

C-010/Hall

Date: 4 September 2013

**Sub: Supply and Installation of Conference System.**

Dear Sirs,

Sealed quotations are invited in two bid format from reputed and experienced vendors for "**Supply & installation of Conference System**" for Institute's Aryabhata Conference hall with buyback of existing equipment installed in the conference hall.

You are therefore requested to submit filled quotations in two bid format complying all the terms and conditions as mentioned in Annexure -III so as to reach this Institute on or before **23<sup>rd</sup> Sep 2013 Upto 1600 hrs.**

Thanking you,

Yours sincerely,

**(Shri.S.M.D.Jeelani)**  
**Head, Computer and Data Division**  
**For Director**

**Encl : 1. Scope of Work**  
**2. Specifications**  
**3. Terms & Conditions**

**Scope of Work**

The Aryabhata Conference hall located at the 2<sup>nd</sup> floor of IITM library building is being equipped with Audio visual equipment. The Broad scope of the work comprises of disconnecting existing system for buyback and supply, installation and commissioning of conferencing system comprises of various mikes, ceiling speakers, DSP/Amplifier/Mixer/Feedback Reducer, cables & connectors. All necessary and essential software's for connecting & setting of Conference systems must be supplied free of cost along with the hardware.

Supply, Complete installation of conferencing systems needs to be done by the supplier. All the microphones & speakers should be connected in the same location / slot where existing equipments disconnected without disturbing the ambiance of the hall. After installation and successful commissioning, training to user group is to be arranged by the supplier free of cost. The required features and specifications, BOQ are enclosed.

**Conferencing System for Aryabhata Hall with  
1 Chairman Mic, 29 delegate mics and required hardware as below.**

1	Table Microphone (1 Chairman Mic and 29 delegate mics) (As in Specification 1)	30 Nos.
2	DSP/AMP/Automatic Mixer/Feedback Reducer/ Software (As in Specification 2)	1 set
3	Wireless Hand Held Mic Set (As in Specification 3)	2 Nos.
4	Wireless Collar Mic Set (As in Specification 4)	2 Nos.
5	Ceiling Speakers (As in Specification 5)	14 Nos.
6	Cables/Connectors (As in Specification 6)	1 set
7	Operational Programming (As in Specification 7)	1 Job
8	Installation/Commissioning/Training (As in Specification 8)	1 Job

**All the above items are for the same conferencing system.  
Hence all should be compatible.**

SPECIFICATIONS - 1**1. Table Microphones (Gooseneck with base and power switch with snap-fit foam windscreen)****TECHNICAL SPECIFICATIONS**

Gooseneck length	18"
Generation Element:	Dual condenser, back electret
Frequency Response	70 to 17,000 Hz
Polar Pattern	Cardoid
Maximum SPL (1kHz at 1% THD, 1 k-ohm load)	125.0 dB
Equivalent Output Noise (A-weighted)	21-29.0 dB SPL
Signal to Noise Ratio (referenced at 94 dB SPL)	65.0-75 dB
Dynamic Range with 1 k-ohm load	>94.0 dB
Common Mode Rejection	45.0 dB minimum
Mute Switch Attenuation	50.0 dB minimum
Preamplifier Output Clipping Level (1% THD)	-6.0 dBV (0.5 V)
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2
Power Requirements	11 to 52 Vdc phantom, 2.0 mA
Relative Humidity	0-95%
Certification	UL/CE

## SPECIFICATION -2

### **2. Digital Signal Processor with Front Panel Display for Sound Reinforcement with Automatic Mixer, Matrix Mixing, Power Amplifiers and Feedback Reducer (Single or Multiple devices can be used to achieve below Features and Specification)**

#### **A. DSP Input / Output Configuration**

The following attributes are required

**Mic Inputs** **-40Nos**

Balanced

**Shall be able to do following Configuration**

Input Gain Adjust

Mic or Line Level

Phantom Power on/off

#### **Filters**

Low Pass

High Pass

PEQ

Mute on/off

Chairman Override on/off

AGC on/off

Automatic Level Control on/off

**Line Inputs** **-10Nos**

Balanced

**Line Outputs** **-10Nos**

Balanced

**GPIO – General Purpose Inputs / Outputs** **40 Nos**

(for External Interface to PA/VA and Control System

for Microphone Gating etc.)

