

WEBEL TECHNOLOGY LIMITED

Corrigendum – I

WTL/PWD/VC/19-20/001 dated 08.04.2019

Sl. No.	Section	Clause No.	Page No.	Present Entry	Replace with
1	H	-	25-26	As detailed	Revised Bill of Material is enclosed marked as Annexure - I
2	I	-	27-40	As detailed	Revised Technical Specification with Compliance Statement is enclosed marked as Annexure - II
3	M	-	45	As detailed	Revised Manufacturer's Authorisation Form is enclosed marked as Annexure - III
4	B	4	8	The bidder must submit the installation/ completion report of at least one Project of Audio-Visual and Video Conference integration work in PWDroom/ boardroom/ meeting room/ Court room environment of minimum value of Rs.88.00 lakhs or two projects of Audio-Visual and Video Conference integration work in PWDroom/ boardroom/ meeting room/ Court room environment of minimum value of Rs.44.00 lakhs each for any Central / State Government/ PSU Organization / Private Sector in India in the PWD three financial years (FY- 2015-16, 2016-17 & 2017-18). Self Attested Photocopy of Work Orders to be submitted along with installation/ completion certificate from concerned authority.	The bidder must submit the installation/ completion report of at least one Project of Audio-Visual and Video Conference integration work in boardroom/ meeting room/ Court room environment of minimum value of Rs.88.00 lakhs or two projects of Audio-Visual and Video Conference integration work in boardroom/ meeting room/ Court room environment of minimum value of Rs.44.00 lakhs each for any Central / State Government/ PSU Organization / Private Sector in India three financial years (FY- 2015-16, 2016-17 & 2017-18). Self Attested Photocopy of Work Orders to be submitted along with installation/ completion certificate from concerned authority.
5	B	7	8	Tender specific Manufacturer's Authorizations of the items must be submitted as per format (Section - I), without which the offer will be treated as non-responsive and summarily rejected.	Tender specific Manufacturer's Authorizations of the Video Conferencing items must be submitted as per format (Section - M), without which the offer will be treated as non-responsive and summarily rejected

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Annexure – I

SECTION – H BILL OF MATERIAL

Sr. No	Product Description	Quantity	Unit
A	Supply Items		
1	75" inch UHD LED Display as per specification (Make: LG / NEC / BARCO)	2	No.
2	55" inch LED Display along with TV trolley with Castor wheels as per specification (Make: LG / NEC / BARCO)	4	No.
3	43" inch LED Display as per specification (Make: LG / NEC / BARCO)	2	No.
4	8x8 4K HDMI Matrix Switcher as per specification (Make: AMX, Crestron, Aten, Extron)	2	No.
5	Audio de embedder as per specification (Make: AMX, Crestron, Aten, Extron)	2	No.
6	HDMI HDBaseT Extender 4K@100m as per specification (Make: AMX, Crestron, Aten, Extron)	8	No.
7	HDMI & VGA HDBaseT Transmitter as per specification (Make: AMX, Crestron, Aten, Extron)	4	No.
8	HDMI HDBaseT Receiver with POH as per specification (Make: AMX, Crestron, Aten, Extron)	4	No.
9	Recording, Streaming and Webcasting system as per specification (Make:Lumens/Extron/Crestron)	2	No.
10	HD PTZ camera as per specification (Make: Lumens/Extron/Crestron)	5	No.
11	Full HD Desktop document camera as per specification (Make: Lumens/Wolfvision)	2	No.
12	Video Conferencing Unit as per specification (Make: Polycom/Cisco/Lifesize)	2	No.
13	Software based Multi party conferencing bridge for video conferencing (Make:Polycom/Cisco/Lifesize)	1	No.
14	Digital Signal Processor with Acoustic Echo Cancellation (AEC) technology as per specification (Make: Polycom/Biamp/Extron)	2	No.
15	Ceiling mount Microphones as per specification (Make: Polycom/Cisco/Lifesize)	5	No.
16	Wireless Handled Microphone as per specification (Make: Sennheiser/AKG/Beyerdynamic)	2	No.
17	Wireless Lapel Microphone as per specification (Make: Sennheiser/AKG/Beyerdynamic)	2	No.
18	Gooseneck Mic LED with Base stand with Switch as per specification (Make: Sennheiser/AKG/Beyerdynamic)	2	No.
19	Multichannel Amplifier as per specification (Make: Crown/Apart/Biamp)	2	No.
20	Line Array Column Loudspeaker as per specification (Make: JBL/Tannoy/Apart)	10	No.
21	Audio Visual Controller (Make: Aten/ Crestron/AMX)	2	No.
22	IR probes as per specification (Make: Aten/ Crestron/AMX)	14	No.
23	Ipad Touch Interface, and required software as per specification	2	No.

