



# 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:04.09.2024

Subject: Publication of Draft Technical Specification for Supply, Installation, Testing and Commissioning (SITC) of Visual Radio System for seeking Vendors/ OEMs feedback and budgetary quote

- Draft Technical Specification for SITC of Visual Radio System is being uploaded to invite budgetary price from the Vendors/OEMs dealing with SITC of such equipments. The interested parties are requested to provide budgetary price on basis of Bill of Material and scope of work on this technical specification.
- 2. All these information may be provided by E-mail to " <u>airstudiodesign331@gmail.com</u> " on or before 20.09.2024

(Dy. Director General(E-SD))
For Director General

के. मुरूगन/K. MURUGAN जप महानिदेशक (अगि.)/DDG (Engg.) योजना एवं विकास/P & D आकाशवाणी महानिदेशालय/DG:AIR आकाशवाणी भवन/Akashvani Bhavan नई दिल्ली/New Delhi

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

# Technical Specification for SITC of Visual Radio System

#### 1. GENERAL

- 1.1 This specification is for Supply, Installation, Testing & Commissioning of Software & hardware for "Visual Radio System" to be used at Studio of 33 Akashvani Stations. Under this project, one existing studio of 33 Akashvani Stations (as per list at Annexure-I) shall be upgraded to work as "Visual Radio System".
- 1.2 Visual Radio is a new concept in Radio Broadcasting where Radio's Audio program is delivered in Multimedia mode (in form of Live videos, Music Videos & Multi-media graphics). Media of delivery is usually through internet.
- 1.3 The Workstation Hardware shall be from OEMs having ISO27001, ISO50001, ISO20000 certifications.
- 1.4 The OEM of Media Processor, Full HD PTZ Camera shall have ISO 9001.
- 1.5 Bidder shall provide Manufacturer's Authorization Certificate for Media Processor, Full HD PTZ Camera, Workstation, Audio Cars etc..
- 1.6 Bidder shall have experience of SITC of AV Equipment/IT Equipment/Networking Equipment/Streaminig Equipment in Govt./PSU/Semi-Govt. organization for last 5 years.
- 1.7 All the offered products should be field proven. Documents in support of this clause should be provided.
- 1.8 The tenderer must submit the following documents along with the tender:
  - (a) A Clause-by-clause compliance statement as per format in Annexure-II in respect to all the clauses of specification from OEM of the offered hardware (Media Processor, Full HD PTZ Camera, Workstation, Audio Card and Ethernet Switch) duly signed in original. Mere Signature on the copy of Akashvani Specification shall not be acceptable as a compliance statement. If compliance statement is incomplete or in format other than that in Annexure-II, the tender may be rejected out rightly. Compliance statement should be supported by record of various parameters of specifications in the technical literature enclosed with the tender.
  - (b) 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 as per format in Annexure-II. In case the bidder does not have requisite experience and enters into an MOU/Consortium agreement with a partner(s), the point by point compliance statement in respect of all the points laid down in the specifications for all the equipment/item(s) shall be duly signed by the bidder as well as his partner(s).
  - (c) Detailed printed literature of the software & Hardware giving complete details of features and performance data on non-returnable basis to facilitate the technical evaluation.
  - (d) Back to Back Support Commitment from various OEMs for the warrantee period of three Years.
  - (e) A letter from Hardware OEMs that none of the quoted product/model is nearing end of life.