## Features

- AVB Compatible
- Auto Mixer to prevent false gating to ambient Noise
- Matrix Mixing / Routing for Mix-Minus Operation
- RJ-45 Port for Network Connection
- RS 232 Port for Serial Control with External Control System
  
- Front Panel LCD/LED Display for Edit Settings, Preset Activation, Gain Changes etc.
- Ability to View, Select, Calibrate Following:
  1. No of Open Microphones
  2. Ambient Level
  3. Gate Threshold Adjust
  4. Off /Attenuation Adjust
  5. Hold Time
  6. Chairman Priority
- 19" Rack Mountable
- Power of Operation: 100-240VAC; 50/60 Hz
- Certification: UL/CE

## B. Power Amplifiers

Power amplifier should have the following attributes

Channels	8
Output per channel	30 Watts (Min) in to 8 Ohm
Power Range	115/230v operation
Impedance	Selectable 8Ohms/70/100V
Monitoring Features	Temp value, Fault etc.
19" Rack Mountable	
Certification	UL/CE

## C. Dynamic Automatic Feedback Reducer / Eliminator Should have following attributes

Feedback Eliminator Channels	8
Single-channel	12Filter/Nodes
Graphic Equalizers	
Parametric Equalizers	
Crossovers	
Compressor/Limiter	
Delay	
19" Rack Mountable	
Certification	UL/CE

## SPECIFICATION -3

### 3. Wireless UHF Hand held Mic Set

#### **A. Wireless Transmitter**

##### **TECHNICAL SPECIFICATIONS**

Polar pattern	Cardoid
Frequency Response	60 Hz to 15 KHz
Audio Input Level	-20 dBV maximum
Input Impedance	22k Ohms
RF Output	HI power mode: 10 mW maximum
LO power mode:	1 mW maximum
Power Requirements	Rechargeable batteries
Battery Life	Up to 10 hours (alkaline) or more
Construction	Molded ABS
Steel mesh	Ball grille with built-in "pop" filter
Selectable frequencies per band	8 or more
Compatible channels per band	4 or more
Certification	UL/CE

#### **B. Wireless Receiver**

##### **TECHNICAL SPECIFICATIONS**

Audio Output Level	100k Ohms load: -16 dBV
	1/4" Jack connector into 100k Ohms load: -22
	dBV
	(Ref. $\pm 48$ kHz deviation with 1 kHz tone)
Output Impedance	600 Ohms
	1/4" Jack connector: 600 Ohms
RF Sensitivity	-105 dBm for 12 dB SINAD, typical

Image Rejection	>50 dBm, typical
Power Requirements supply	12 to 18 V DC at 130 mA, from external power
Construction	Molded ABS
Weight	245 g or less
No of channels	8 or more
<b>Certification</b>	<b>UL/CE</b>

**SPECIFICATION -4**  
**4. Wireless UHF Collar Mic Set**

**TECHNICAL SPECIFICATIONS**

**A. Lavalier Wireless Microphone**

Type	Condenser, electret bias
Frequency Response	60Hz to 12,000Hz
Polar Pattern	Cardioid (unidirectional)
Output Impedance	1200Ω @1kHz
Output Level	-47dBV/Pa (4.5 mV)
Signal to Noise Ratio	66dB, 1 kHz at 1 Pa
Maximum	SPL 120dB
Dynamic Range	
(max. SPL to A-weighted noise level)	92dB
Output Noise	28dB (typical, A-Weighted)
Recommended Operating Voltage	+5VDC, 10V max (pin 2 to pin 1)
Selectable frequencies per band	8 or more
Compatible channels per band	4 or more
Net Weight	23 g or less
Certification	UL/CE

