



प्रसार भारती/PRASAR BHARATI

भारत का लोक सेवा प्रसारक /India's Public Service Broadcaster

योजना एवं विकास एकक / Planning & Development Unit

आकाशवाणी भवन, संसद मार्ग /Akashvani Bhavan, Parliament Street

नई दिल्ली/New Delhi-110001



No. 17/8/2019-D(SD)

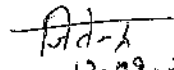
दिनांक:/Dated: 12.09.2019

Subject: Draft Technical Specification of Digital Phone-in Console for Firm/OEM feedback & cost estimation

Technical Specification of Digital Phone-in-Console is uploaded to invite comments from the Vendors/OEMs dealing with supply of such equipments. The interested parties are requested to provide comments/feedback on the technical specification.

AIR intends to procure ⁶⁷ such units by tendering process. Vendors are requested to provide cost estimate for unit cost of Digital Phone-in-Console.

Comments & cost estimation may be provided by E-mail to "airstudiodesign331@gmail.com" within 15 days of uploading of these specification.


12.09.2019
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PRASAR BHARATI / प्रसार भारती

(BROADCASTING CORPORATION OF INDIA) / भारतीय प्रसारण निगम

DIRECTORATE GENERAL: ALL INDIA RADIO / आकाशवाणी महानिदेशालय

PLANNING AND DEVELOPMENT UNIT / योजना एवं विकास एकक

Technical Specification of Digital Phone-in-Console

SECTION-I : GENERAL

1. Background & Objective of Project

All India Radio has more than 200 Studio Setups across its network. To increase interaction with Listeners, Listeners need to be recorded or Played Live using Telephone Lines (PSTN lines). Digital Phone-in Console is required to interface PSTN lines with digital/analogue audio mixers in Broadcast Studios to produce on-air radio talk shows.

2. Scope of Tender

The Scope of this tender is for supply of Digital Phone-in-Console as per BOM.


3. Pre-qualification

The console shall be fully digital and based on the field proven design using state of the art technology. These should be rugged in construction and suitable for reliable operation 24 hours a day and 365 days in a year.


4. Documents to be submitted with Tender Document

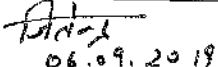
The tenderer must submit the following documents along with the tender:

- 4.1 A Clause-by-clause full compliance statement in respect to specifications of Phone-in-Console (Section-III) from the OEM of the offered Equipment. Compliance statement should be supported by record of various parameters of specifications in the technical literature enclosed with the tender.


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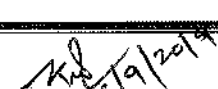
- 4.2 In addition to above, a separate point by point compliance statement duly signed by the bidder in respect of all the points laid down in the specifications for all the equipment/item(s) should also be submitted along with the bid by the bidder
- 4.3 Detailed printed literature of Phone-in-Consoles giving complete details of features and performance data on non-returnable basis to facilitate the technical evaluation.
- 4.4 Back to Back Support Commitment from OEM of Phone-in-Console for the period of five Years.
- 4.5 A copy of un-priced Bill of Material (BOM) indicating make, model no. , complete configuration details of offered hardware shall be quoted clearly.
- 4.6 Customer reference certificate and documents in support for the offered Phone-in-console, having been deployed in a reputed broadcasting organization.


5. Tender Evaluation

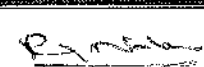
- 5.1 The tender shall be technically evaluated on the basis of conformity of bid to Technical specifications.
- 5.2 Technical evaluation shall be done on the basis of compliance statement, customer reference certificates, technical literature related to quoted products and demonstration of functioning of consoles.
- 5.3 The tenderer may be required to demonstrate the functions of the tendered equipment during technical evaluation. The tenderer will be required to arrange all necessary hardware for demonstration during technical evaluation. The demonstration of the system will have to be conducted with-in one month from the date of issue of Call letter which will be faxed/emailed on given telephone number/Email address. Non-compliance of demonstration may disqualify the tender.
- 5.4 The bids fully meeting technical specifications shall be considered technically fit.

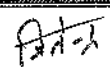
6. Pre-Dispatch Inspection & Supply

- 6.1 All the Hardware would be inspected before dispatch by indenter. The pre-dispatch inspection shall be done by authorized representatives of All India Radio at supplier's premises in India before shipment.
- 6.2 An Acceptance Test Procedure (ATP) should be prepared by the tenderer and got approved from the indenter after the firm order is placed.
- 6.3 The tenderer will give a notice in writing to the indenter 2 weeks before the commencement of inspection.


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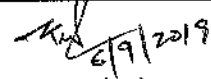
- 6.4 The tenderer shall provide all equipment, materials and manpower as may be required for performing various tests as per ATP.
- 6.5 Pre-dispatch inspection would comprise complete testing including functional tests and various measurements of 10% of the equipment. Rest of the equipment shall be accepted on the basis of OEM Test Certificate in respect of measurement taken on the equipment.


7. INSTRUCTION MANUAL

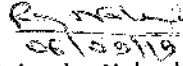
One set of Maintenance/operational manuals of each hardware from OEM should be provided to each station. A softcopy of all manuals on CD/DVD ROM/Pen Drive Media shall also be provided to each station, zonal office, AIR Directorate & NABM(T).

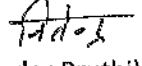
8. Warranty & Maintenance

- 8.1 The Consoles & associated equipment shall be warranted for trouble free operation for a period of three years from the date of commissioning.
- 8.2 In case of failure of equipment or its sub module, the tenderer will send a replacement part to station. The station will replace the faulty part and test the whole equipment. The faulty part shall be sent back to tenderer at tenderer's cost after rectification of fault.


