

PRASAR BHARATI
(Broadcasting Corporation of India)
O / O ADDITIONAL DIRECTOR GENERAL (E) (SZ),
ALL INDIA RADIO & DOORDARSHAN
Swamy Sivananda Salai, Chennai - 600 005

No. CE (SZ)/PUR/IEBR-AIR/32/SPMW/2011-12

Date: 19.10.2011

Sub.: Enquiry for Supply of FM Digital Audio Processor - Reg.

Dear Sir,

This office is interested in the purchase of the following **Stores/Works** as specification given below/attached and invites your quotation.

1.

Sl. No.	Description	Quantity.	Consignee:
1	Supply of FM Digital Audio Processor as per Technical Specification enclosed.	2 Nos.	Delivery at: DDG(E), All India Radio, Bangalore, Karnataka.

2. The quotation should specifically mention **Make & Type of the items**, delivery date, terms and condition of supply. The prices should be firm and given as under.
 - (a) The 'Unit' Price should be for the Unit as indicated in the tender enquiry.
 - (b) Prices quoted should be for F.O.R. Station of destination in India and Inclusive of charges as packing customs, etc., wherever applicable.
3. In case of Quotation of F.O.R Station of dispatch basis, the purchaser will not pay separately transit insurance and the supplier will be responsible until the stores arrive in good condition at the destination. Tender/quotation in which transit insurance has been specified as an additional item of expenditure is liable to be ignored.
4. **EMD**: Earnest Money amounting to **Rs.10,000/-** [Rupees Ten Thousand Only] in the form of Demand Draft on Nationalized Bank / Commercial Bank drawn in favour of **The ADG (E) (SZ), AIR & DD, Chennai-5** should accompany the tender. EMD by means of Bank guarantee or any other mode of payment other than DD shall not be accepted. Tenders without EMD shall be summarily rejected and their bid will not be opened at the time of tender opening (No exemption for payment of EMD is accepted by this office).

SECURITY DEPOSIT: the successful Tenderer shall furnish the Security Deposit within 2 weeks after placement of order at the rate of **10% of the Order Value**. The security deposit shall be furnished in the form of Demand Draft / Bank Guarantee drawn in favour of **The ADG (E) (SZ), AIR & DD, Chennai-5**. The Security Deposit will be returned in full on completion of successful Guarantee/Warranty Period.
5. Printed terms and conditions of tendering firms will not be considered as forming parts of their tender.
6. **GUARANTEE PERIOD**: One year from the date of delivery of Equipments.
7. **DELIVERY OF EQUIPMENTS**: The delivery of the entire Equipment at AIR's site shall be completed within **Three months** from the date of placement of order. Delivery period may also be quoted separately.
8. **SALES TAX**: - Sales Tax leviable and intended to be claimed from the purchaser should be distinctly shown along with prices quoted. Where this is not done no claim for Sales Tax will be admitted at any later stage and on any ground whatsoever.