**B. Beltpack Transmitter**

**TECHNICAL SPECIFICATIONS**

Audio input Level	Mic setting -7 to -15 dBV, Line setting 9 to 1 dBV
Input Impedance	Mic setting 16k Ohms, Line setting 120k Ohms
Gain Adjust. Range	8 dB
RF Output	10mW or more
Power Requirements	Rechargeable batteries
Battery Life	10 hours or more
Weight	90 g without batteries or less
Construction	Molded ABS
Certification	UL/CE

## C. Wireless Receiver

### TECHNICAL SPECIFICATIONS

Audio Output Level	XLR connector into 100k Ohms load: -16 dBV 1/4" Jack connector into 100k Ohms load: -22 dBV (Ref. $\pm 48$ kHz deviation with 1 kHz tone)
Output Impedance	XLR connector: 600 Ohms 1/4" Jack connector: 600 Ohms
RF Sensitivity	-105 dBm for 12 dB SINAD, typical
Image Rejection	>50 dBm, typical
Power Requirements	12 to 18 V DC at 130 mA, from external power supply
Construction	Molded ABS
Certification	UL/CE

## **SPECIFICATION -5**

### **5. Ceiling Mountable Speakers**

#### **TECHNICAL SPECIFICATIONS**

Speaker type	2-way, ceiling speaker with metal back can
Frequency response	75 Hz to 20 kHz,
Power handling	60 Watts RMS or more
Nominal sensitivity	min 87 dB, 1W@1m
Nominal coverage angle	80/110° conical coverage required
Nominal impedance	8 ohms
Transformer taps	70V: 30W, 15W, 7.5W 8 ohms 100: null, 30W, 15W 8 ohms
Woofer resistant coating	6.5" (165 mm) polypropylene cone with moisture
Tweeter	3/4" (19 mm) or more
Overload protection only,	Full range power limiter with the 8 ohm direct input  protecting the tweeter, woofer, and crossover.
Certification	UL/CE

## SPECIFICATION -6

### 6. Cables and Connectors (Extron/Kramer only)

#### *A. Speaker Cable*

##### **TECHNICAL SPECIFICATIONS**

##### **Construction**

Conductors: 16AWG, (26/30) bare copper conductors.

Insulation: PVC color coded: red, black.

##### **Diameters**

Center conductor: 1.478mm (0.058in).

Pvc insulation: 2.0mm (0.079in).

Outer jacket: 5.2mm (0.205in).

##### Electrical

Dc resistance: 13.7Ω/km (4.17Ω/1000ft).

Temperature: -20° to 75°C (-4° to 167°F).

Certification UL:

#### *B. Mic cable*

##### **TECHNICAL SPECIFICATIONS**

##### **Construction**

Conductors: 20AWG, (10/30) tinned copper conductors.

Insulation: PVC color coded: red, black.

Drain wire: 20AWG (10/30) tinned copper (in contact with shield).

Shield: Aluminum Mylar foil 25% overlap rate.

### **Diameters**

Conductor:	0.916mm (0.036in).
Pvc insulation: diameter.	0.44mm (0.071in) nominal thickness, 1.8mm
Outer jacket:	5.4mm (0.213in).

### **Electrical**

Impedance:	40 to 100Ω.
Dc resistance:	34.6Ω/km (10.5Ω/1000ft).
Mutual capacitance conductor-conductor	89pF/m (27pF/ft).
Mutual capacitance connected to shield:	161pF/m (49pF/ft).
Temperature:	-20° to 75°C (-4° to 167°F).
Certification	UL

### **C. VGA Cable**

Specification	RGBHV  26AWG 75Ω 5 mini-coaxial dual shield design consisting of copper spiral and aluminum Mylar foil. Coax jackets color coded red, green, blue, yellow, black. Rugged and flexible jacket with sequential markings every meter
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### **D. Patch Cord**

VGA	1.8 m length/ molded connectors
XLR-M (Stereo) to 3.5 mm Stereo male	1.8 m length/ molded connectors