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	(Make: Apple / Wacom)		
24	Wireless router cum mini switch as per specification (Make: Netgear / Dlink / Tplink)	2	No.
25	HDMI Cable as per specification (Make: Extron/Aten/Purelink)	41	No.
26	VGA with Audio Cable 15-pin HD Male to Male Molded - 6' (1.8 m) (Make: Extron/Aten/Purelink)	4	No.
27	Serial Control/Audio Cable - 1,000' (305 m) spool (Make: Extron / Aten/ Kramer)	2	No.
28	16 AWG Speaker Cable - 1,000' (305 m) spool spool (Make: Extron / Aten/ Kramer)	8	No.
29	Cat6 control Cable (305 m Box) (Make: Molex/Dlink/Amp)	4	No.
30	Connectors, conduits and accessories	2	Lot
31	15" AV Rack with 2 trays, 2 power strip and castor wheels as per specification (Make: Valrack / Netrack / APW)	2	No.
32	2 KVA UPS (MAKE: APC, VERTIB, EMERSON, SWITCHING AVO)	2	No.
33	8 Port Switch (Make: CISCO, ZUNIFER< ATEN)	2	No.
B	Installation & commissioning work, and facility management services		
34	Installation, Programming & Commissioning	1	Lot
35	Facility Management Service for 1 year (8hrsx5days basis) on site one manpower for each location - Total two locations	1	Lot
36	Local Networking of 4 nos. desktops at each location	1	Lot
37	4 Mbps Leased Line (Dedicated) for connecting two sites for three years	1	Lot

Bill of quantity may change at the time of ordering of Purchase Order. Detailed Technical Specifications are given in Section - I

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Annexure - II

SECTION - I

TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT

(Tender No. WTL/PWD/VC/19-20/001)

Minimum Specifications for 75" inch LED Display			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
	The display will be mounted on wall. In case space is not available, mounting arrangement shall be from ceiling. Bidders are advised to visit site.		
Screen Size	75 (190.5 cm)		
Aspect Ratio	16:09		
Brightness	350cd/m2		
Panel Technology	IPS		
Native Resolution	3840 x 2160 (UHD)		
Viewing Angle (HxV)	178 x 178		
Contrast Ratio	1,200:1		
Power Consumption (Typical Mode)	240W or Less		
Input	HDMI, DP, DVI-D, Audio, USB 3.0, SD Card		
Output	DP, Audio		
External Control	RS232C, RJ45, IR Receiver, Pixel Sensor		

Minimum Specifications for 55" inch LED Display along with TV Trolley with castor wheels			
Quantity	4 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Screen Size	55 (139 cm)diagonal		
Aspect Ratio	16:09		
Brightness	350cd/m2		
Panel Technology	IPS		
Native Resolution	1920 x 1080 (FHD)		
Viewing Angle (HxV)	178 x 178		

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Contrast Ratio	1,100:1		
Power Consumption (Typical Mode)	70 W or Less		
Input	HDMI(2), DP, DVI-D, Audio, USB 3.0, SD Card		
Output	DP, Audio		
External Control	RS232C, RJ45, IR Receiver, Pixel Sensor		
TV Trolley	Heavy duty steel capable of supporting the heaviest screen of 55 " inch display with floor mount arrangement along with castor wheel. Universal screen interface Fixing: Suitable for above display		

