to demonstrate the functioning of the equipment being offered in New Delhi. Measuring equipment shall also be brought by the tenderer for verification of performance measurements of the offered equipment. **Non-compliance of equipment demonstration and performance measurements shall disqualify the tender.**

1.3.2 The tenderer must ensure that the tender is technically complete in all respects and all the above points have been complied with fully.

**2. CONFIGURATION**

2.1 The recorder shall have the facility to record on compact flash memory card or internal flash memory. The recorder shall have the capability of being used in 16 bit PCM linear digital format (.WAV file format).

2.2 The buttons/switches for various operations like recording, play, pause, fast forward, rewind/review should be provided on the front panel in logical layout clearly marked and should be quite sturdy for reliable operation.

2.3 The record/stop buttons should be so located that it should be possible to easily operate the recorder for recording/stop while on move. Other necessary switches,

buttons and controls, etc. should be provided at easily accessible locations. Necessary indicators showing the mode of operation, level, status of the battery and the memory card capacity, recorded time and remaining time etc. should be distinctly visible on LCD display panel.

- 2.4 The recorder shall have the facility for save and delete of reordered material.
- 2.5 The recorder shall have built-in microphone and provision for connecting external microphone for recording.
- 2.6 The recorder should have in-built USB port for transfer of audio data to workstation.

### **3. FEATURES AND FACILITIES**

The recorder shall be lightweight, reliable, small size, self-contained, one hand operative with LCD display. It shall have the following essential features and facilities.

- I) Level indicators for programme level during recording/playback.
- II) Operation controls/buttons shall be provided on the front panel and these should be sturdy and reliable.
- III) Recording / playback and stopping should easily be possible while on move.
- IV) Recorder shall have the facility for save and delete of reordered material.
- V) Battery of adequate capacity to support at least 90 minutes continuous recording.
- Vi) Display of total recorded programme time & remaining recording time.
- Vii) Low battery indication.
- IX) Back lit display.

### **4. TECHNICAL SPECIFICATION**

#### **4.1 Recording/Play Mode**

4.1.1	Recording media	Removable 1 GB (or higher) Compact Flash Memory Card or 2 GB (or higher) internal built-in memory
4.1.2	Bit Resolution	≥16 bits
4.1.3	Recording Format	PCM Linear Digital (.WAV)
4.1.4	Sampling Rate	At least 32/44.1/48 KHz, selectable
4.2	Power	Internal Battery AA or AAA
4.3	Input	(a) With a built-in microphone  (b) Provision for connecting external microphone (c) Provision for line input
4.4	Output	On a USB Port 1.1 or 2.0
4.5	Monitoring	Provision for headphone monitoring

4.6 Measurements

4.6.1 Frequency Response at Nominal input and output levels w.r.t. 1 KHz and from 50 Hz to 15 KHz : within  $\pm 3$ dB

4.6.2 THD + Noise at -60 dBu input level and 0 dBu output level (50Hz.to 15KHz.)  $\leq 0.3$  %

4.6.3 Dynamic Range  $\geq 80$  dB.

**5. WEIGHT**

Total weight of recorder including batteries should be less than 500 grams (excluding external microphone, carrying case of equipment and headphone).

**6. DIMENSIONS**

The recorder shall have compact body and its overall dimensions should be such that it can easily be held in palm or pocket by the recording personnel.

**7. CLIMATIC CONDITIONS**

The unit shall be designed to work satisfactorily and meet all the specifications in tropical climate conditions as existing in India.

**8. GUARANTEE**

The equipment shall be warranted directly from OEM for a period of at least one-year from the date of supply against any manufacturing and design defect. In case of failure within this warranty period the item shall be repaired/replaced free of cost.

**9. SPARES AND AFTER SALE SERVICE SUPPORT**

9.1 Essential and recommended spares shall be quoted separately. The list should include name and part no. of the parts/components with quantity and unit cost.

**The cost of these items shall not be considered for ranking of the bid.**

9.2 The tenderer shall ensure availability of spares and after sale service support in India for the quoted equipment for a period of at least **five years** from the date of supply of last equipment.

**10. ACCESSORIES**

The equipment shall be supplied along with the following accessories:

- i) Carrying case for Hand-held Digital Recorder - one no.

- ii) 1GB or higher capacity Compact Flash Memory Card compatible with Recorder in case CFC based recorder is quoted - Two nos.
- iii) USB to USB cable of standard length (Compatible with recorder at one end and compatible to PC at other end) - One no.
- iv) Headphone suitable for monitoring ( Frequency response 50 Hz - 15 kHz, Cable length  $\geq$  1 meters, THD at 90 dB SPL  $\leq$  0.5 %) - one no.
- v) Matting connectors - one set
- vi) Battery - one set

Cost of each and every accessory shall be quoted separately with make/model and supported by technical literature/specifications in case of accessories at Sl.No. (i), (ii) and (iv)

#### 11. OPTIONAL ACCESSORIES

Rugged carrying case from OEM for carrying all accessories of the recorder including hand held digital recorder - one no.

**Cost of optional accessories shall be quoted separately and shall not be considered for ranking of the bid.**

#### 12. INSTRUCTION MANUAL

One set of operating and instructions manual of the equipment shall be supplied along with each equipment. One set shall be enclosed with the tender document.

**13. BILL OF MATERIAL** As per details in Annexure-II

#### 14. INSPECTION

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

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S.No.	Para no. of AIR specification	Tenderer's solution		
		Complied (yes/no)	Actual Values of the offered product	Remarks

ANNEXURE-II

Bill of Material

S. No.	Description	Quantity
1.	Hand Held Digital Recorder	One
2.	1GB or higher capacity Compact Flash Memory Card / 2GB or higher capacity of internal memory	Two nos/ internal memory
3.	Carrying case for Hand Held Digital Recorder	One
4.	USB to USB cable of standard length	One
5.	Headphone	One
6.	Matting connectors	One set
7.	Battery	One set
8.	Operating and instructions manual	One set

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