INDIAN INSTITUTE OF TROPICAL METEOROLOGY PUNE 411 008

TERMS & CONDITIONS

ENQUIRY NO: C-010-Hall

Tender Notice No: C-010-Hall/Tender/02/2013

- 1) The Tenderers are requested to give detailed sealed tender in their own forms in two Bids i.e.  
Part – I Technical Bid.  
Part - II Commercial Bid, both the bids addressed to the Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, NCL Post, Pashan, Pune – 411 008, INDIA.
2. This tender is not transferable.
3. Complete tender document is available on Institute's website <http://www.tropmet.res.in>. A sum of **Rs.300 (Rs. Three Hundred only) (Non-refundable)** has to be paid in the form of Demand Draft drawn in favour of "The Director, Indian Institute of Tropical Meteorology, Pune" **preferably from Nationalized Bank** for Tender fee along with Technical bid only.
4. Tenders addressed to the Director, Indian Institute of Tropical Meteorology, Pune 411008 are to be submitted two separate bids in two separate envelopes and you may keep both the bid envelopes in an envelope. Super scribed with Tender No. for **“Supply & Installation of Conference Systems for Institute's Aryabhata Conference Hall due on 23<sup>rd</sup> Sep 2013 at 1600 hrs.**
5. i) Technical Bid envelope will contain only the TECHNICAL SPECIFICATIONS of the indented equipment and other required documents asked for.  
ii) Commercial envelope will contain only the price and any other related information, which has financial implications, will only be given.
6. Please indicate page nos. on your quotation i.e. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 -----25/25.
7. Cost of the items should be mentioned clearly in the Commercial Offer (Part-II) only and should be quoted in Indian Rupees.
8. Last date for the receipt of completed tender is up to 16:00 hrs. on **23<sup>rd</sup> Sep 2013 & technical bids** will be opened on the next day at 1500 hrs .

9. The tender must be valid for a period of at least **90** days from the date of opening.
10. The purpose of certain specific conditions is to get or procure best Equipment / service etc. for IITM. The opinion of Technical Committee shall be guiding factor for Technical short listing.
11. Aryabhata hall where the conference system to be installed can be inspected on any working day between 10.00 AM to 17.00 PM with prior intimation.
12. **Supplier shall finally warrant that all the stores, equipment and components supplied under the SUPPLY ORDER shall be new and of the first Quality according to the specifications and shall be free from all the defects (even concealed fault, deficiency in the design material and workmanship).**
13. Tender must clearly indicate the features offered unit price, VAT tax, transport, transit-insurance, installation charges etc. **The vendor should mention the price of the equipment and the duties/taxes to be paid such as customs duty/excise duty/VAT/Octroi etc. separately.**
14. **The complete equipment including Software's should be installed within 15 days. After the delivery of the equipment hall shall be available for installation work only for 15 days.**
15. As this Institute is exempted from payment of Custom Duty, Excise Duty exemption certificates will be issued on request.
16. The equipments must carry on-site warranty for **Three Years** from the date of taking over of the equipments after the acceptance tests. Warranty period will stand extended for a period of total downtime of the equipments.
17. The vendor has to furnish a Bank Guarantee to the extent of 10% of the order value from a nationalized bank in the prescribed format valid for the entire period of warranty including extension if any.
18. No advance can be paid.
19. The **payment terms** shall be as follows:
  - i) 90% payment after supply, satisfactory installation, and successful completion of acceptance tests and training.
  - ii) 10% payment after execution of Bank Guarantee from a Nationalized Bank. The Bank Guarantee will remain valid until the expiry of warranty period including the extensions if any.
20. **Penalty Clause: If the supplier fails to Supply and Install the system as per**

**specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of one percent value of the Purchase Order awarded, per every week delay subject to a maximum of 10% and such money will be deducted from any money due or which may become due to the supplier.**

21. The prices quoted should be firm and irrevocable and not subject to any change whatsoever, even due to increase in cost of raw material components and fluctuation in the foreign exchange rates and excise duty.
22. Vendor should arrange appropriate training to the users free of charge.
23. Indicate the names of the Indian reputed Organizations where you have supplied the AV equipment and may attach the satisfactory performance report of the work from user Organization.
24. a) If you have supplied identical or similar equipment to other Institutes under Ministry of Earth Sciences and Ministry of Science & Technology, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.  
  