9. **TERMS OF PAYMENT:** - 100 % Payment on receipt of stores in **Good working condition at the destination & Testing in circuit for satisfactory operation.**
10. The quotation should be sent in a sealed cover addressed to the undersigned, by name, so as to reach on or before **10.11.11** 12.30 P.M.
THE COVER SHOULD BE SUPERSCRIBED WITH THE FOLLOWING:
- Material for which quotations are enclosed.**
 - Reference to letter of enquiry.**
 - Due date of opening quotation.**
11. The Quotations will be opened in this office at 3.00 P.M. on **10.11.11** in the presence of tenderers or their agents such as they may choose to attend.
12. **QUOTATIONS NOT PROPERLY SUPERSCRIBED WILL NOT BE CONSIDERED.**
13. The quotations submitted shall remain open for acceptance for a period of **90 (Ninety) days** from the date of opening of the Tender. If any Tenderer/ Suppliers withdraws his Tender/Quotation before the said period or makes any modifications in the Terms & Conditions on the Tender/Quotation which are not acceptable to the Department, then the Government shall, without prejudice to any other right or remedy, be at the liberty to forfeit 50% of the Earnest Money as aforesaid.
14. Both your **PAN - Permanent Income Tax Account Number** and Income Tax Circle & your **TIN - Tax Identification Number** and the Tax circle should be definitely indicated in your quotation.
15. **In case of supply of any Specific or Manufacturer item, the Manufacturer's Test Certificate should be enclosed with the supply.**
16. **RIGHT OF ACCEPTANCE:** The undersigned reserves the right to reject the lowest tender or all the tenders without assigning any reasons whatsoever. Further, the undersigned reserves him self the right for decreasing the quantity of material tendered depending upon the actual requirements. The unit rate quoted on the tender shall be applicable for the quantity for which order is placed. All Quotations/Tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected. The competent authority on behalf of President of India reserve himself the right of accepting the whole or any part of the Tender shall be bound to perform the same at the rate quoted.
17. Canvassing whether directly or indirectly, in connection with Tender/quotation is strictly prohibited and the Tender/quotation submitted by the Contractors / suppliers who resort to canvassing will be liable to rejection.
18. The undersigned also reserves the right to place **Repeat Order** for 100% or less quantity for which the quotation has been originally invited/order placed.
19. **LANGUAGE / UNITS:** All information supplied by the Tenderer & all markings, notes, designation on the drawings & associated write-ups shall be in "**English language**" only. All dimensions, units on drawings, all references to weights, measures & quantities shall be in MKS.
20. In case this is second enquiry, your Quotation in response to the first enquiry should be presumed to be valid up to 120 days from the last date mentioned in para 11 above unless we hear from you.

Web Site: <http://www.cesairdd.org.in/tenders.html/>
<http://www.allindiaradio.org/tender.html>
<http://tenders.gov.in>

Encl: Technical Specification

(R.VASUMATHI)
ASSISTANT ENGINEER
FOR THE ADG (E) (SZ)

TECHNICAL SPECIFICATIONS

I) The specification for Stereo FM Digital Broadcast Audio Processor is meant for broadcast purpose in the audio chain of VHF FM transmitters at various places in All India Radio and shall have the following.

1. The processor should have Digital Signal Processing technique. It should be able to provide two band processing with compression, limiting, clipping, automatic wideband gain control, etc.

2. The processor should have phase limiter to maximize audible transparency and should also have provision for stereo enhancement and high/low frequency enhancement.

3. The processor should have in-built feature of multiple user pre-set. The user pre-set should be stored in the memory and without any battery back up. By using the processor user pre-set, the factory pre-set of the Processor should not change.

4. The equipment shall be capable for continuous operation to ensure the uninterrupted broadcast without degradation in performance.

5. The Stereo FM Digital Audio Broadcast processor should accept following inputs.

- a. Digital AES / EBU inputs
- b. Analogue left-right inputs
- c. Sub-carrier inputs (Subsidiary Channel Authorization and Radio Data System/Radio Broadcast Data System)(SCA and RDS/RBDS)

6. The Stereo FM Digital Audio Broadcast processor should give following outputs.

- a. Digital AES/EBU left-right output
- b. Analogue left-right output
- c. Composite stereo output/ multiplexed output.

7. Necessary function switches such as level/gain control etc. should be available on the front panel. All these control shall be rugged and reliable.

8. The processor should have visual monitoring of various technical parameters on the front panel and must be compact for ease of operation. All the monitoring must be in the front panel. In case a separate PC is required for control and operation of Stereo FM Digital Audio Broadcast processor the same must be quoted. The required computer should be of ISO certified manufacturer and of latest configuration.

9. Optional items

a. It should be capable for control and operation remotely through its Remote Control system. It should be possible to have visual monitoring of various technical parameters in a PC through remote control etc.

b) It should be capable for operation with Telemetry. It should have visual monitoring of various technical parameters through telemetry system also through a PC, modem etc.

10. The equipment is to be firmly earthed with the existing equipment earthing system in the transmitter hall and for this purpose, an exclusive earth terminal with marking must have been provided in the equipment.

11. Radio Frequency Interference (RFI)/Electromagnetic Compatibility (EMC) filter shall be provided at mains input of the Stereo FM Digital Broadcast audio Processor as per relevant provisions of standards for effective rejection of the interference from the high power transmitters operating in the premises. These Stereo FM Digital Broadcast Audio Processor will be used in High Power Transmitter halls (up to 250 KW transmitter RF output power) i.e. the rack with full complement of equipment as to operate in a high RF field. As such all the specifications of the individual equipment as well as the full chain, are to remain valid in high RF fields. Suitable Power supply surge suppression and lightning protection arrangement must be available in the equipment.

