

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

Technical Specification for Digital Audio Distribution Amplifier

1. GENERAL

1.1 This specification is for Digital Audio Distribution Amplifier to be used in the studios of various stations of All India Radio through out India. The equipment shall be fully digital in design and based on the field-proven modern technology. It should be rugged in construction and suitable for reliable operation 24 hours a day and 365 days in a year.

Only professional and branded products manufactured by reputed companies in sound broadcasting equipment field shall be offered.

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

(a) A point-to-point compliance statement as per Annexure-I 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 be quoted under remarks column. If compliance statement is in format other than Annexure-I, the tender will be rejected out rightly.

(b) Detailed printed literature of the equipment giving complete electrical and mechanical data including detailed dimensions and mounting requirements.

(c) The quote should either be from the original manufacturer or from their authorized representative/dealer. In case, the quote is from the authorized representative/dealer, a certificate in original from the original manufacturer that the tenderer is authorized representative/dealer for India should be enclosed with the tender. In case, the quote is from both i.e. Authorised representative/dealer and also from original manufacturer, the quotation from original manufacturer will be considered for technical evaluation.

1.3 The tenderer may be required to demonstrate the functioning of the tendered unit during technical evaluation, including verification of performance parameters as per AIR specifications required during technical evaluation, in New Delhi. Non-compliance of equipment demonstration, if asked for by the indenter, shall disqualify the tender.

1.4 Incomplete offers will be rejected out rightly.

2. SCOPE OF THE TENDER

The specification is for supply of Digital Distribution Amplifier along with all accessories, mating connectors and cables, etc. required to be fully functional.

3. TECHNICAL SPECIFICATION

3.1 General Features

- 3.1.1 The Digital Audio Distribution Amplifier should be simple in operation.
- 3.1.2 The Digital Distribution Amplifier should be compact ergonomically designed professional product and suitable for reliable operation on 24x7x365 basis working. It should be housed in rust-proof pre-painted metal cabinet of 19-inch rack mountable unit.
- 3.1.3 The layout of parts / components in the Digital Distribution Amplifier should be professional to permit easy access to the wiring, inspection, repairs / servicing if required.
- 3.1.4 The Digital Audio Distribution Amplifiers should be capable to distribute very high quality, low jitter AES EBU audio all around studio equipment.
- 3.1.5 The Digital Audio Distribution Amplifier should be able to accept incoming AES/EBU digital audio and distributes it to various outputs.
- 3.1.6 The Digital Audio Distribution Amplifier should be capable to distribute digital audio data formatted in accordance with the specifications ADS3-1992 and IEC958.
- 3.1.7 The distributor section should be able to distribute one word clock signal to at least four outputs, and four different AES/EBU signal to at least 16 outputs (4 outputs for each inputs). Distributer should have capability to distribute an AES/EBU frame clock also.
- 3.1.8 All the balanced digital inputs & outputs should be available in XLR or 15 pin DIN connectors with break out panel for XLR.
- 3.1.9 All Connected ports on the Digital Distribution Amplifier should be provided with status indication and error if any like clock lock and data validity.
- 3.1.10 Digital Audio Distribution Amplifier should have facility to work with computer based Studio / News Room automation systems.
- 3.1.11 Digital Audio Distribution Amplifier should be able to accepts Digital Audio Signal and should display standard sample rates of 32, 44.1, 48, 88.2, 96 kHz
- 3.1.12 Digital Distribution Amplifier should have balanced and isolated outputs.
- 3.1.13 Digital Distribution Amplifier should be sleek 1U/2U size and 19" rack mountable.

3.2 Input Configuration

3.2.1 AES / EBU

No. of Inputs:	Minimum 4
Connectors:	Balanced Digital input- XLR or 15 pin Din with breakout panel for XLR,
Sensitivity:	200mVp-p
Impedance:	110 ohms
Sample Rates:	30 kHz to 200 kHz, As per AES3 1992

3.2.2 Word Clock

Input	1
Impedance:	Hi Impedance or 75 Ohm
Sensitivity	1Vp-p

3.3 Output Configuration

3.3.1 AES / EBU

No. of outputs	16 (Minimum 4 for each input)
Connectors:	XLR or 15 Pin Din with Break out panel for XLR
Impedances:	110-ohms
Levels:	5 Vp-p loaded at 110-ohms
Sampling rate:	30kHz to 200kHz As per AES3 1992
Jitter:	< 0.8 nanoseconds

3.3.2 Word Clock

Output	Minimum 4
Impedance	75 Ohm

3.4 Weight

5 kg. or less

3.5 Power Supply

230V \pm 10%, 50 Hz single phase A.C. Supply.