(K N Pandey) ADE(SD) (K. Murugan)
DDG(SD)

(Jitender Pruthi) DDDG(NBH) (Aditya Chaturvedi) DDG(Project-NZ)

- (f) A copy of un-priced Bill of Material (BOM) as per Annexure-III indicating make, model of the offered product. Any tender, showing ambiguity in above terms shall be treated as incomplete and it will be rejected.
- (g) Customer reference certificate and documents in support for the offered hardware and software.
- 1.9 The tenderer will be required to demonstrate the functions of the tendered system during technical evaluation in New Delhi. 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 15 days from the date of issue of call letter which will be emailed on given Email address. Non-compliance of demonstration within the stipulated time, may lead to disqualification of the tender.
- 1.10 Incomplete offers will be rejected out rightly.
- 1.11 The SITC work at all the stations will have to be completed **within 6 months** after the placement of firm order. After completion of SITC one day training shall be provided to Akashvani Staff.
- 1.12 The hardware as per Bill of Material shall be capable of working in environment given below:
  - a) The hardware should be able to operate on 230 V +/- 10% V, 48-52 Hz, single phase AC power supply.
  - b) All the drivers for hardware shall be supplied along with hardware.
  - c) 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.

d) 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.

e) 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.

#### 2. SCOPE OF THE TENDER

- 2.1 The Scope of this tender is for supply, installation, integration, testing and commissioning of "Visual Radio System" including cabling, as per requirement, for integration of equipment for full functionality of Visual Radio System.
- 2.2 Any additional Hardware & software required for efficient functioning of various features of Visual Radio System shall be quoted & provided by the tenderer.
- 2.3 The Bill of Material giving item-wise requirement is given in Annexure-III.
- 2.4 Supplied Hardware & software etc. shall be configured for efficient working of offered Visual Radio System
- 2.5 All the connectors etc. required for implementation of system at each station will be supplied by the successful bidder.
- 2.6 The complete system shall be tested for successful operation of the Visual Radio System.

# 3. FUNCTIONALITY REQUIREMENT FOR VISUAL RADIO SYSTEM:

# 3.1 Live programme with Multiple Performers & Audience:

One PTZ Camera shall focus on lead performer and other Full HD PTZ camera shall track the Audience & other performers as per requirement of Programme Officer. The Video Output of selected Camera and Studio Audio from Audio Console shall go on Visual Radio. It should be possible to send output from two/three Cameras in multiple frame mode on Visual Radio. It should also be possible to insert certain predesigned graphics in the video at certain times.

# 3.2 Live programme with two/three Performers in Manual Mode:

Cameras shall focus on performers and Video Output of selected Camera and Studio Audio from Audio Console shall go on Visual Radio. It should be possible to send output from two/three Cameras in multiple frame mode on Visual radio. It should also be possible to insert certain predesigned graphics in the video at certain times.

## 3.3 Live programme with two/three Performers in Automatic Mode:

Video output of PTZ Camera and Studio Audio from Audio Console shall go on Visual Radio. It should also be possible to insert certain predesigned graphics in the video at pre-decided times.

# 3.4 **Anchor Based Programme:**

It should be possible to play selected video during certain segment of programme and during this time. Played Video and Studio Audio from Audio Console shall go on Visual Radio. It should also be possible to insert certain predesigned graphics in the video at certain time.

## 4. HARDWARE SPECIFICATION:

# 4.1 **Quad Channel HD Media Processor**

#### 4.1.1 Common Feature of Media Processor

- 4.1.1.1 It should have function like video switcher, recorder, and streaming device.
- 4.1.1.2 It should allow to mix four/two video\computer sources to create engaging and attractive presentations and productions, complete with logo overlay, optional timestamp, and your choice of background.
- 4.1.1.3 This should have feature to records each HD input independently (plus the program output).
- 4.1.1.4 It should streams live to users local and global over preferred CDN, including YouTube, Twitch, Facebook, and Livestream . It should also integrates with applications such as Wirecast, vMix, and OBS Broadcast.
- 4.1.1.5 It should captures video from HDMI sources such as professional cameras, presentation laptops, decoders, and visualizers. The unit can also ingest video from standard IP cameras that support RTSP streams. HD-quality videos can be laid out dynamically with shots arranged side-by-side, picture-in-picture, or overlaid as per our requirements. Layouts can be saved as templates, giving each production consistency and simplifying the production process for the operator. Audio embedded in video inputs can be mixed with the line-in jacks to provide you an excellent level of audio control.

