



RIS
Research and Information System for
Developing Countries
विकासशील देशों की अनुसन्धान एवं सूचना प्रणाली

Zone IV-B, Fourth Floor
India Habitat Centre, Lodhi Road
New Delhi-110 003 (India)
Phones
General : 91-11-2468 2177-80
Fax : 91-11-2468 2173-74
Website : www.ris.org.in

24 December 2013

1. RIS invites bids from well-established, experienced and reputed service providers for the upgradation of its existing Conference Hall, which would, inter alia, require installation of a modern video-conferencing facility combined with appropriate audio and lighting system and the make over of the facility by way of new floor, ceiling, wall panels, conference table and other furniture items etc. as per specifications given in the enclosed three Attachments. Bidders should have direct experience of successfully executing such works in the GOI Ministries/Departments or their autonomous bodies in the recent past.
2. Interested firms/suppliers with an overall experience of at least five years in the field and having an annual turn over of at least Rs. 5 crores during this period are requested to send in their quotations in separate sealed covers for each of the three segments of works involved as defined in the three attachments.
3. Selected supplier will have to ensure the delivery of the items/completion of the awarded work at RIS within 4-5 weeks from the date of receipt of the Work Order. A major portion of the works would have to be executed/carried out at RIS Conference Hall beyond its working hours from 0930 to 1800 hrs in order to minimize disturbance to the Faculty during the course of its working hours.
4. Successful bidder of each segment of work involved would have to work in partnership with the successful bidders of other segments for the integrated upgradation of the facility as the three segments of works are inter-connected and overlap with each other in several areas.
5. The payment would be released by RIS in the form of a crossed cheque in favour of the service provider after the completion of the works involved in a satisfactory manner. However, RIS would give due consideration to requests from successful bidder(s) for an advance upto 30% of the value of the amount of the contract awarded against submission of bank guarantee from a commercial bank. On successful completion of the works, the remaining part of the value of the contract would be released by RIS in such cases.
6. The successful bidder awarded the contract will have to submit a Performance Security of 10% of the value of the awarded contract in the form of an Account Payee Demand Draft, Fixed Deposit Receipt from a commercial bank or Bank Guarantee from a commercial bank in favour of 'Research & Information System for Developing Countries' payable at New Delhi valid for at least 12 months. Bid Security instrument submitted by the successful bidder would be returned on receipt of Performance Security.

7. The successful bidder will have to hand over to RIS all documents, including brochures, operating manuals, warrantee/guarantee documents etc. of the equipment, duly registered in the name of RIS. In addition, they would have to provide training sessions to RIS staff for the proper operation and maintenance of the equipment and guarantee their post-installation repairs and maintenance without any charges to RIS for at least a period of one year from the date of successful installation of the equipment at RIS within a pre-notified timeframe after such a request is received from RIS.
8. Interested bidders wishing to visit RIS for viewing the facility or for clearing doubts, if any, with regard to the specifications and other details of the works involved are requested to do so on Thursday, 5 January 2013 between 1000 hrs to 1300 hrs, with prior intimation.
9. Bidders are requested to submit separate proposals in respect of the following three segments of works involved :
 - i) Display device and audio facility – Annexure A
 - ii) Switching control devices – Annexure B
 - iii) Interior outfit works – Annexure C
10. Bid proposals to be submitted to RIS are required to be accompanied by the following documents/instruments as the case may be:
 - i) Response to the technical requirements projected in the relevant attachment giving specifications in respect of technical works listed at Annexure-A and Annexure-B, along with their monetary value, inclusive of all taxes.
 - ii) Monetary value, including taxes, in respect of each of the items listed at Annexure-C pertaining to interior works.
 - iii) proof of registration of the firms, work experience and turn over in the field, VAT/PAN registered numbers and other documents in support of credentials of the bidder.
 - iv) copies of work experience having successfully carried out such works in GOI Ministries/Departments or their autonomous bodies as stated above.
 - v) original ink signed authorization certificate in favour of ‘Deputy Director (Finance Admn), Research & Information System for Developing Countries, New Delhi’ from the OEM’s of the equipment listed in the specifications.
 - vi) Bid Security of two percent of the quoted value of the bid in the form of an Account Payee Demand Draft, Fixed Deposit Receipt from a commercial bank or Bank Guarantee from a commercial bank from any of the commercial banks valid for a period of forty-five days beyond the final bid validity period. The Bid Security instrument has to be in favour of ‘Research & Information System for Developing Countries’ payable at New Delhi. [Bid securities of the unsuccessful bidders would be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30th day after the award of the contract.]
 - vii) An undertaking confirming that the above terms and conditions for the award of the works involved are acceptable.
 - viii) Time-frame within which repair and maintenance work would be carried out by the service provider free of cost during the first one year of installation of the equipment.

