

PRASAR BHARTI
BROADCASTING CORPORATION OF INDIA
DIRECTORATE GENERAL:DOORDARSHAN

**SPECIFICATIONS FOR HIGH QUALITY DIGITAL INTERCOM TALK
BACK SYSTEM FOR BROADCAST TV PRODUCTION**

Specifications No.: SD 10/2010

Dated: 21.05.2010

1. SCOPE

The specifications lay down the required performance characteristics of high quality Digital Intercom talkback system to be used in TV studios/OB Vans of Doordarshan network.

2. General

- a. **The offered equipment should be from an internationally reputed manufacturer and the quoted model should be field proven and in use by leading broadcasters. The bidder should essentially submit the list of the broadcasters to whom the quoted model has been supplied. The tenders without the proper user list shall liable to be rejected out rightly.**
- b. The talkback system will be used in Doordarshan Network for intercommunication between producer/director, camera persons, floor manager/floor assistant, talent/anchor and other technical facilities such as lighting, CCU, VCR etc. during program production in a Broadcasting TV studio/OB Van.

3. Essential Features :

- a. The talkback systems should have central matrix with digital signal processing and self-contained power supply in 19" rack mounting.
- b. All the interconnections should be made through this central matrix. The central matrix should be modular type. There should be digital transmission between central matrix and control panels.
- c. The control panels should have excellent ergonomics to give good look in the installed area.

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- d. All the control panels and headsets should be rugged in design to withstand professional use.
- e. Belt packs and remote panels should be constructed of high grade aluminium or steel. These should be shielded against hum, RFI and thyristor switched dimmer noise.
- f. Dual muff Noise attenuating headsets with dynamic noise cancelling microphones should be used to reduce the ambient noise and minimize feedback.
- g. The intercom unit should use wide bandwidth system to maximize the intelligibility of the human voice.
- h. Apart from communication from producer to floor Manager, Producer to floor Assistant and producer to camera persons, it should have control panels for various areas like VTR, CCU, Audio, lighting console, Graphics etc.
- i. Remote control panels should be equipped with wide frequency professional quality gooseneck microphones, built in amplifier and speaker, channel select buttons, intercom and program level volume control. Facility to connect headsets should also be available. The microphone preamplifier should have compressor/ limiter and speech bandwidth filters to improve intelligibility and reduce feedback.
- j. The system should allow two way communications between all remote control panels, producer station and Floor Manager/Floor Assistant belt packs.
- k. The Producer Station should be equipped with electronically latching push ON and push OFF selector switches to enable hands free operation and sigma mode of calling (All select).
- l. Other Remote Control Panels should be equipped with 'push to talk' selector switches.
- m. The Producer Control panel should have 16 button/switches and other remote control panels should have at least 8 button/switches.
- n. The system should have belt pack unit and headset for Floor Manager/ Floor Assistant for two way communication with the producer.
- o. The system should be able to interface with 4 camera CCUs/base stations via 4wire/2 wire systems.
- p. Talkback system should be designed to ensure that remote control panels can be situated at about 150 meters or more.
- q. The matrix should have auto switch-able redundant power supply.

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- r. The system should also have IFB (Interrupted fold back) configuration to provide communication to the talent/anchor in the studio through mini earphone jack.
- s. The firm should certify the completeness of the offered system. It will be the sole responsibility of the tenderer to offer all the items including software, hardware, cables & connectors that are necessary to complete the system.
- t. The firm should also provide the schematic depicting all the talkback stations of the offered system to help understand the completeness of the system.
- u. The Bill of Material required is given in **Appendix-I**.
- v. The equipment are being procured for various Doordarshan centres as per **Appendix-II**.

4. Technical Specifications:

- a. Matrix Size : 16 x16
- b. Audio Inputs : Balanced inputs, Hi Z (10K ohms or more)
- c. Maximum level : +18dBu
- d. Gain Adjustment : Should be available for Individual cross point.
- e. Audio outputs : Balanced outputs, Low Z (<50ohms)
- f. Frequency response : ± 3 dB or better 200Hz to 7.5 KHz
- g. S/N Ratio : Better than 60 dB
- h. Cross talk : Better than - 60 dB
- i. Power supply : $230 \pm 5\%$ V AC, 50 Hz
- j. Operating Temperature : 5 to 40 deg. Celsius

5. SOFTWARE:

All the necessary software required for proper working of the system is to be supplied in original and should be licensed to Doordarshan with perpetual validity.




6. COMPLIANCE:

- (a) Any substandard equipment included in the offer may cause the rejection of complete offer with the sole responsibility of bidder.
- (b) The firm should provide the offered un-priced bill of material in electronic form also in addition to the hard copy for ease of technical evaluation.
- (c) **A point-by-point compliance statement from the principal manufacturer in respect of all the points laid down in these specifications is to be enclosed along with the offer in the format given below. Mere signature on the copy of the specifications shall not be accepted as a compliance statement.**

The figures so mentioned should be supported by record of these in the technical literature enclosed with the tender and reference to the page number of enclosed literature for all features and technical specifications should be mentioned in the relevant column. Offers without the compliance statement or with incomplete compliance statement will liable to be rejected with the sole responsibility of the bidder. Any deviation from the specification detailed in the compliance statement is to be highlighted separately.

