



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

सं./No.J-11018/2/2023-STUDIO DESIGN - P&D UNIT

दिनांक:Dated:08.04.2024

Subject: Publication of Draft Technical Specification of Workstation and Video Conferencing Camera for seeking Vendors/ OEMs feedback and budgetary quote

1. Draft Technical Specification of Workstation and Video Conferencing Camera is being uploaded to invite feedback from the Vendors/OEMs dealing with supply of such equipments. The interested parties are requested to provide comments/feedback on this technical specification.
2. Vendors/OEMs are also requested to provide percentage of local content in the offered equipment.
3. The budgetary price of the offered of Workstation and Video Conferencing Camera with associated equipment may also be submitted.
4. All these information may be provided by E-mail to “ airstudiodesign331@gmail.com “ on or before 23.04.2024

(K. Murugan)

(Dy. Director General(E-SD))

For Director General

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PRASAR BHARATI / प्रसार भारती

DIRECTORATE GENERAL: ALL INDIA RADIO / आकाशवाणी महानिदेशालय

PLANNING AND DEVELOPMENT UNIT / योजना एवं विकास एकक

Technical Specification for Audio Workstations and PTZ Camera

1. GENERAL

- 1.1 This specification is for Supply of Digital Audio workstations and Video Conferencing Camera at various stations of Akashvani Kendra
 - 1.1.1 The Hardware from OEMs having ISO certifications should only be offered. Hardware from hardware Integrators will not be accepted.
 - 1.1.2 Workstation OEM should have authorized service centers across the country. List of Service Center along with their addresses, Telephone Numbers & E-mail addresses should be provided along with Tender Document.
 - 1.1.3 Workstation OEM should have supplied 500 workstations each per annum in last three years
- 1.2 All the quoted products should be of field proven technology & OEM of the product should be in business for at least five years.
- 1.3 The tenderer must submit the following documents along with the tender:
 - (a) A Clause-by-clause compliance statement as per format in Annexure-III, highlighting deviations, if any, on all the clauses of specification from OEMs of the offered products duly signed in original. If compliance statement is incomplete or in a format other than that in **Annexure-III**, the tender may be rejected out rightly.
 - (b) Detailed printed literature of the Hardware giving complete details of features and performance data.
 - (c) The quote should either be from the OEM or from their authorized representative/dealer. In case, the quote is from the authorized representative/dealer, a certificate in original from the OEM that the tenderer is the authorized representative/dealer for India should be enclosed with the tender.
 - (d) A copy of un-priced Bill of Material (BOM) as per Annexure-IV indicating make, model no. , **complete configuration details of offered hardware**, system software etc. shall be



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quoted clearly. Any tender, showing ambiguity in above terms shall be treated as incomplete and it will be rejected.

- 1.4 The tenderer will be required to demonstrate the functions of the offered items during technical evaluation at respective Zonal Office. The tenderer will be required to arrange all necessary software & 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 within the stipulated time, will disqualify the tender.
- 1.5 Incomplete offers will be rejected out rightly.
- 1.6 The supply of equipment at all the stations will have to be completed within **3 (Three) months** after the placement of firm order.

2. SCOPE OF THE TENDER

- 2.1 The Scope of this tender is for supply of Digital Audio workstation and Video Conferencing Camera for Visual Studio Setup.
- 2.2 The equipment shall be supplied at the concerned stations directly. The list of stations along with Bill of Material is given at Annexure-II.

3. HARDWARE SPECIFICATION

3.1 Digital Audio Workstation

3.1.1 Digital Audio Workstation shall have the following configuration

S.No.	Component	Description	Compliance (Yes/No)	Remarks
A.	Processor	Processor with 8 Core 16 Thread, Base Frequency 3.10 Ghz or better , Max. Turbo Frequency 4.5 Ghz or better		
B.	No. of Processor	One		
C.	Memory	16 GB ECC DDR4 , 4400 Mhz, 4 DIMM Slots Expandable upto 128 GB ECC Memory		
D.	Storage	1x512 GB, M.2 NVMe Gen4 SSD for OS and Application Software and 1x1 TB SATA 7200 RPM HDD		