11. The last date for submission of bid proposals at RIS is **Monday, 9 January 2013 (1800 hrs)**. The bid cover should prominently carry the description of the segment of work, namely Annexure-A, B or C, for which the bid is being submitted. Bidders are requested to submit separate proposals in sealed covers for each of the three segments of works applied for, along with required documents as listed above, to RIS at the following address:

**Deputy Director(Administration & Establishment)
Research & Information System for Developing Countries,
Core 4-B,4th Floor,
India Habitat Center
Lodhi Road.
New Delhi 110003(India)**

12. Bids would be opened at RIS on **Tuesday, 10 January 2013 at 1500 hrs** by a Committee designated for this purpose and the work would be awarded to the most competitive and well qualified bidder in accordance with RIS rules and regulations.
13. Ineligible, incomplete or late bids would be summarily rejected by RIS without citing any reason whatsoever.
14. RIS reserves the right to declare the bidding process null and void at any stage without citing any reason.



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ANNEXURE-A

(TO BE FILLED UP AND ATTACHED TO THE FINANCIAL PROPOSAL FOR THE BID)

TECHNICAL SPECIFICATIONS OF THE DISPLAY DEVICES FOR THE CONFERENCE HALL AT RIS

Sr. No.	Technical Specifications	QTY	Compliance (Yes/No)	Remark
1	Full HD Point to point Communication Codec with Data Solution Software & option to upgrade 9 party full HD MCU	1	Offered Make & Model :	
	The End Point shall be a point to standalone system upgradable to HD multiparty (1+8) video conferencing with full high definition camera and codec for simple installation with a TV / Plasma suitable for specified bandwidth of IP network (H.323) and also ISDN (H.320) if ordered.			
	Video Codec resolution:4:3 CIF (352 x 288), 4CIF (704 x 576) 16:9 wCIF/w288p (512 x 288), w432p (768 x 432), w4CIF (1024 x 576), 720p (1280 x 720), 1080i@60fps (1920 x 1080), 1080p@60fps (1920 x 1080)			
	The system shall deliver Full HD video, HD voice & HD content for an overall HD experience			
	Shall Support IP up to 16 Mbps & minimum 768 over ISDN			
	System shall have H.261, H.263, H.263+, H.263++, H.264 & MPEG-4 video coding support.			
	System shall have upto MPEG4 AAC, G.728, G.722 & G.711 audio coding support and suitable for 22 KHz stereo audio or better.			
	System must support H.239 for sharing PC images up to 1080p resolution is supported.			