#### 4.1.2 Technical Parameters of Media Processor

# 4.1.2.1 4-Channel HDMI Media Processor

S. No	Description	Technical Parameters	Compliance (Yes/No)	Remarks
1	Number / Signal	4 HDMI digital video	,	
2	Connection	4 female HDMI type-A		
3	Resolution Range	480i~1080p 60fps or better		
4	IP Source	IP PTZ / Box Cameras RTSP Source (H.264		
		1080p 60/30fps)		
5	Video	H.264/AVC 4:2:0 8bit color Encoding profile:		
	Compression	High, Main, Baseline		
6	Bitrate	200 kbps to 10 Mbps		
	OUTPUT			
7	Number / Signal	Min 3 x H.264/AVC digital video over Ethernet		
		Min 2 x HDMI digital video		
8	Scaled Resolution	1080p		
9	Frame Rate	30 / 60 fps		
10	Internal Storage	Standard 2 TB HDD or better		
11	External Storage	1 USB 3.0 port in front panel		
12	File Type	H.264 and AAC in an MP4 container, JPEG		
13	Resolution	360p, 720p, 1080p		
14	Frame Rate	Max. 1080p 60/30 fps		
	Audio input			
15	Number / Signal	4 Line In (stereo, 3.5mm phone jack) 4 stereo,		
		digital de-embedded audio from HDMI IP Audio		
		Source (RTSP, AAC-Raw, 16K / 44.1K / 48K)		
	AUDIO PROCESS	SING		
16	Compression	AAC-LC		
	AUDIO OUTPUT			
17	Number / Signal	1 stereo, unbalanced 3.5mm phone jack 2 stereo,		
		digital de-embedded audio from HDMI		
	COMMUNICATIO			
18	USB	2 rear panel USB 2.0 type A Support USB mouse,		
		keyboard, HID touch display		
19	Serial Control	RS-232 / RS-485 port		
	ETHERNET			
20	Ethernet Host Port	1 female RJ-45 10/100/1000 Base-T high/full		
		duplex		

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21	Streaming	Pull: RTSP Push: RTMP / RTMPS / MPEG-TS	
	Protocol	TCP, UDP, HTTP DHCP Client	
	FUNCTIONS		
22	Supports IP Sources	IP Cameras, RTSP	
23	Scenes Switch	Yes, preset for layout, background, and overlay	
24	Layout Switch	Yes (Single, PIP, PBP, 3 and 4 windows layouts)	
25	Background	Yes	
	Switch		
26	Overlay	PNG overlay or System time overlay	
27	File Backup	FTP / SFTP / NAS(CIFS/SMB, NFS) / USB Flash	
		Drive	
28	Power Supply	DC In , 12 V / 2A	
29	Power	24W or better	
	Consumption		
30	Certification	CE, FCC, RoHS	

# 4.1.2.2 **2-Channel HDMI Media Processor**

S.	Description	<b>Technical Parameters</b>	Compliance	Remarks
No			(Yes/No)	
1	Number / Signal	2 HDMI digital video		
2	Connection	2 female HDMI type-A		
3	Resolution Range	480i~1080p 60fps or better		
4	IP Source	IP PTZ / Box Cameras RTSP Source (H.264		
		1080p 60/30fps)		
5	Video	H.264/AVC 4:2:0 8bit color Encoding profile:		
	Compression	High, Main, Baseline		
6	Bitrate	200 kbps to 10 Mbps		
	OUTPUT			
7	Number / Signal	Min 2 x H.264/AVC digital video over Ethernet		
		Min 2 x HDMI digital video		
8	Scaled Resolution	1080p		
9	Frame Rate	30 / 60 fps		
10	Internal Storage	Standard 2 TB HDD or better		
11	External Storage	1 USB 3.0 port in front panel		