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E.	Storage Controller	Supports up to (3) M.2 PCIe NVMe SSD and up to (3) 3.5" SATA® or (4) 2.5" SATA® on motherboard slot.		
F.	Graphics	Integrated Graphics Card		
G..	Display	Wide Aspect 24" TFT Monitor supporting resolution of 1920x1020		
H.	Keyboard	USB Standard Black Keyboard (Same OEM as Workstation))		
I.	Mouse	USB Optical Scroll Mouse (Same OEM as Workstation)		
J.	Audio Controller	Professional PCIe Audio Card (Details at Annexure-I)		
K.	Network	Factory Installed 10/100/1000 Ethernet Port (2 Nos.)		
L..	PCI Slots	Min 2 PCIe Gen4 x16 2 PCIe Gen3 x4 Slot		
M.	Ports	Min. 3x USB 3.2 Gen2 Type-A with PowerShare Min. 3x USB 3.2 Gen2 Type-Cwith PowerShare Min. 5xUSB 2.0 Type-A Min. 1x HDMI		
N.	Networking Protocols	IPv4 & IPv6 should be supported		
O.	Operating System	Windows 11 Professional(64 Bits)		
P.	Cabinet	Tower Toolless Chasis		
Q.	OS Certification	Windows Certification		
R.	Power Supply	Minimum W 80+ Gold Power Supply or better		
S.	Safety Certification	FCC for EMI & UL for safety, EPEAT Gold Certified		
T.	Security	Integrated Panel /Pad lock/Chassis intrusion switch		
U.	Noise Emission	Noise Level should be 20-25 db with Hard-Disk operating. The tenderer		



		shall submit document mentioning the noise level		
V.	Software	Anti-virus software (with Free Virus definition updates & patches for a period of one years), Remote Login & Collaborative tool software shall be provided.		
W.	Recording /Editing Software	Adobe Audition 24.0/ Sound Forge Pro 18 (With One Year License)		

- 3.1.2 The hardware as per Bill of Material (Annexure-II) shall be supplied at various stations.
- 3.1.3 The hardware should be able to operate on 230 V +/- 10% V, 48-52 Hz, single phase AC power supply.
- 3.1.4 All the drivers for hardware shall be supplied along with hardware.
- 3.1.5 **Anti-virus software shall be licensed to “All India Radio”. OS may either be Factory (Hardware OEM) preloaded (with Recovery Media/Disk) or Licensed to “All India Radio”.**
- 3.1.6 Operating Environmental conditions: The equipment shall be able to work without any problem in the following conditions:
Operating Temperature: From 10° C to 35° C
Operating Humidity : Up to 80% RH (non-condensing) at 30° C.
- 3.1.7 Storage Environmental conditions: The equipment should be able to withstand the following conditions while being stored:
Storage Temperature : From -10° C to 65° C
Storage Humidity : From 5 to 95% humidity.
- 3.1.8 The system shall be used in the vicinity of high frequency & high Power Radio field. Therefore, the system shall conform to the protection requirements relevant to electromagnetic phenomena as per national/international standards.
- 3.1.9 Quoted Workstation model should not be reaching End of Life for next three years. An undertaking to this effect from Hardware OEM shall be submitted along with Tender Document.

3.2 Video Conferencing Camera with Power Adopter and Tripod

3.2.1 Video Conferencing Camera shall have the following configuration



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S.No.	Component	Description	Compliance (Yes/No)	Remarks
A.	Type	PTZ		
B.	Resolution	1080p, 30fps		
C.	Zoom Range Optical	12x or better		
D.	Zoom Range Digital	16x or better		
E.	Field of View	80 degree or better		
F.	Pan Range (Minimum to Maximum)	-Minus 170 degrees ~ Plus 170 degree		
G.	Vertical Roatation Range (Minimum to Maximum)	-Minus 30 degrees ~ Plus 90 degree		
H.	Camera Positioning System	255, Min. 10 pre-sets on Remote control		
I.	Type of Sensor	CMOS, 1/2.8", Effective Pixel: 2.07M		
J.	Camera Control(Focusing, Brightness and white Balance)	Automatic		
K.	Multiple Camera System in Case of Automatic Voice activated Camera Tracking	Single		
L.	USB Video Communication Protocol	UVC 1.1~1.5		
M.	Simultaneous Video Output	Device Should support HDMI,USB3.0 and LAN interface based HD Video output at the same time.		
N.	BIS Registration under CRS of Meity	Yes		
O.	If Yes, BIS Registration Number and its Validity			
P.	UL/CE Certification	Yes		
Q.	If Yes, UL/CE Certificate No. (Certificate to provided when			