	It shall be possible to see both the near and far site on one screen thus making most efficient use of a single display area			
	Shall have Live video resolution 352 x 288 to 1280x720 & 1920x1080.			
	System must be equipped with 2 omni directional High defination microphones and expandable to connect total 06 microphone from same VC OEM			
	RJ-45, 10/100Mbps Base-T Ethernet connection.			
	System must have AES encryption.			
	Video codec shall support 16:9 format for supporting LCD/Plasma display and PAL video standard			
	Operating Conditions: 230 + or - 10% volts, 50 Hz			
	Shall come with easy to use RF Hand held remote control with operating distance of at least 10 mtr.			
	System should have dual network port which support two different network connections without switching network cables & conference between two network can be possible.			
	System should have inbuilt USB port for HD recording – video/presentation data and audio for later review			
	System should have inbuilt USB port for Annotation			
	Built-in streaming function for multicasting to large audiences			
	VC OEM Should have their own service center in all major cities in India			
	Firmware/version upgrade is free for entire product life time			
	Minimum no. of Ports			
	Video Input Ports: 1X HD Camera,1 x HDMI and 2 x DVI-I			
	Video output ports: 2 x HDMI and 1 x DVI-I			
	Audio Input Ports: External analog microphone input Mini-jack (Plug in power) x 6 (L/R), HDMI (video, audio) x 1, Audio Input (MIC/AUX) x 2 (Phono jack, stereo)			
	Audio Output Ports: HDMI (video, audio) x 1, Line Output (Phono jack, stereo) x 1, REC Output (Phono jack, stereo) x 1, 2 LAN Port			
		Preferred Brand : Sony / Polycom / Cisco		
2	System shall be 6 party conferencing in built MCU full HD & upgradable to 9 sites Full HD multiparty conference on continuous presence by using add-on software without any additional hardware In addition, system upgradable to 16 sites Full HD multiparty conference in VA mode by using two VC systems with add-on MCUsoftwares in cascade.	1	Offered Make & Model :	
		Preferred Brand : Sony / Polycom / Cisco		

3	Shall include camera with 1920x1080 1/2.8-type Exmor CMOS imager sensor, 20x optical Zoom & 12x digital zoom, 55.4degree horizontal viewing angle, +/- 170 degrees PAN range, +90 to -20 degrees Tilt range .The camera shall be supplied with Ceiling mount kit, cords and connectors.	1	Offered Make & Model :	
	Camera Other feature: Auto Gain Control, Auto White Balance, Backlight Compensation Desktop & Ceiling Mountable (Image Flip), VISCA output to the second camera			
	System shall have 100 camera preset positions can be stored each with a thumbnail image for easy recall.			
	Preferred Brand : Sony / Polycom / Cisco			
4	Display Device	1	Offered Make & Model :	
	Screen Sizw 70"			
	Should be Backlight LED			
	Minimum Resolution 1920 x 1080			
	Should have 16:9 Aspect ratio			
	Should be Display colours 16.7m			
	Minimum Brightness Minimum 400 cd/m			
	Minimum Contrast ratio 4000:1			
	Response time should be 8ms, gtg			
	Should support viewing angle 178 degree / 178 degree			
	Should have input VGA/HDMI/DVI/Composite/Component, Audio Video PC Audio, RS232, IR			
	Should have output DVI/RS232/Audio Line out/IR			
	Should be Inbuilt speaker 2x10w			
	Preferred Brand : Sony / Panasonic / Hyndui			
5	Central Control Unit	1	Offered Make & Model :	
	Features			
	Should Be Touch sensor button technology			
	Should support Digital signal processing			
	Should be Fanless, silent operation			
	Should have Eco standby-by mode			
	Should support Selectable voice activation (VOX)			
	Should have Fail-safe redundancy technology			
	Should be design for Default digital acoustic feedback reduction			
	Should support minmum 50 units			

	Should support Master/slave function to expand the system		
	Should support Menus and integrated LCD		
	Conectivity		
	1 Balanced XLR input		
	1 Unbalanced RCA input		
	2 Unbalanced RCA outputs		
	4 Bus connections (4 branches or 2 loops)		
	1 Lockable Power connection		
	Audio quality 16 bit digital		
	Headphone load impedance > 32 ohm < 1k ohm		
	Headphone output power 16.5 mW / 32 ohm		
	Preferred Brand : Sennheiser / Revolab / Telvic		
6	Chairman and Delegate Unite	1 and 10	
	Should have built in digital signal processing		
	Should have hygienic touch sensor technology		
	Should be shielded, GSM immune microphone		
	Should be high quality integrated loudspeaker		
	Should have headphone output		
	Should have headphone volume adjustment		
	Should have loop-through, daisy chain cabling		
	Should be fail-safe redundancy		
	Feature		
	Should be Concealed conference bus connections		
	Should have microphone LED ring		
	Should have bi-color bar indicator		
	Chairman Unit should come with a priority and next-in-line function		
	2 digital bus connections (IN/OUT - interchangeable)		
	Technical Data		
	Audio quality 16 bit digital		
	Headphone load impedance > 32 ohm < 1k ohm		
	Output power 16.5 mW / 32 ohm		
	Power Supply 48V, over Cat5 cable		
	Preferred Brand : Sennheiser / Revolab / Telvic		
7	Wireless Handheld Microphone	2	Offered Make & Model :