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12	File Type	H.264 and AAC in an MP4 container, JPEG	
13	Resolution	360p, 720p, 1080p	
14	Frame Rate	Max. 1080p 60/30 fps	
	Audio input	- 1	
15	Number / Signal	1 x Line In (Stereo Unbalanced Audio, 3.5mm	
		phone jack), 2 x Combo (XLR / TRS, Balanced	
		Audio, Line in/Mic in, Support +48V Phatom	
		Power)	
		IP Audio Source (RTSP, AAC-Raw, 16K / 44.1K	
		/ 48K)	
		Support USB Audio (UAC)	
	AUDIO PROCESS	SING	
16	Compression	AAC-LC	
	AUDIO OUTPUT		
17	Number / Signal	1 x USB 2.0 Type – A	
		4 x USB 3.0 Type – A	
		Support USB Storage, USB Camera, USB Mic	
		USB Mouse, Keyboard, HID Touch Display	
	COMMUNICATIO	N	
18	Serial Control	RS-232 / RS-485 port	
	ETHERNET		
19	Ethernet Host Port	1 female RJ-45 10/100/1000 Base-T high/full	
		duplex	
20	Streaming	Pull: RTSP Push: RTMP / RTMPS / MPEG-TS	
	Protocol	TCP, UDP, HTTP DHCP Client or better	
	FUNCTIONS		
21		IP Cameras, RTSP	
41	Supports IP Sources	ir Cameras, Kisr	
22	Scenes Switch	Yes, preset for layout, background, and overlay	
23	Layout Switch	Yes (Single, PIP, PBP,)	
24	Background	Yes	
	Switch		
25	Overlay	PNG overlay or System time overlay	
26	File Backup	FTP / SFTP / NAS(CIFS/SMB, NFS) / USB Flash	
		Drive	
27	Power Supply	DC In, 12 V / 3A or better	
28	Power	24W or better	
	Consumption		

29	Certification	CE, FCC, RoHS	

# 4.2 Technical Parameter of Full HD PTZ Camera

S.	Description	Specification	Compliance	Remarks
No			(Yes/No.	
1	Sensor	1/2.8" 2.16M or better		
2	Video Format	1080p: 60 / 50 / 30 / 25		
		720p: 60 / 50 / 30 / 25		
3	Video Output (HD) Interface	HDMI / Ethernet / 3G-SDI /		
		USB 3.0		
4	Optical Zoom/Digital Zoom	12X or better		
5	Viewing Angle	72.5° (H) 40.8° (V) 83.2° (D)		
		or better		
6	Aperture	F1.6~F2.8 or better		
7	Focal Length	3.9mm~46.8mm		
8	Shutter Speed	1/1 ~ 1/10,000 sec or better		
9	Minimum Object Distance	1000/1500mm (Wide/Tele)		
10	Video S/N Ratio	> 50dB or better		
11	Minimum Illumination	1.0 lux (F1.6, 50IRE, 30fps		
12	Gain Control	Auto / Manual		
13	Panning Angle	$-170^{\circ} \sim +170^{\circ}$ or better		
14	Panning Speed	0.2°~120°/sec or better		
15	Tilting Angle	+90°~-30°		
16	Tilting Speed	0.2°~80°/sec		
17	IP Stream	Triple Streaming Structure:		
		First : H.264 1080p60		
		Second : H.264 720p30		
		Webpage: H.264 720p30		
18	HDMI / 3G-SDI	1080p60		
19	Preset Positions	256 or more		
20	IP Compression	H.264		
21	USB Output	1080p60		
22	IP Protocol	RTSP / RTMP / RTMPS /		
		*SRT		
23	Control Protocol	VISCA / VISCAIP/ *ONVIF		
24	DC In	12V +/- 20%		
25	Certification	BIS, CE, FCC, RoHS		