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	demanded by buyer)			
R.	Availability of Test Report to prove conformity to the specification (Report to provided when demanded by buyer)			
S.	Redundant Power Supply	Device should Support Minimum three power supply method for power redundancy Supports USB 5V power supply, 12V power adapter power supply and PoE power supply.		
T.	Minimum Operating Temperature(Degree C)	-10		
U.	Maximum Operating Temperature(Degree C)	60		
V.	Minimum Operating Humidity(% RH)	20		
W.	Minimum Operating Humidity(% RH)	85		
X.	Free Installatioin & Commissioning	Yes		
Y.	Connection Cable	Professional Moulded USB Type-A Cable of 15 Meter length with each Camera		
Z.	On site OEM Warranty	One Year		

4. PRE-DISPATCH INSPECTION

- 4.1 All the Hardware shall be put up for inspection in a lot. Out of the lot, 10% of Hardware shall be randomly selected and inspected in detail. Rest of workstations shall be accepted on the basis of



OEM Test Certificates. Detailed inspection (of 10% workstations) would comprise of complete testing as per Acceptance test Procedure (ATP). The pre-dispatch inspection shall be done by authorized representatives of All India Radio at supplier's premises in India before delivery. However, in case of FOB order, pre-dispatch inspection shall be carried out at OEM's premises. An Acceptance Test Procedure (ATP) should be prepared by the tenderer and got approved from the indenter after the firm order is placed.

- 4.2 The tenderer will give a notice in writing to the indenter at least 4 weeks before the commencement of inspection. The tenderer shall provide all equipment, materials and manpower as may be required for performing various tests as per ATP. In case of inspection outside Delhi, the expenses on air travel, accommodation and daily allowances for AIR's inspecting officers would be borne by All India Radio.

5. AFTER SALES SUPPORT

- 5.1 Comprehensive onsite warranty shall be provided for trouble free operation of Digital Audio Workstation for a minimum period of three years from the date of supply. **The warranty of workstation shall not be void if the cabinet of workstations are opened for insertion of sound card and Digital I/O Cards. Alternatively, the tenderer will have to install the sound cards and Digital I/O Card as and when the cards are provided by AIR during warranty period.**



Annexure- I

1. COMMON FEATURES OF PROFESSIONAL AUDIO CARD

- 1.1 The Professional Audio Cards shall have state-of-the-art digital circuitry.
- 1.2 The Professional Audio Cards should be suitable for reliable operation on 24x7x365 basis working.
- 1.3 It should be compatible to PCI EXPRESS X1(x2,X4,x8,x16) Bus/Format.
- 1.4 It should have OS compatibility with Windows 10 and 11(64 Bits).
- 1.5 It should have main on-board processing feature of PCM Play & Record, MPEG Layer I & II Play & Record, Layer-3 Play, real-time mixing, level adjusting, format & frequency conversion.

1.6 Audio Inputs

- 1.6.1 Professional Audio Cards should accept the Stereo Digital Audio Inputs.
- 1.6.2 Professional Audio Card shall have a built-in Sampling Rate convertor on each Digital input so as to convert Digital Audio Signals of different sampling rate to desired sampling rate.
- 1.6.3 Digital Analog Input should be through 3-Pin XLR connector, if necessary interface cable with connectors should be included with the Audio card.
- 1.6.4 The Professional Audio Card should accept digital audio input signal with sampling rates of 44.1 KHz, 48 KHz, 96 kHz and of 16/24 Bit.

1.7 Audio Outputs

- 1.7.1 All digital outputs shall have AES-3 Signal format.
- 1.7.2 Digital Output should be through 3-Pin XLR connector, if necessary interface cable with connectors should be included with the Audio card.