	Handheld system, featuring the renowned cardioid dynamic capsule for excellent feedback rejection. The handheld transmitter features an illuminated mute button, 10 hours of operation, and 960 tunable frequencies. All-metal True Diversity receiver offers intuitive scan and sync functions that ensure trouble-free operation.		
	sound to cut through high on-stage levels		
	High feedback rejection		
	Should have Mute button for full speech control		
	Should be Synchronization via RF remote channel		
	Frequencies tunable in steps of 25 kHz		
	24 MHz bandwidth		
	Should have atleast 8 frequency banks with each max 12 presets		
	Preferred Brand : Sennheiser / Revolab / Lectrosonic		
8	Microphone Mixer	1	Offered Make & Model :
	Should have Audio gain Unbalanced output: -6 dB; balanced output: 0 dB		
	Should support Frequency response 20 Hz to 20 kHz, ± 0.1 dB		
	Should have Number/signal type 4 mono, balanced/unbalanced		
	Should support $>+21$ dBu balanced, $>+15$ dBu unbalanced		
	Should support THD + Noise $<0.01\%$ @ 1 kHz, at maximum output level		
	Should have USB ports 1 front panel female mini USB B		
	Should support Crosstalk <-90 dB @ 1 kHz, fully loaded		
	Connector (6) 3.5 mm captive screw connectors, 3 pole		
	Should support Impedance $>10k$ ohms unbalanced/balanced		
	Should support $+24$ dBu, balanced, at input gain set to -3 dB		
	Should support Noise level <-120 dBV (1 μ Vrms) at 40 dB gain		
	Should support Volume range -18 dB to +80 dB, mic/line input, adjustable per input		
	Should support minimum Number/signal type 6 mono, mic/line, balanced/unbalanced		
	Should support Mic phantom power +48 VDC		
	Should support S/N >105 dB, 20 Hz to 20 kHz, at maximum output, unweighted		
	Should support conversion 24 bit, 48 kHz sampling		
	Should support Nominal level +4 dBu when level is set to 0 dB gain; adjustable from -60 dBu to +4 dBu		
	Should support Impedance 50 ohms unbalanced, 100 ohms balanced		
	Should support Gain error ± 0.1 dB channel to channel		
	Should have Serial host control port 1 bidirectional RS-232, 3.5 mm captive screw connector, 3 pole		
	Should support Baud rate 38400 baud, 8 data bits, 1 stop bit, no parity		
	Should have Ethernet port 1 RJ-45 female		

	Should support CMRR >70 dB @ 1 kHz		
	Preferred Brand : Crestron / Extron / Apart		
9	Ceiling Speaker	6	Offered Make & Model :
	Frequency range 50 Hz to 20 kHz, -10 dB, half space		
	Power capacity should be 25 W continuous pink noise		
	Should have 50 W continuous program		
	Nominal sensitivity 89 dB, 1 W, 1 m, half space		
	Nominal impedance must be 8 ohms		
	Should have Crossover frequency 3 kHz		
	Should support Nominal coverage angle 110° conical coverage		
	Should support Woofer 165 mm polypropylene cone with moisture resistant coating		
	Should have Tweeter 0.75" titanium dome		
	Should have Input connector 2 spring terminal clips		
	Baffle type Plastic, open back, infinite baffle design		
	Preferred Brand : Crestron / Extron / Apart		
10	Amplifier	1	Offered Make & Model :
	Should support Impedance >10k ohms unbalanced/balanced, DC coupled		
	Should support Nominal level +4 dBu (1.23 Vrms), balanced		
	Maximum level +20 dBu (7.75 Vrms), balanced		
	Should have Input sensitivity +4 dBu (1.23 Vrms)		
	Should have Numbers/signal type 1 stereo, 4- or 8-ohm direct		
	Should have Connectors (1) 5 mm screw lock captive screw connector, 4 pole		
	Should be impedance 4 ohms minimum		
	Should have Output power 60 watts rms per channel, 8 ohms, 1 kHz, <0.05% THD		
	Should support Frequency response 20 Hz to 20 kHz, ±1 dB		
	Should support THD + Noise 0.05% @ 20 Hz - 20 kHz, 8 ohms, at 3 dB below clipping		
	Should support <0.1% @ 1 kHz at 3 dB below clipping		
	Should support S/N 105 dB, 20 Hz - 20 kHz, unweighted		
	Should support Damping factor >100 @ 8 ohms		
	Should support 80 Hz, 12 dB per octave rolloff (switch selectable)		
	Preferred Brand : Crestron / Extron / Apart		
11	50' High speed HDMI cable	4	Offered Make & Model :
	Data rates shall Supports 4.95 Gbps		
	Color depth shall supports 24 bit (8 bits per color)		