# 4.3 Digital Audio Workstation with Digital Audio Card

# 4.3.1 Technical Parameter of Digital Audio Workstation

S.No.	Component	Description	Compliance	Remarks
			(Yes/No)	
A.	Processor	Processor with 8 Core 16 Thread, Base		
		Frequency 3.10/2.10 Ghz or better, Max.		
		Turbo Frequency 4.5 Ghz or better		
B.	No. of Processor	One		
C.	Memory	16 GB non- ECC DDR4 or better, 4400		
		Mhz or better, upto 128 GB ECC Memory		
		4 DIMM Slots Expandable		
D.	Storage	1x512 GB, M.2 NVMe SSD for OS and		
		Application Software and		
		1x1 TB SATA 7200 RPM HDD		
E.	Storage	Supports up to (3) M.2 PCIe NVMe SSD		
	Controller	and up to (3) 3.5" SATA® or (4) 2.5"		
Г	G 1:	SATA® on motherboard slot.		
F.	Graphics	Integrated Graphics Card		
G	Display	Wide Aspect 23.8" TFT Monitor		
**	77 1 1	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		
K.	Network	Factory Installed 10/100/1000 Ethernet		
		Port (2 Nos.)		
L.	PCI Slots	Min 1 PCIe Gen4 x16		
		2 PCIe Gen3 x4 Slot		
M.	I/O Ports	Min. 1x USB 3.2 Gen2 Type-A with		
		PowerShare		
		Min. 3x USB 3.2 Gen2 Type- A Ports		
		Min 1x USB3.2 Gen2 Type –C Ports		
		Min 1x USB3.2 Gen2x2 Type –C Ports Min. 6xUSB 2.0 Type-A		
		3 Audio Jacks (In/Out/Mic)		
		2 RJ45 Ports		
		2 DP 1.4 Ports		
		1 x HDMI/DVI		

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N.	Networking	IPv4 & IPv6 should be supported	
	Protocols		
O.	Operating	Windows 11 Professional(64 Bits)	
	System	OS may either be Factory (Hardware	
		OEM) preloaded (with Recovery	
		Media/Disk) or Licensed to	
		"Akashvani" with Media .	
P.	Cabinet	Tower Toolless Chasis	
Q.	OS Certification	Windows Certification	
R.	Power Supply	Minimum W 80+ Gold Power Supply or	
		better	
S.	Safety	BIS, FCC and CE Certification	
	Certification		
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 licenced to	
		"Akashvani" (with Free Virus definition	
		updates & patches for a period of one	
		years)	
W.	Recording	Adobe Audition 24.0/ Sound Forge Pro 18	
	/Editing	( With One Year License)	
	Software		

# 4.3.2 Technical Parameter of Digital Audio Card

## 4.3.2.1 COMMON FEATURES OF PROFESSIONAL AUDIO CARD

- 4.3.2.1.1 The Professional Audio Cards shall have state-of-the-art digital circuitry.
- 4.3.2.1.2 The Professional Audio Cards should be suitable for reliable operation on 24x7x365 basis working.
- 4.3.2.1.3 It should be compatible to PCI EXPRESS (X4,x8,x16) Bus/Format.
- 4.3.2.1.4 It should have OS compatibility with Windows 11(64 Bits).
- 4.3.2.1.5 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.

# 4.3.2.2 Audio Inputs

- 4.3.2.2.1 Professional Audio Cards should accept the Stereo Digital Audio Inputs.
- 4.3.2.2.2 Digital Input Channels : Two professional Stereo AES/EBU Inputs
- **4.3.2.2.3** 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.
- 4.3.2.2.4 Digital Input should be through 3-Pin XLR connector, if necessary interface cable with connectors should be included with the Audio card.
- 4.3.2.2.5 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.