Minimum Specifications for 43" inch LED Display on Table			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Screen Size	109cm (43)		
Aspect Ratio	16:09		
Brightness	350		
Panel Technology	IPS		
Native Resolution	1920X1080		
Viewing Angle (HxV)	178x178		
Contrast Ratio	1,100:1		
Power Consumption (Typical Mode)	60 W or Less		
Input	HDMI(2), DVI-D, RGB, Audio		
Output	Audio		
External Control	RS232C in/out, RJ in, IR Receiver, USB		
Minimum Specifications for 8x8 4K HDMI Matrix Switcher			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Video Input & Output Impedance	100 Ω		
Max. Data Rate	10.2 Gbps (3.4 Gbps Per Lane)		
Max. Pixel Clock	340 MHz		
HDMI (3D, Deep Color) and HDCP compatible	Yes		

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Max. Resolution	Up to 4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0); 4096 x 2160 / 3840 x 2160 @ 30Hz (4:4:4)		
Operating Temperature	0-50°C		
Storage Temperature	-20 - 60°C		

Minimum Specifications for Audio De-embedder			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Max. Data Rate	6.75 Gps (2.25 Gbps Per Lane)		
Max. Pixel Clock	225 MHz		
Compliance	HDMI (3D, Deep Color)		
	HDCP Compatible		

Minimum Specifications for HDBaseT Extenders			
Quantity	8 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Max. Data Rate	10.2 Gbps		
Max. Pixel Clock	Up to 340 MHz		
Max. Resolutions / Distance	Up to 4K@70m (Cat 5e/6) / 100m (cat 6a); 1080p@100m		
	4096 x 2160 / 3840 x 2160 @ 60Hz (4:2:0); 4096 x 2160 / 3840 x 2160 @ 30Hz (4:4:4)		
RS-232	1 x Terminal Block, 3 Pole		
IR	2 x Mini Stereo Jack Female (Black)		

Minimum Specifications for HDBaseT Transmitter			
Quantity	4 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Interfaces	1 x HDMI Type A Female & 1 x HDB-15 (VGA)		
Max. Data Rate	10.2Gbps (3.4Gbps per lane)		
Impedance	HDMI: 100 Ω, HDB-15 (VGA): 75 Ω		

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Max. Pixel Clock	340 MHz		
Max. Resolutions / Distance	HDMI: Up to 4K@70m (Cat 5e/6) / 100m (Cat 6a); 1080p@100m (Cat 5e/6/6a)		

Minimum Specification for HDBaseT receiver with POH			
Quantity	4 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Interfaces	1 x HDMI		
Max. Data Rate	10.2Gbps (3.4Gbps per lane)		
Max. Pixel Clock	340 MHz		
Compliance	HDMI (3D, Deep Color, 4K		
Max. Resolutions / Distance	Up to 4K@70m (Cat 5e/6) / 100m (Cat 6a); 1080p@100m (Cat 5e/6/6a)		

Minimum Specifications for Recording, streaming and webcasting system			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Recording Options	Capture from Multiple Sources and able to record and Stream up to min four full motion HD Videos simultaneously in one frame up to 1080p resolution. Multiple encoding rates, Multiple frame rates, Auto Logo Insertion during recording.		
Streaming Options	Webcast, Unicast and Multicast		
Audio Only Encoding Formats	AAC		
Video Inputs	HDMI/VGA/RJ-45		
Input Channel	HDMI / VGA/ IP for Laptop, Visualizer and Cameras with 4 channel synchronized recording.		
Audio Input	Line In, Mic and 3.5 mm Stereo		
Video Processing	At different frame rates up to 30 fps; Multiple Bit Rate from 64kps to 24Mbps in Full HD Resolution of 1080p		
Output Channel	HDMI/VGA		
Storage	In-built Storage of min 1 TB		
Stored File Format	AVI / MPEG4		
Remote Storage	Yes FTP protocol		
Streaming formats	RTP and RTMP		

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Display Output	Full Screen, Picture in Picture, Multi-channel split screen.		
Lecture Editing	Through Web-based back stage and Post Lecture Index Editing		
Operation Control	Through Remote Control and web based control interface		
External Control	RS-232 Interface Port		