	Vertical frequency shall supports up to 60 Hz		
	Voltage 30 V		
	Pair impedance 100 ohms ±10 ohms		
	Attenuation At 0.3 - 0.825 GHz: ≤5 dB per 6 m		
	FEXT ≥20 dB per 6 m		
	Drain wire: tinned copper		
	Jacket: PVC Conductors: tinned copper		
	25 feet and longer		
	Drain wire: tinned copper		
	Jacket: PVC		
	Conductor guage Conductors and drain wire: 22 AWG		
		Preferred Brand : Crestron / Extron / Kramer	



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ANNEXURE-B

(TO BE FILLED UP AND ATTACHED TO THE FINANCIAL PROPOSAL FOR THE BID)

TECHNICAL SPECIFICATIONS OF THE SWITCHING CONTROL DEVICES FOR THE CONFERENCE HALL AT RIS

Sr. No.	Technical Specifications	QTY	Compliance (Yes/No)	Remark
1	7x4 HD All in one Matrix Switcher within built Processor, Wireless Connectivity & Remote Viewer	1	Offered Make & Model :	
	real-time, preemptive, multi-threaded/multitasking kernel; FAT32 file system with long names			
	Memory			
	SDRAM: 32 MB			
	NVRAM: 256 KB			
	Flash: 16 M			
	Should support 10/100/1000 Mbps; auto-switching; auto- full/half duplex; TCP/IP; UDP/IP; CIP; DHCP; SSL; SNMP; IPv4;negotiating; autodiscovery; RSTP; SMTP e-mail client; Web Server			
	Should have USB service port for computer console, USB HID signal routing			
	Should support RS-232: 2-way device control and monitoring up to 115.2k baud with hardware and software handshaking			
	Should support 1-way device control via infrared up to 1.2 MHz or serial TTL/ RS-232 (0-5 Volts) up to 115.2k baud			
	Should support Auto-detecting multi-format digital/analog source inputs, 7x4 matrix switcher, HDMI, QuickSwitch HD technology			

Should support HDMI (Inputs 1-5), RGB[5] (Inputs 3-5), composite/S-Video/component (Input 5), DM 8G+/HDBaseT (Inputs 6 & 7)			
Should have HDMI (Outputs 1 & 2), HDBaseT (Outputs 3 & 4)			
Should have HDMI w/Deep Color & 3D[6], DVI[1], DisplayPort Multimode[1], HDCP content protection support, HD up to 1080i/1080p, computer up to UXGA/WUXGA, RGBHV, RGBS, RGSB, YPbPr, Y/C, NTSC, PAL			
Should support Input Resolutions, HDMI & HDBaseT, Progressive 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920 x 1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920 x 1080@60Hz (1080p60), 1920x1200@60Hz, 2048x 1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165MHz pixel clock			
Should support Input Resolutions, HDMI & HDBaseT, Interlaced 1920 x 1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock			
Should support Input Resolutions, RGB 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1152@60Hz			
Should have in built 6-channel gated mic mixer w/DSP, auto-detecting multiformat digital/analog source inputs, DigitalMedia HDBaseT inputs, 7x7 stereo source switcher, 7x4 multi-channel source switcher, analog and HDMI outputs, HDBaseT outputs, independent 6-ch mic + source mixer per output, independent stereo DSP per analog output, integrated power amplifier, digital audio pass-through mode			
Delay should be 0.0 to 85.3 ms Should support Frequency Response 20Hz to 20kHz ±0.5 dB (digital source); 20Hz to 20kHz ±0.5 dB (analog line source); 20Hz to 20kHz ±0.7 dB (microphone source)			
S/N Ratio should be >108 dB (digital source), 1 kHz, A-weighted; >103 dB (analog line source), 1 kHz, A-weighted			
Should have Stereo Separation >108 dB (digital source);>103 dB (analog source)			
Should have speaker out 4Ω/8Ω L – R: (2) 2-pin 7.62mm 15A detachable terminal blocks; 4-8 Ohm stereo speaker-level audio output; Wire Size: Terminals accept up to 14 AWG; Output Power: 20W RMS per channel stereo at 8 Ohms, 4 Ohms tolerant			
Supports up to 32 users (presentation device connections)			
Should support simultaneous display of up to four presentation sources in a quad window			
Should support up to 40 remote users to connect via a Web browser to view and save images of the presentation			