b) Based on the above information IITM will have its option to obtain details of the equipment, their performance, after sales services etc. For evaluation of the tender, directly from the concerned Labs. /Scientists etc.
25. The Institute is autonomous scientific research organization under the Ministry of Earth Sciences and is a recognized center for studies leading to M.Sc. and Ph.D. of the University of Pune and various other Universities. As such, all possible concessions / discounts / rebates applicable for educational Institutions may be given.
26. The vendor should have appropriate facilities and trained personnel for supply, installation and warranty-maintenance of the equipment to be supplied. Detailed information in this regard may be furnished in the technical bid.
27. Kindly attach a copy of your latest DGS&D, New Delhi registration Certificate under the compulsory Scheme of Ministry of Finance regarding the registration of Indian Agent of foreign supplier wherever it is applicable.
28. The Tenderers is required to furnish the Permanent Account Number (PAN) Allotted by the Income Tax Department. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration' etc. should also be provided in Technical Bid for Indian Agents.
29. Vendor should clearly mention the following in Technical Bid:
  - **Make and model of every item quoted.**

- **Delivery period.**
- **Company profile with a list of those institutes/users should be attached where vendor has supplied the equipments in question in past.**
- **A letter of AUTHORISED REPRESENTATIVE from the Principal should invariably be attached with quotation**
- **Earnest Money Deposit and Tender fee**
- **A copy of latest Income Tax clearance Certificate from Income Tax Department (INDIA)**

30. Company should have annual turnover of minimum Rs.50 lakhs for financial year 2011-2012 or 2012-2013.

31. **The vender should compulsorily quote for the buyback of existing equipment as per Annexure V. Discount offered towards the buyback should be mentioned clearly in the commercial bid only.** Lowest party will be evaluated based on quote for BOQ including taxes minus the buyback value offered.

32. LBT payment if any, the same may please be shown separately.

33. The Tenderers are requested to quote for Educational Institutional Price for equipment, since we are eligible for the same.

34. Acceptance tests to be prescribed later will be carried out after installation and the items will be taken over only after successful completion of the acceptance tests.

35. The equipments are required to be installed in Aryabhata Hall at **IITM, Pune** and subsequently Training is to be provided to the concerned persons of the Institute free of cost.

36. The items should be supplied with manuals and the manuals including technical / Electronic drawings / circuit diagrams should be complete in all respects to operate the system without any problem.

37. Goods should not be dispatched until the Vendor receives a firm order.

38. The Date and Time of opening for Part-II (Commercial Bid) will be intimated only to pre-qualified and technically acceptable Tenderers for the item at a later date.

39. **Earnest Money Deposit:**

- a) **The Earnest Money Deposit of Rs. 50,000/- must be paid / sent along with your technical bid in the form of a Demand Draft, Banker cheque or Bank Guarantee (from a Nationalized Bank only) drawn in favor of The Director, Indian Institute of Tropical Meteorology, Pune payable at Pune, otherwise your technical & financial bids will not be considered at all.** The Earnest Money of successful bidder will be returned only after installation, satisfactory demonstration and on acceptance of the equipment by the user Scientist / HOD as per the terms of our purchase order. If the

successful bidder fails to fulfill the contractual obligations before the due date, he will forfeit the EMD.

The Earnest Money of the unsuccessful bidder whose technical bid has not been found suitable will be returned within **One Month** after receipt of Technical Committee recommendations.