#### 4.3.2.3 Audio Outputs

- 4.3.2.3.1 All digital outputs shall have AES-3 Signal format.
- 4.3.2.3.2 Digital Output should be through 3-Pin XLR connector, if necessary interface cable with connectors should be included with the Audio card.
- 4.3.2.3.3 Audio Specification of Two Stereo Channel Professional Audio Card
- 4.3.2.3.4 Digital Output Channels :Two Professional Stereo AES/EBU Output
- 4.3.2.3.5 Supported Digital Audio Formats :Linear PCM Play & Record & MPEG-1, Layer-2 Play & Record and Layer-3 Play
- 4.3.2.3.6 Supported Sampling Rate : Upto 48 kHz 4.3.2.3.7 Supported Bit : Upto 24 bits
- 4.3.2.3.8 Supported MPEG-1 Layer-2 Bitrates :24 to 192 Kbps
- 4.3.2.3.9 Frequency Response (at 48 Khz S/R) : ± 0.5dB (from 20 Hz to 20 Khz)
- 4.3.2.3.10 Signal/Noise Ratio at Nominal Level :>85 dB un-weighted
- 4.3.2.3.11 Distortion+ Noise(20 Hz to 20 Khz) :< 0.01% at Maximum Output with 80 Khz

Low Pass Filter

4.3.2.3.12 SRC on Digital Inputs :Should be available

4.3.2.3.13 Workstation Bus Support :PCI-Express

## 4.4 Technical Parameter of 16 Port POE+ Ethernet Switch

S.No.	Description	Compliance (Yes/No)	Remarks
4.4.1	Gigabit Ethernet Switch shall be provided for interconnecting Visual Studio Equipments		
4.4.2	The switch shall be pre-installed and preconfigured.		
4.4.3	Each switch port should set itself independently for the optimal speed and determines whether to run in half- or full-duplex mode automatically.		
4.4.4	Switch shall support both Fast and Gigabit		

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	Ethernet devices in the same network.	
4.4.5	Minimum 8 port of network Switch should have sufficient PoE power budget to operate 4 above mentioned cameras.	
4.4.6	The switch should also provide automatic cable detection.	

## 5. WARRANTY

- 5.1 The software & hardware shall be warranted for trouble free operation for a minimum period of three years from the date of commissioning.
- 5.2 The bidder shall submit a letter from OEM for confirmation of back to back support commitment for three years from the date of commissioning at respective site of Akashvani. Tenderer shall provide round the clock support for satisfactory working of complete system.
- 5.3 No separate charges will be paid for visit of engineers for attending to faults and repairs or supply of spare parts.

Annexure –I
Stations Covered under BIND 2021-26 Scheme

S.No.	Station Name	State/UT	Zone
1	Patna	Bihar	EZ
2	Ranchi	Jharkhand	EZ
3	Cuttack	Odisa	EZ
4	Kolkata	West Bengal	EZ
5	Itanagar	Arunachal Pradesh	NEZ
6	Guwahati	Assam	NEZ
7	Shillong	Meghalaya	NEZ
8	Gangtok	Sikkim	NEZ
9	Agartala	Tripura	NEZ
10	Imphal	Manipur	NEZ
11	Aizawl	Mizoram	NEZ
12	Kohima	Nagaland	NEZ
13	Delhi	Delhi	NZ
14	Srinagar	Jammu & Kashmir	NZ
15	Jaipur	Rajasthan	NZ

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S.No.	Station Name	State/UT	Zone
16	Chandigarh	Chandigarh (UT)	NZ
17	Lucknow	Uttar Pradesh	NZ
18	Dehradoon	Uttarakhand	NZ
19	Jalandhar	Punjab	NZ
20	Leh	Laddakh	NZ
21	Shimla	Himachal Pradesh	NZ
22	Rohtak	Haryana	NZ
23	Vijaywada	Andhra Pradesh	SZ
24	Bengaluru	Karnataka	SZ
25	Thiruvananthapuram	Kerala	SZ
26	Chennai	Tamil Nadu	SZ
27	Port Blair	A&N	SZ
28	Hyderabad	Telangana	SZ
29	Raipur	Chhattisgarh	WZ
30	Panaji	Goa	WZ
31	Bhopal	Madhya Pradesh	WZ
32	Mumbai	Maharashtra	WZ
33	Ahmedabad	Gujrat	WZ