	Should be able to controls the display device over IP as part of the presentation			
	Should support communication over IP with a Control System for remote control and integration with other equipment			
	Should be support Windows XP, Vista, 7, or 8; Mac® OS X (versions 10.5 thru 10.8), Apple® iOS®, Android™			
	Should be support video 15 fps (typical) and audio			
	Should be support file formats MS PowerPoint® (.ppt, .pptx), MS Word (.doc, .docx), MS Excel® (.xls, .xlsx), PDF (.pdf), JPEG (.jpd, .jpeg)			
	Should shares a static image of any app by using the screen shot function			
	Should have HDMI®, RGB port			
	Should support HDMI, DVI ^[3] , HD video up to 1080p60, computer up to UXGA			
	Should have audio output HDMI, analog stereo			
	Should have 10/100 Mbps, auto-switching, auto-negotiating, full/half duplex, DHCP, Web server			
Preferred Brand : Extron / Crestron / AMX				
2	Communication Port Module	2	Offered Make & Model :	
	RS-232 Supports 2-way device control and monitoring up to 115.2k baud with software handshaking, IR/Serial Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0-5 Volts) up to 115.2k baud			
	RELAY 1 – 2 (1) 4-pin captive screw terminal block comprising (2) normally open, isolated relays; Rated 1 Amp, 30 Volts AC/DC; Solid-state arc suppression across contacts			
	COM (1) 3-pin captive screw terminal block, bidirectional RS-232 port; Up to 115.2k baud; software handshaking support			
	IR (1) 2-pin captive screw terminal block, IR/Serial output port; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud			
	NET (2) 4-pin captive screw terminal blocks; net slave ports, paralleled			
	NET ID (2) rotary switches for manually setting Cresnet ID; '00' setting enables touch-settable ID (TSID)			
	Power Usage 1 Watt (42 mA @ 24 Volts DC)			
Preferred Brand : Extron / Crestron / AMX				
3	Wireless Touch Panel	1	Offered Make & Model :	
	Storage shall be minimum 32GB			
	Display			
	9.7-inch (diagonal) LED-backlit glossy widescreen Multi-Touch display with IPS technology			