Minimum Specifications for Full HD PTZ Camera			
Quantity	5 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Sensor	1/3" 2 MP CMOS		
Optical Zoom	Min. 20X or More		
Panning Angle	+170 ~ -170°		
Tilting Angle	+90 ~ -30°		
Preset Positions	Min. 100		
Video Output (HD) Interface	Ethernet, HDMI, 3GSDI		
Video Output	1080p 60/50 fps, 1080i 60/50 fps, 1080p 30/25fps, 720p 60/50fps, 720p 30/25fps, NTSC/PAL		
Camera Control Interface/Protocol	RS-422 / RS232 / Ethernet		
Video S/N Ratio	> 50dB		
Shutter Speed	1/1~1/10,000		
Focal Length	f=5~50 mm		
Horizontal Viewing Angle	56.5°		
Aperture	F1.8~3.0		
Minimum Illumination	Min. 5lux		
Minimum Object Distance	100(Wide)~1000(Tele) mm		
Digital Zoom	12x		
Gain Control	Auto/Manual		
White Balance	Auto, Indoor, Outdoor, One-Push, Manual		
Exposure Control	Auto, Manual		
Focus System	Auto, Manual		
Image Flip	Required		

Minimum Specifications for Full HD Desktop document camera			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Pick-up Device	CMOS		

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Output Resolution	SXGA (1280x 1024), WXGA (1280 x 800), 1080p		
Frame Rate	30 frames/sec.		
Min Capture Area	Min 400 x 300 mm		
Zooming	Min 20X Optical Zoom and 12 X Digital Zoom		
Lamp	Top Light: Gooseneck LED x 2. Built-in Back Light for negatives and slides.		
Built in Storage	Min 200 frames		
External Storage	Supports USB drive up to 4 TB		
Image Capture	Single or continuous capturing images (time lapse photography)		
Picture by Picture	Yes		
Recording	One touch Video / Audio recording in standalone mode with built-in microphone.		
Image Rotation:	0, 180, mirror, flip.		
Slide Show	For continuous image playback (auto or manually)		
Focusing, White Balance and Exposure	Auto / Manual		
Annotation	Yes, Connecting by USB Mouse without PC		
Inputs	VGA Input HD-SUB 15 Pins Female x 1		
	HDMI x 1		
	Audio In x 1		
	Built in MIC x 1		
Outputs	VGA Output HD-SUB 15 Pins Female x 2, HDMI x 1, Composite Video x 1, USB 2.0 High Speed x 1, RS232 x 1, Audio out x 1		

Minimum Specifications for Video Conferencing unit			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Package	Full HD 1080p camera, Full HD 1080p Codec, Microphone, Cables, and Wireless Remote Control		
Protocols	H.323 and SIP Compliant		
	H.261, H.263, H.264, RTV. The system should support higher Video Compression protocols such as H.264 High Profile/H.265. The system should support G.711, G.722, G.722.1, G.728, G.729A audio protocols		
	H.239, BFCP. H.263 & H.264 Video error concealment. H.281 far end camera control		
Video Inputs	It should have 2 x Full HD Camera Interface.		
	It should have another inbuilt 3 x HDMI/DVI/VGA port for PC, Document Camera etc.		
Video Outputs	It should have at least 3 x HDMI/DVI ports to connect displays.		

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Main Video Resolutions	Shall work in high definition video resolution of 1080p60fps for live video for both Transmit and receive		
Content Resolutions	The system should support 1080p60fps content along with 1080p60fps Main Video		
Camera	Full HD 1080p 60 fps		
	1280 x 1080p CCD/CMOS imager, Zoom - 10x Optical Zoom or more		
	Field of View - 65 Degrees or Higher Horizontal FOV and 38 Degrees or Higher Vertical FOV		
	It should be capable of enhancing video conferencing experience (by adding additional hardware/software in future) with advanced speaker-tracking technology from the same OEM such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the speaker during a call without any manual intervention.		
Audio Inputs	It should support minimum 4 nos. of Omni Directional ceiling Microphones either directly or through array.		
	It should have additional Audio Input for PC Audio		
Audio Outputs	It should have at least 1 x HDMI port		
	It should have at least 1 x 3.5mm/RCA Stereo Line-Out port		
Network	Should have 100/1000 Mbps auto speed Ethernet port		
	Support Data Rate of 6 Mbps or more on IP (H.323 and SIP)		
Multipoint	The system should support 7 more locations all with HD 720p resolution (1+7) using the in built capability from day 1.		
Other Ports	Serial/Ethernet control port for integrating with external control system and minimum 2 USB ports.		
Other Features	Should work with IPv4 and IPv6 addressing schemes		
	Should support QOS (Quality of Service) definitions		
	Should support content sharing over network as well as with directly connecting cable		
	Should support native integration with Skype for Business and Lync.		
	Global Directory / Centralized directory support		
Power	Should operate on 230v, 50 Hz Power supply, Auto sensing power supply		