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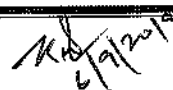

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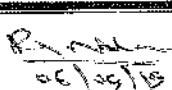

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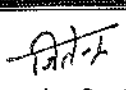
**SECTION-II : BILL OF MATERIAL**

S. No.	Description	Quantity
1	Digital Phone-in Console including Control Unit with all accessories (as per Section III Para 3)	As per Requirements.


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SECTION-III : TECHNICAL SPECIFICATIONS**1. ESSENTIAL FEATURES OF PHONE-IN-CONSOLES**

Sr. No	Specifications	Compliance	Reasons for Deviations (if any)	Details
1.1	The Phone-in-console should be compact ergonomically designed professional product and suitable for reliable operation on 24x7x365 basis working.			
1.2	It should be housed in rust-proof pre-painted cabinet/Anodized Metal cabinet.			
1.3	The Digital Phone-in-console shall consist of a 19" Rack mountable base unit & a wired Remote Control Unit. Software running from a LAN Connected PC shall also be acceptable as Remote control Unit and in that case, Existing PC available with AIR Stations shall be used and Only Software shall be provided by tenderer.			
1.4	The layout of modules / parts / components in the Phone-in-console should be professional to permit easy access to the wiring, inspection, repairs / servicing.			
1.5	Console should be DSP based and all the processing in the console shall be performed in the digital domain.			
1.6	The Analogue line level inputs and outputs shall be balanced. These should be available on balanced 3-pin XLR .			
1.7	Console shall be capable of interfacing two Telephone (PSTN) lines.			
1.8	Console shall have two digital hybrids and a switch matrix to connect any of the incoming call to either of hybrid.			

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Sr. No	Specifications	Compliance	Reasons for Deviations (if any)	Details
1.9	It should be possible to connect two lines ON-AIR at a time independently as well as simultaneously in conference mode.			
1.10	The console shall provide two individual outputs containing only the Receive signal (from caller) of Telephone line i.e. Caller's Voice only of selected (ON-AIR) telephone lines. These outputs shall be on Balanced XLR connectors in Analog format.			
1.11	It should also be possible to internally conference two callers with-in the phone-in console. The composite output of two callers should be available on one of balanced XLR connector.			
1.12	The console shall have two inputs (one for each Hybrid) ("Send to Caller") to send Mix-Minus signals from Studio Console into the selected (ON-AIR) Telephone lines. These inputs shall be on Balanced XLR connectors in Analog format.			
1.13	It should be possible to control the levels of send (i.e. Studio console's Mix-Minus Output) & Receive (i.e. Caller's voice) signals.			
1.14	The console should have control unit for screening the incoming calls, putting them on hold/ON-AIR and disconnecting them etc.			
1.15	Control unit/ Software Controlled LAN Connected PC, shall have Call control system and dialer, Visual telephone Lines's status (i.e. indication of connected lines, Calls on hold, Ready caller status and callers ON-AIR Status etc.).			
1.16	Audio level meters for send and receive signals of both the hybrids shall be available on the front panel of the console/Control Unit.			

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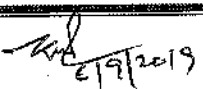
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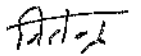


Sr. No	Specifications	Compliance	Reasons for Deviations (If any)	Details
1.17	<p>Operating Environmental conditions: The consoles shall be able to work without any problem in the following conditions:</p> <p>Operating Temperature: From 10° C to 35° C</p> <p>Operating Humidity: Up to 80% RH (non-condensing) at 30° C.</p>			


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2. Audio Specifications of Phone-in-Consoles

Sr. No	Specifications	Compliance	Reasons for Deviations (if any)	Details
2.1	Telephone Lines : 2 PSTN			
2.2	Hybrids : 2 Nos			
2.3	Maximum Callers (ON-AIR) : 2 Nos			
2.4	Maximum Callers On hold : 2 Nos			
2.5	PSTN Line Interface : Standard			
2.6	Line Input ("Telephone Transmit To Caller")			
2.6.1	Input Type : Analogue(Balanced on XLR connectors)			
2.6.2	Input Level : 0 dBu (Nominal) & 10 dBu maximum			
2.6.3	Input Impedance : ≥ 5 k Ohm			
2.7	Line Output ("Telephone Receive From caller")			
2.7.1	Output Type :Analogue(Balanced on XLR connectors)			
2.7.2	Output Level : 0 dBu (Nominal) & 10 dBu maximum			
2.7.3	Output Impedance : ≤ 200 ohms			
2.8	Isolation between send & Receive : >50 dB			
2.9	Digital Signal Processing: With in-built DSP (12 bit or better)			
2.10	Audio Performance (On both Receive & Transmit Ckt)			
2.10.1	Frequency response : 300 Hz – 3500 Hz, ± 3 dB			

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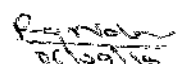
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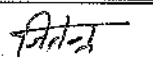


Sr. No	Specifications	Compliance	Reasons for Deviations (if any)	Details
2.10.2	THD + N : <0.2%			
2.10.3	Signal to Noise Ratio : > 55 dB			
2.11	Power Supply: 230 V \pm 5% AC 50 \pm 2 Hz , Single Phase supply			


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3. Accessories to Phone-in-Consoles

Sr. No	Specifications	Compliance	Reasons for Deviations (if any)	Details
2.1	Mating Connectors : Mating connectors required for installation of Consoles at station shall be provided by the Tenderer. Details of Mating connectors proposed to be supplied shall be supplied by Tenderers.			
2.2	Surge Protection Device for Telephone Lines Two nos of Surge protection devices for protecting the Telephone interfaces from possible surges shall be provided.			
2.3	In case of Software Controlled Phone-in Console :Two Nos. of USB Headset			

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