	2048-by-1536-pixel resolution at 264 pixels per inch			
	Fingerprint-resistant oleophobic coating			
	Support for display of multiple languages and characters simultaneously			
	Wireless and Cellular			
	Wi-Fi (802.11a/b/g/n)			
	Bluetooth 4.0 technology			
	Cameras, Photos, and Video Recording			
	Shall be 5-megapixel iSight camera			
	Shall have Autofocus			
	Shall support video recording, HD (1080p) up to 30 frames per second with audio			
	FaceTime camera with VGA-quality photos and video at up to 30 frames per second			
	Input and Output			
	Shall have 30-pin dock connector port			
	Shall have 3.5-mm stereo headphone minijack			
	Shall have built-in speaker			
	Shall have microphone			
	Audio Playback			
	Shall support frequency response 20Hz to 20,000Hz			
	Shall support audio formats supported: HE-AAC (V1 and V2), AAC (8 to 320 Kbps), Protected AAC (from iTunes Store), MP3 (8 to 320 Kbps), MP3 VBR, Audible (formats 2, 3, and 4, Audible Enhanced Audio, AAX, and AAX+), Apple Lossless, AIFF, and WAV			
	TV and Video			
	Shall support AirPlay Mirroring to TV (2nd and 3rd generation) at 720p			
	Shall support AirPlay video streaming to TV (3rd generation) at up to 1080p and TV (2nd generation) at up to 720p			
	Shall support Video formats H.264 video up to 1080p, 30 frames per second, High Profile level 4.1 with AAC-LC audio up to 160 Kbps, 48kHz, stereo audio in .m4v, .mp4, and .mov file formats; MPEG-4 video up to 2.5 Mbps, 640 by 480 pixels, 30 frames per second, Simple Profile with AAC-LC audio up to 160 Kbps per channel, 48kHz, stereo audio in .m4v, .mp4, and .mov file formats; Motion JPEG (M-JPEG) up to 35 Mbps, 1280 by 720 pixels, 30 frames per second, audio in ulaw, PCM stereo audio in .avi file format			
Preferred Brand : Extron / Crestron / AMX / MAC				
4	Lighting Control System	set	Offered Make & Model :	

	Shall be 4 channel Analog (0-10V)fluorescent dimmers which can also work as a switching module with 10A in each channel . The dimmer should be capable of dimming upto 25 nos. of dimmable ballasts with dimming range of 0-100 percent. Dimmer should be capable of incorporating sensors on the unit itself and have RS485 port. Dimmer should be programmable from a handheld device / phone. Input voltage of 230V, 50Hz.			
	Control wall station shall have 8 buttons and also to raise lower functionality. The buttons should be programmable to recall any preset scene / zone as per desired functionality.			
	Central Processor shall be for Creating Scenes and Time Control. It needs to have a capability to Integrate on IP protocol with devices like Ipad for Central control with Power supply			
Preferred Brand : Lutron / ETC / Zumtobel				
5	2x2 2.55 Watt Fluorescent Soft Light for VC with 0 to 10 volt dimming Control			
Preferred Brand : Custo Design / Actis / Decon				
6	4.5 Watt 65K LED Recessed Light			
Preferred Brand : Philips / Osram / Decon				
7	24 Watt 65K LED Down lighter 0-10v dimming control			
Preferred Brand : Philips / Osram / Decon				
8	T-5 for cove with dimmable blast			
Preferred Brand : Philips / Osram / Decon				
9	10 KVA ONLINE UPS	1	Offered Make & Model :	
	Technology			
	Shall be true OnLine UPS with double conversion technology based on Microprocessor Technology which makes it intelligent and robust to keep critical systems running .			
	Features Desired			
	Shall inbuilt isolation transformer at output for ensuring pure and steady sine wave output independent of the incoming disturbances from the mains to the load			
	Shall be fully Automatic control for Battery low, Auto restart, Auto recovery from mains, Under voltage and Over voltage trip, Automatic return from bypass on recovery from overload requires no manual attention.			
	Shall have ready status and Fault diagnostics with LED display.			

	UPS should have cold start facility on full load so that UPS can be switched ON directly from the battery.		
	Shall support input Voltage 165-265V AC		
	Shall support input frequency range 50 Hz +/- 6%		
	Shall have input Power Factor ³0.8		
	Shall have Output Voltage 230VAC ± 2%, Single phase		
	Output Frequency 50Hz ± 0.5 free run		
	Inverter Overload 150% for 5 seconds		
	Output Transient response for 100% step load variation : Voltage dip/rise less than +/- 10% and recovery within 20 milliseconds		
	Output Overall AC to AC efficiency ≤ 83%		
	Output Harmonic distortion < 3% on linear load & <5% on Non linear Load		
	Wave form Pure sine wave		
	Output Power factor 0.7		
	Cooling Forced Air		
	UPS shall support the static switch automatically transfer the A.C. load directly to the AC line in less than ¼ cycle. During failure		
	Battery shall be Lead acid sealed maintenance free		
	Min. VAH Desired 12480		
	Protections Desired		
	Input Over/ Under voltage		
	Output Over/Under voltage		
	Battery Under voltage		
	Output overload / short circuit		
	Over temperature		
	Communication Computer interface Communication through RS232 and intelligent communication interface.		
	Credentials Manufacturer should be ISO 9001: 2000 certified, Manufacturer should be ISO 14001 certified		
	CERTIFICATIONS IS 62040		
Preferred Brand : D B Power / Emerson / Tritronics			
10	15' Ultra High speed HDMI cable		Offered Make & Model
	Should Supports 10.2 Gbps		
	Should Supports 48 bit (16 bits per color)		
	Frequency supports up to 120 Hz		
	Voltage 30 V		
	Pair impedance 100 ohms ±10 ohms		
	Attenuation At 0.3 - 0.825 GHz: ≤5 dB per 3 m		