SPECIFICATION OF EQUIPMENT;

a) Analog audio input:

1	Configuration:	Stereo
2	Nominal Input Level:	Software adjustable from -4.0 to +12.0 dBu.
3	Maximum Input Level:	+27 dBu
4	Connectors:	Two XLR-type, female, EMI-suppressed.
5	A/D Conversion:	Minimum, 24-bit

b) Analog Audio Output:

1	Configuration:	Stereo. Flat or pre-emphasised (at 50 μ s or 75 μ s), software-selectable.
2	Output Level (100% peak modulation):	Adjustable from -6 dBu to +24 dBu peak, into 600 Ω or greater load, software-adjustable.
3	Signal-to-noise: (20 Hz to 15 kHz)	\geq 80 dB unweighted
4	Distortion: (20 Hz to 15 kHz)	\leq 0.02 % THD.
5	Cross Talk (20 Hz to 15 kHz)	- 70 dB (20Hz -15kHz)
6	Connectors:	Two XLR-type, male, EMI-suppressed.
7	D/A Conversion:	Minimum 24bit.

c) Digital Audio input:

1	Configuration:	Stereo, AES/EBU standard, 24-bit resolution.
2	Sampling Rate:	32, 44.1 or 48 kHz <i>automatically selected</i> .
3	Connector:	XLR-type, female, EMI-suppressed.
4	Input reference level	Variable within the range of -25.0 to -10.0 dBFS
5	De-emphasis:	Software-selectable

d) Digital Audio Output:

1	Configuration:	Stereo AES/EBU standard.
2	Sample Rate:	32, 44.1 or 48 KHz, selected in software
3	Connector:	XLR-type, male, EMI-suppressed.
4	Output Level (100% peak modulation):	-20.0 to 0.0 dBFS, software-controlled.

e) Composite Base band Output:

1	Configuration:	Two outputs, with individual level controls.
2	Maximum Output Level:	+12.0 dBu (<i>adjustable</i>)
3	D/A Conversion:	Minimum, 24-bit
4	Signal-to-Noise Ratio: (20 Hz to 15 kHz)	\geq 85 dB.
5	Distortion:	\leq 0.02% THD.

	(20 Hz to 15 kHz)	
6	Stereo Separation: At 100% modulation (30 Hz to 15 KHz)	>55dB.
7	Cross talk-Linear Main channel to sub channel, or sub channel to main channel	-80 dB, main channel to sub channel, or sub channel to main channel
8	38 kHz Suppression:	≥ 70 dB.
9	Pilot Protection:	-60 dB relative to 9% pilot injection, ± 250 Hz
10	57 kHz (RDS) Protection:	-50 dB relative to 4% sub carrier injection, ± 2.0 kHz.
11	Connectors:	Two BNC, EMI suppressed.

f) Remote Control Interface (Optional):

1	Configuration:	Eight (8) inputs, opto-isolated and floating
2	Voltage:	AC or DC. Details to be given by tenderer
3	Connector:	Suitable for 3.6.1 EMI suppressed.
4	Control:	User-programmable for multiple user presets, factory presets, bypass, test tone, stereo or mono modes, analog input, digital input.

g) Remote Computer Interface (Optional):

1	Configuration:	Transmission Control Protocol (TCP)/ Internet Protocol (IP) protocol via modem or Ethernet interface.
2	Connectors:	RS-232 port, EMI-suppressed, Ethernet or Modem card supported with PCMCIA

h) Power:

1	Voltage:	230 Volt AC, 50Hz
2	Connector:	IEC, EMI-suppressed. Detachable 3-wire power cord supplied.
3	Safety Standards:	ETL listed to UL standards, CE marked.

i) Environmental:

1	Operating Temperature/RH:	$- 0^{\circ}$ C to 50° C for all operating voltage ranges
2	Dimensions (Approximate) (W x H x D):	To fit in 19" rack and dimension details to be given by tenderer.
3	Weight	To be given by tenderer

(R.VASUMATHI)
ASSISTANT ENGINEER
FOR THE ADG (E) (SZ)