Sr. No of DD specs.	DD specs.	Compliance (Yes/No)	Performance Fig. of equipment Offered.	Reference to the Page Number of enclosed literature	Deviations, in case of non-compliance	Optional items if any reqd. to make the sys. Compliant to DD specs.	Features in the offered Product which exceeds DD specs.

7. ACCESSORIES

All the essential accessories such as various types of connectors, power cord etc. are required to be quoted essentially. Various types of interconnecting cables alongwith matching connectors at both ends, required with the system for its completeness, should also be included in the offer. All the **Optional items** may be quoted separately. The firm must provide enough details about optional items to decide its utility.

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8. DOCUMENTATION

One set of printed technical and operation & maintenance manuals for all the equipments are to be provided on non-returnable basis along with the tender to facilitate the technical evaluation, otherwise the tender is liable to be ignored. The successful bidder will have to supply one set of printed operation, service and maintenance manuals with respect to each equipment.

9. GUARANTEE

- (a) The system should be guaranteed for two years of trouble free operation from the date of supply. In case of any equipment failure including software and hardware within this period, the same shall be rectified or replaced free of cost to Doordarshan.
- (b) The guarantee should cover all hardware, software and modules of the complete system.

10. DEMONSTRATION

If necessary, the firm may be asked for demonstration of the offered system as part of the technical evaluation. In such case the firm will have to make suitable arrangement for the demonstration of the offered system at Doordarshan Bhawan, New Delhi, on notice of 7 days. Accordingly the firm should be in readiness for demonstration on a notice of 7 days.

11. INSPECTION

The equipment shall be subjected to inspection by Doordarshan officials at New Delhi.

12. ENCLOSURES

The bidder must necessarily submit the following enclosures along with the technical bid:

- (a) Compliance statement with respect to all the points of the specifications duly signed by the OEM.
- (b) The reference to the page number of enclosed literature for all features and technical specifications should be essentially mentioned in the relevant column of the compliance statement.



- (c) Technical manuals/Detailed technical literature/catalogues for all the offered products for substantiating the model no. and technical specifications.
- (d) The schematic depicting all the talkback stations of the offered system to help understand the completeness of the system.
- (e) **Model specific broadcast user list of the offered product.**
- (f) Any other document mentioned elsewhere in the tender document.

The tender is liable to be rejected in the absence of the above enclosures with the sole responsibility of the bidder.



**Total Quantity: 31 Sets
Bill of Material per set**

Sl. No.	Items	Qty. per Set
1.	Master Exchange Unit of 16x16 matrix with auto switchable redundant power supply unit	1 no.
2.	Camera mix and distribution boards for minimum 4 cameras, if required	1 no.
3.	16 button/switch Producer Station with gooseneck microphone and built in speaker	1 no.
4.	8 button/switch Remote Control Panel with gooseneck microphone and built in speaker and power supply unit	5 nos.
5.	Belt pack with dual muff Headset for Floor Manager/Floor Assistant	2 nos.
6.	Belt pack (IFB) with earpiece	2 nos.
7.	Headset with connectors	2 nos.
8.	Interconnecting cables with necessary matching connectors at both ends	
(a)	Required cable for Floor Manager/Floor Assistant beltpack- 90 meter length	2 nos.
(b)	Required cable for IFB - 90 meter length	2 nos.
(c)	Required cable for Producer Station and Other 5 Remote Control Panels - 30 meter length	6 nos.
(d)	Required cable for Camera Base Station- 10 meter length	4 nos.
(e)	Any other type of cable, connector, breakout panel etc., if required.	1 Set
9.	Any other item to make the system fully functional	1 Lot
10.	Operation manual/User Guide/ Technical Manual/ Installation Manual etc.	1 Lot
11.	Service & Maintenance Manuals	1 Lot



**EQUIPMENT ARE BEING PROCURED FOR THE FOLLOWING
DOORDARSHAN CENTRES**

Sl. No.	Zone	Location of Doordarshan Centre	Qty.
1.	North Zone (NZ)	Jammu	1 set
2.		Chandigarh	1 set
3.		Bareilly	1 set
4.		Shimla	1 set
5.		Allahabad	1 set
6.		Mau	1 set
7.	East Zone (EZ)	Daltonganj	1 set
8.		Mujjafarpur	1 set
9.		Ranchi	1 set
10.		PPC Guwahati	1 set
11.		Siliguri	1 set
12.		shillong	1 set
13.		Tura	1 set
14.		Kohima	1 set
15.		Itanagar	1 set
16.		Imphal	1 set
17.		Silchar	1 set
18.		Dibrughar	1 set
19.		Aizwal	1 set
20.		Agartala	1 set
21.		Sambalpur	1 set
22.	Gangtok	1 set	
23.	South Zone (SZ)	Gulbarga	1 set
24.		Pondicherry	1 set
25.		Vijayavada	1 set
26.		Portblair	1 set
27.	West Zone (WZ)	Panaji	1 set
28.		Raipur	1 set
29.		Rajkot	1 set
30.		Pune	1 set
31.		Indore	1 set
TOTAL			31 sets