	FEXT ≥ 20 dB per 3 m		
	Connector 1 male type A HDMI to 1 male type A HDMI		
	Contacts Gold plated		
	Material Conductors: tinned copper, 30 AWG		
	Drain wire: tinned copper, 32 AWG		
	Shielding: fluorocopolymer tape binder, tinned copper braid		
Preferred Brand : Crestron / Extron / Kramer			



Annexure-C

(To be attached with the bid proposal, along with monetary value for each section)

TECHNICAL SPECIFICATIONS FOR THE INTERIOR OUTFIT WORKS FOR THE CONFERENCE HALL AT RIS

S. No.	Particulars	Unit	Qty
1	Dismantling work		
a	Existing part Partitions		
b	Part False ceiling		
c	Existing Woodwork if any		
d	Existing Storages if any		
e	Miscellaneous dismantling		
f	Disposal of debris	L.S	1
2	Wall Panelling		
a	Construction of dry wall partition over existing partition as required. Providing and fixing in position wooden framework (rough ground) made of hardwood (sal/hollock/mirandi or equivalent) 2" x 2" and covering the same with 12mm thk ply & 4 mm thk veneer ply of approved shade with melamine polish including all necessary hardware fixtures & fittings.	Sq.Ft	1195
3	Flooring		
a	Providing & fixing of wooden laminate flooring with length of plank ranging from 1215 mm - 1285 mm, width 186-192 mm, thickness 8.3 mm, with armalock locking system. Having wood grained embossed finish/diamond smooth finish with 8.22% of thickness swelling and 2.62N/mm sq.of surface sound fitted in to place with under layer of foam and plastic sheet along with multi purpose reducer and skirting	Sq.Ft	1100
	Preferred Brand : Egger / Armstrong / Pergo		
4	False Ceiling		

	a	Providing & Fixing Suspended false ceiling consisting of 12.5mm thk gypsum plaster board suspended on GI frame work. GI framework to consist of GI perimeter channels along perimeter of false ceiling of ceiling, screw fixed to walls/ partition with nylon sleeves and screws @600mm c/c. Suspending GI intermediate channels from the soffit with ceiling angle fixed to soffit using GI cleat and steel expansion fasteners. Ceiling section, flanges and lips are fixed to perpendicular to intermediate channel using connecting clips 12.5mm tapered edge plaster board is screw fixed to ceiling section with drywall screws. Boards to be finished with jointing tape & compound, sandpapered for a smooth finish with gypboard primer to be applied to finished surface. Design of the ceiling will be finalised at the time of execution of the work	Sq.Ft	250
5		Conference Table		
	a	U' shaped Veneer Finish Table - The table Will have a matte surface, Light Oak is recommended, but should be no darker than a medium teak.No bright or metal finishes on table. The table will have electrical provisions, cable concealing and cable cubby as per requirement, to accommodate 21 to 25 chairs around the table	Nos.	1
6		Finishes		
	a	Plastic Emulsion on the ceiling	Sq.Ft	1000
7		Storage		
		Renovation of existing wooden long storage unit along the side of the room of commercial board & ply , veneer with melamine polish finish with all necessary hardware, fixture & fittings as per room decor	Sq.Ft	26
8		Doors & Windows		
	a	Renovation of existing doors with 12mm thk ply & 4 mm thick veneer ply of approved shade with melamine polish including all necessary hardware fixtures & fittings.	Nos	2
	b	Window covering with Roller or vertical blinds	Sq. Ft	48