2. Audio Specification of one Stereo Channel Professional Audio Card

- 2.1 Digital Input Channels : Two AES/EBU professional inputs
- 2.2 Digital Output Channels :Two AES/EBU Professional Output
- 2.3 Analogue Channel I/P Impedance :>10k ohm
- 2.4 Analogue Channel Nominal Level :+4 dBu
- 2.5 Analogue Channel Maximum Input & Output Level : +24 dBu \pm 0.5 dBu
- 2.6 Supported Digital Audio Formats : Linear PCM Play & Record & MPEG-1, Layer-2 Play & Record and Layer-3 Play
- 4.9 Supported Sampling Rate : Upto 48 kHz
- 4.10 Supported Bit : Upto 24 bits



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- 4.11 Supported MPEG-1 Layer-2 Bitrates :24 to 192 Kbps
- 4.12 Frequency Response (at 48 Khz S/R) : $\pm 0.5\text{dB}$ (from 20 Hz to 20 Khz)
- 4.13 Signal/Noise Ratio at Nominal Level :>85 dB un-weighted
- 4.14 Distortion+ Noise(20 Hz to 20 Khz) :< 0.01% at Maximum Output with 80 Khz Low Pass Filter
- 4.15 Cross Talk(Analog In or Out) 1 Khz at +23 dBu : $\leq -100\text{dB}$
- 4.16 SRC on Digital Inputs :Should be available
- 4.17 Workstation Bus Support :PCI-Express
- 4.18 OS Compatibility Windows 11 Professional(64 Bits)



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Annexure-II

List of Consignee with Bill of Material

Sr.No	Consignee	Work Station	TFT Monitor	Mouse Keyboard	+	Video Conferencing Camera
1.	Akashvani Kolkata	1	1	1+1		4
2.	Akashvani Patna	1	1	1+1		4
3.	Akashvani Ranchi	1	1	1+1		4
4.	Akashvani Cuttak	1	1	1+1		4
5.	Akashvani Itanagar	1	1	1+1		3
6.	Akashvani Guwahati	1	1	1+1		4
7.	Akashvani Imphal	1	1	1+1		3
8.	Akashvani Shillong	1	1	1+1		3
9.	Akashvani Aizawl	1	1	1+1		3
10.	Akashvani Kohima	1	1	1+1		3
11.	Akashvani Gangtok	1	1	1+1		3
12.	Akashvani Agartala	1	1	1+1		3
13.	Akashvani Chandigarh	1	1	1+1		3
14.	Akashvani Delhi	1	1	1+1		4
15.	Akashvani Rohtak	1	1	1+1		3
16.	Akashvani Shimla	1	1	1+1		3
17.	Akashvani Srinagar	1	1	1+1		4
18.	Akashvani Leh	1	1	1+1		3
19.	Akashvani Jalandhar	1	1	1+1		4
20.	Akashvani Jaipur	1	1	1+1		3

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21.	Akashvani Lucknow	1	1	1+1	4
22.	Akashvani Dehradun	1	1	1+1	4
23.	Akashvani Port Blair	1	1	1+1	3
24.	Akashvani Vijaywada	1	1	1+1	3
25.	Akashvani Bengaluru	1	1	1+1	4
26.	Akashvani Thiruvananthapuram	1	1	1+1	4
27.	Akashvani Chennai	1	1	1+1	4
28.	Akashvani Hyderabad	1	1	1+1	4
29.	Akashvani Raipur	1	1	1+1	3
30.	Akashvani Bhopal	1	1	1+1	3
31.	Akashvani Panaji	1	1	1+1	4
32.	Akashvani Ahmedabad	1	1	1+1	3
33.	Akashvani Mumbai	1	1	1+1	4
34.	Total	33	33	33+33	115



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Annexure –III

Format of Compliance statement

S.No.	Para no. of AIR specification	Tenderer's solution		
		Complied (yes/no)	Offered Product	Remarks

Annexure –IV

Format for BOM statement by Tenderer

S.No.	Item Details	Total Quantity	Tenderer's Offer		
			Make	Model/Module Name /Version Number	Complete Details of Offered product

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