Minimum Specification for Software based Multiparty conferencing bridge for video conferencing	
Quantity	1 Nos.
Make	

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Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
	Software based multiparty video conferencing license with minimum 5 concurrent users		

Minimum Specification for Digital Signal Processor with acoustic echo cancellation (AEC technology)			
Quantity	2 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
	Stereo Acoustic Echo Cancellation (AEC) – product should support both monaural and stereo echo cancellation from 20Hz to 22 kHz – AEC.		
	Support feedback elimination		
	Support matrix architecture – Connect multiple units together to create larger systems without the limitations of traditional bussing		
	Conferencing features should be available on all inputs.		
	Must support Gain sharing automatic microphone mixer		
	Must support Modular dual-line PSTN, or VoIP telephony cards. Frequency response supported – 100 Hz – 20 kHz, Codecs supported: G.711 (A-law and μ -law), G.729AB, G.722, G.722.1, and G.722.1C. SIP protocol support.		
	Fully integrated with video conference solution requested in the RFP.		
	Must support Flexible support of logic inputs (contact closures) and logic outputs - - For push-to-talk microphones and other applications		
	Must support Password protection – Prevent unauthorized users from accessing, controlling or making changes to the system		
	Compatible with both Ceiling Microphone arrays and traditional analog microphones		
	Support simple-to-use interface for volume control, muting, and dialing of DSP through touch control from same OEM.		

Minimum Specification for Ceiling Mount Microphone	
Quantity	5 Nos.

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Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
	Ceiling mount Microphones to the accused area. These microphones will be fixed on ceiling (may be suspended from ceiling with GI rods/ channel etc.) and positioned in such a manner that no one can tamper/ destroy or damage them physically		
	360-degree directional pickup		
	Three cardioid elements per microphone – elements spaced 120 degrees apart		
	Each Ceiling Microphone Array covers a 24' diameter		
	Total coverage area for a single Ceiling Microphone Array is 400 square feet		
	Dynamic microphone steering		
	Full-duplex digital audio		
	Instant adaptation echo cancellation		
	Automatic noise suppression (ANS)		
	Automatic gain control (ACG)		
	Should also be able to directly integrate with the video conference device.		
	Supports stereo audio technology		
	Electronics enclosure with ceiling mounting hardware (UL 2043 compliant and suitable for use in air-handling spaces)		
	Minimum cable distance to the primary (first) electronics box should be 100'		
	Ceiling microphone must be from the same OEM as of DSP.		

Minimum Specifications for Wireless Handled Microphone			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
	Audio frequency response: 100Hz to 14kHz.		
	Input voltage range: -18dBu to +18dBu (XLR In).		
	Maximum output level +10dBV with a signal-to-noise ratio of > 80dB A-weighted at +18dBV.		
	Total harmonic distortion < 0.01% A-weighted at +6dBV In and Out.		
	Power consumption shall be 245W;		

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Operating temperature shall be +5°C to +50°C.		
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Minimum Specifications for Wireless Lapel Microphone		
Quantity	2 Nos.	
Make		
Model		
Part No.		
Item Description	Offered Spec	Complied (Yes/No)
Frequency range: 470 - 516 MHz, 516 - 558 MHz , 734 - 776 MHz		
Total harmonic distortion: $\leq 0.9\%$		
Signal-to-noise ratio: ≥ 110 dBA		
Total harmonic distortion $< 0.01\%$ A-weighted at +6dBV In and Out.		
Switching bandwidth: up to 42 MHz		
operating temperature shall be +5°C to +50°C.		
Peak deviation: ± 48 kHz		
Nominal deviation: ± 24 kHz		
Modulation: Wideband FM		
Current consumption: 300 mA		
Adjacent channel rejection: Typically ≥ 65 dB		
Intermodulation attenuation: Typically ≥ 65 dB		
Receiving frequency: Max. 1680 receiving frequencies, adjustable in 25 kHz steps 20 frequency banks, each with up to 12 factory-preset channels, no intermodulation 1 frequency bank with up to 12 programmable channels		
RF sensitivity: $< 2.5 \mu\text{V}$ for 52 dBA Receiver Principle: True diversity; Blocking: ≥ 70 dB		