3.6 Climatic Conditions

The Digital Distribution Amplifier will generally be installed in air-conditioned environment. However, it should perform satisfactorily in the dry temperature range of 5°C to 40°C and humid conditions prevailing in tropical climate. A test certificate in this regard should be produced from an approved Test House.

3.7 Accessories

3.7.1 Each Digital Distribution Amplifier shall be supplied with following accessories / items and their cost shall be included in quotation:

3.7.2 Complete set of XLR or 15 pin Din with XLR Break out panel connectors (Inputs & outputs) if required and power chord etc.

3.7.3 A set of operation manual and service manual.

3.7.4 Any other item, including interconnecting cables and related configuration software/firmware (Pre loaded and also on Media CD/DVD) for the Digital Distribution Amplifier etc. required for making the Digital Distribution Amplifier fully functional.

4. GUARANTEE / WARRANTY
- 4.1 The equipment shall be guaranteed for trouble free operation for a minimum period of one year from the date of supply. Replacement / servicing shall be effected free of cost for hardware and software during the guarantee period.
- 4.2 The contractor/seller hereby guarantee that the said goods/stores/articles would continue to conform to the description and quality aforesaid for a period of 36 months from the date of installation and commissioning at the consignee's site and that notwithstanding the fact that the purchaser (inspection) may have inspected and /or approved and said goods/ stores/ articles, if during the aforesaid period of 36 months the said goods/ stores/articles be discovered not to conform to the description and quality aforesaid, not giving satisfactory performance or having deteriorated, the purchaser shall be entitled to call upon the contractor/seller to rectify goods/stores/articles or such portion thereof as is found to be defective by the purchaser with a reasonable period or such specified period as may be allowed by the purchaser within a reasonable period or such specified period as may be allowed by the purchaser in his discretion on application made thereof by the contractor/seller and in such an event the above mentioned warranty period shall apply to the goods/stores/articles rectified from the date of rectification thereof: otherwise contractor/seller will pay to the purchaser such compensation as may arise by reasons of the breach of the warranty herein contained.
- 4.3 Guarantee that firm will supply spare parts, if and when required on the agreed price. The agreed basis could be including but without any limitation on agreed discount on the published catalogue or on agreed percentage of profit on the landed cost.
- 4.4 Warranty to the effect that before going out of production, for the spare parts the firm will give adequate advance notice to the purchaser of the equipment so that latter may undertake the balance of the life time requirements.
- 4.5 Warranty to the effect that firm will make available the blue prints of the drawings of the spares, if and when required in connection with the main equipment.

5. PRE-DESPATCH INSPECTION

Pre-dispatch inspection would comprise complete testing of the Digital Distribution Amplifier to be supplied including functional tests and various measurements at manufacturer's premises before shipment by authorized representatives of All India Radio. The Acceptance Test Procedure (ATP) shall be prepared by the tenderer and got approved from the indenter after the firm order is placed. The testing shall include:

- (a) Physical test.
- (b) Functional tests.
- (c) Performance tests.

The tenderer will give a notice in writing to the indenter at least 12 weeks before the commencement of factory inspection. The tenderer shall provide all equipment, materials and manpower as may be required for performing various tests as per ATP.

In case of imported equipment, the expenses on air travel, accommodation and daily allowances for AIR's inspecting officers would be borne by All India Radio.

6. SPARES

The Essential required spares may be recommended and shall be quoted separately. The list should include name and part no. of the parts/ components with quantity and its unit cost. The tenderer shall ensure availability of spares in India for the quoted equipment for a period of at least 5 years from the date of supply of last equipment to AIR. The cost for software/firmware upgrades, if any, shall also be quoted as an option.