Annexure –II Format of Compliance statement

Sr. No of AIR specs.	ب AKashvani specs.	ن Compliance (Yes/No)	Performance Fig. of equipment Offered.	Number of enclosed literature	Deviations, in case of non-compliance	coptional items if any required to make the system Compliant to AIR specs.	Product which exceeds AIR specs.
1.	2.	3.	4.	5.	6.	/.	8.

Annexure-III
List of Consignee with Bill of Material

Sr.	Consignee	Work Station	PTZ	Media	Media	Ethernet	CAT 6
No		with Audio Card,	Camera	Processor	Processor	Switch	Cable
		TFT Monitor,	With				
		Mouse Keyboard	Stand	4-Channel	2-Channel		
		and Software as					
		per specification	2	1		1	100 %
1.	Akashvani	1 Set	3	1	0	1	100 Mtr.
	Kolkata	1.0.4	2	1	0	1	100 14
2.	Akashvani	1 Set	3	1	0	1	100 Mtr.
	Patna	1.0-4	2	1	0	1	100 M/4
3.	Akashvani Ranchi	1 Set	3	1	0	1	100 Mtr.
	Akashvani	1 Set	3	1	0	1	100 Mtr.
4.	Cuttak	1 361	3	1	U	1	100 Mill.
	Akashvani	1 Set	2	0	1	1	100 Mtr.
5.	Itanagar	1 Sct	2	U	1	1	100 Mill.
	Akashvani	1 Set	3	1	0	1	100 Mtr.
6.	Guwahati	1 500		1	O O		100 14111.
	Akashvani	1 Set	2	0	1	1	100 Mtr.
7.	Imphal	1 200					1001/101/
_	Akashvani	1 Set	2	0	1	1	100 Mtr.
8.	Shillong						
0	Akashvani	1 Set	2	0	1	1	100 Mtr.
9.	Aizawl						
10	Akashvani	1 Set	2	0	1	1	100 Mtr.
10.	Kohima						
11.	Akashvani	1 Set	2	0	1	1	100 Mtr.
11.	Gangtok						
12.	Akashvani	1 Set	2	0	1	1	100 Mtr.
	Agartala						
13.	Akashvani	1 Set	2	0	1	1	100 Mtr.
	Chandigarh						
14.	Akashvani	1 Set	3	1	0	1	100 Mtr.
11.	Delhi						
15.	Akashvani	1 Set	2	0	1	1	100 Mtr.
10.	Rohtak						
16.	Akashvani	1 Set	2	0	1	1	100 Mtr.
	Shimla						

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21.	Chennai Akashvani	1 Set	3	1	0	1	100 Mtr.
27.	thapuram Akashvani	1 Set	3	1	0	1	100 Mtr.
26.	Akashvani Thiruvanan	1 Set	3	1	0	1	100 Mtr.
25.	Akashvani Bengaluru	1 Set	3	1	0	1	100 Mtr.
24.	Akashvani Vijaywada	1 Set	2	0	1	1	100 Mtr.
23.	Akashvani Port Blair	1 Set	2	0	1	1	100 Mtr.
22.	Dehradoon						
	Lucknow Akashvani	1 Set	3	1	0	1	100 Mtr.
21.	Jaipur Akashvani	1 Set	3	1	0	1	100 Mtr.
20.	Jalandhar Akashvani	1 Set	2	0	1	1	100 Mtr
18.	Leh Akashvani	1 Set	3	1	0	1	100 Mtr.
17.	Akashvani Srinagar Akashvani	1 Set	2	0	0	1	100 Mtr.