- b) Those who are registered with Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation or the concerned Ministry / Department need not to furnish EMD along with their bids.
  - c) Though EMD has to be submitted by Demand Draft, Banker's Cheque or Bank Guarantee?
  - d) **Tenders not accompanied with Demand Draft I Bank Guarantee towards "Earnest Money Deposit" will summarily be rejected.**
40. Part and incomplete tenders are liable to be rejected.
41. Conditional Offers will not be considered.
42. The tenders must be clearly written or typed without any cancellations / corrections or overwriting.
43. **Fax / E-mail / Telegraphic / Telex tenders will not be considered.**
44. IITM will not be responsible:
- a) For delayed / late quotations submitted / sent by Post / Courier etc.
  - b) For submission / delivery of quotations at wrong places other than the Office of Director, IITM, Pune – 411 008.
45. **Venders should submit a bar chart along with technical bid for supply of equipment and for completion of work, failing which technical bid shall not be considered. The entire work of supply of Equipments, working manuals & installation to be completed within 8- 10 weeks from the date of issue of LOI.**
46. In case of any dispute regarding part-shipment, non-compliance of any feature etc., the Director, Indian Institute of Tropical Meteorology, Pune will be the final authority to decide the appropriate action and it will be binding on the vendor.
47. The Vendor Should give an SLA for (24X7) support valid for warranty/extended warranty with 2 hours response time and same day resolution.
48. The vendor needs to have a full fledged office, PoC or testing centre to showcase and test the functionality of the ordered equipments in Pune.
49. The vendor should have a full fledge office in Pune, with sufficient Certified Engineers on his pay roles and relevant documents are to be produced.
- 50. Any physical changes, cutting of ceiling/ removal of paint should be restored to the**

**original finish by the supplier without additional cost.**

- 51. Any minor fault or repair should be rectified with one working day and major fault or repair should be rectified within three working days. Necessary spares/materials should be kept ready at IITM premises and standby equipment should be made available for any event/ function if required.**
- 52. Delay in non performing clause no. 51 will attract penalty at the rate of 1% per week and minimum up to 10% of the total order value and such money will be deducted from any money due or which may become due to the supplier.**
- 53. Last Date and Time for receipt of Tenders: Upto 1600 hrs. On 23<sup>rd</sup> Sep 2013. And Time of opening of Tenders: At 1500 hrs. On 24<sup>th</sup> Sep 2013. (Part - I Technical Bids only).**
- 54. Director reserves the right to reject any or all tenders without assigning any reason.**

**(SMD Jeelani)**  
**Head, Computer and Data Division**  
**For Director**

## **Bill of Quantities**

**ANNEXURE- IV**

**ANNEXURE- V**

<b>Sr. No.</b>	<b>Description</b>	<b>Qty</b>	<b>Unit Rate</b>	<b>Taxes</b>	<b>Total Amount</b>
1.	Table Microphone (1 Chairman Mike and 29 delegate mikes) (As in Specification 1)	30 nos.			
2.	DSP/AMP/Mixer/Feedback Reducer (As in Specification 2)	1 set			
3.	Wireless Hand Held Mike Set (As in Specification 3)	2 nos.			
4.	Wireless Collar Mike Set (As in Specification 4)	2 nos.			
5.	Ceiling Speakers (As in Specification 5)	14 nos.			
6.	Cables/Connectors (As in Specification 6)	-			
A.	Speaker Cable	1 Running Mtr			
B.	Mic cable	1 Running Mtr			
C.	VGA Cable	1 Running Mtr			
D.	Patch Cords VGA XLR-M (Stereo) to 3.5 mm Stereo male	5 sets			
E.	Face plate with 1 VGA (15 pin Sub D) +1 3.5mm stereo Connector	5 Nos			
F.	BNC Connectors	30 nos			
7.	Operational Programming (As in Specification 7)	1 job			
8.	Installation/Commissioning/Training (As in Specification 8)	1 job			
9	<b>Total (1 to 8)</b>				
10	Buyback value for existing system (As given in Annex V)	1 set	(-)		
	<b>Total Amount (9)-(10)</b>				

**Buyback Items: -**

<b>Sr. No.</b>	<b>Description</b>	<b>Qty.</b>	<b>Make/model</b>
1	Table mics with speaker	29 nos.	Alpha make
2	Collar mics	2 nos.	Proton, Studio Master & Mipro
3	Hand mic	2 nos.	Studio Master
4	Speakers	14 nos.	
5	Amplifier	1 no.	Alpha make
6	Mixer Amplifier	1 No.	Ahuja make