Minimum Specification for Specification for Gooseneck Mic		
Quantity	2 Nos.	
Make		
Model		
Part No.		
Item Description	Offered Spec	Complied (Yes/No)
Acoustics: cardioid		
Frequency response: 50 Hz - 20 kHz		
Nominal impedance: < 100 Ohm		
Maximum sound pressure level: 130 dB SPL		
Equivalent noise level: 26 dB (A)		
weighted as per CCIR 468-3: 37 dB		

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	Phantom powering:.P12 - P48 V		
	Current consumption microphone:3 mA		
	Connectivity: XLR 3M		
	Weight:.147 g (4,72 oz)		
	Length:450 mm (17,72")		
	Diameter:8 mm (0,31")		
	Operating temperature:0 ...+40°C		
	Coating: .matte black		
	Delivery includes: MEG 14-40 B		
Specification for Base stand with switch of Gooseneck Mic	Dimensions:120 x 170 x 43 mm (BTH / WDH)		
	Connector: Mic in: XLR-3F		
	Connector: Mic out: XLR-3M		
	Connector: Logic: clip contact for logic, Pin assignment: trigger signal at the logic connector: Logic in (external LED control), GND, Logic out (switch signal)		
	Weight:1210 g		
	Phantom powering: P 24 - P 48		
	Operating temperature:-10° - +50°C		

Minimum Specifications for Multichannel Amplifier			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
channels	Current consumption:3.7 mA		
Sensitivity			
Rated Power Output (all channels driven)	Output voltage: Logic out: high level output voltage > 2.4 V, low level output voltage < 0.4 V		
THD (full rated power, 20 Hz - 20 kHz)	Output voltage: Logic in: high level input voltage > 2.0 V, low level input voltage < 0.8 V		
Intermodulation Distortion (from 0 dB down to -30 dB)	< 0.05%		
Frequency Response (at 1W, 4/8 ohms)	+/- 0.5 dB		
Crosstalk (below rated power) 20 Hz to 1 kHz	> 70 dB		

Minimum Specifications for Line Array Column Loudspeaker	
Quantity	10 Nos.
Make	

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Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
Frequency Range (-10 dB)	80 Hz – 20 kHz		
Sensitivity (2.83V@ 1m)	93 dB (speech mode, 2 kHz - 14 kHz), 89 dB (music mode, 300 Hz - 18 kHz)		
Nominal Impedance	8 Ohms		
Power Capacity	150W (600W peak),100 W (400W peak)		
70V/100V Transformer Tap	60W, 30W, 15W, (7.5W at 70V only), and 8 thru, via switch		
Coverage Pattern	Vertical 20° (1.5 kHz - 16 kHz, ±10°),Horizontal 150° (ave, 1 kHz – 4 kHz, ±20°)		

Minimum Specifications for Audio Visual Controller			
Quantity	2 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
Controller Management	Web based control		
Control app support	iPhone®, iPad®, and Android™		
IR - SERIAL OUTPUT	8-pin 3.5 mm detachable terminal blocks		
RELAY OUTPUT	8-pin 3.5 mm detachable terminal blocks;		
COM Port	Minimum 4 numbers required		
LAN	RJ45 jack; 10Base-T/100Base-TX Ethernet port		

Minimum Specifications for IR Probes			
Quantity	14 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
Features-1	IR (infrared) emitter probe should be designed to adhere directly over the IR sensor window of a television, DVD player, or any other IR controllable device.		
Feature-2	A LED should flash to indicate that IR emitter is transmitting.		

Minimum Specifications for IPAD Touch Interface			
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Quantity	2 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
	Should be minimum 10" diagonal Touch-screen or better		
	Should include appropriate mounting bracket		
	Should include iPad, Lightning to USB Cable and USB Power Adapter		
	iOS operating system & should have built in 32GB space (Latest version)		

Minimum Specifications for Wireless Router cum mini Switch			
Quantity	2 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
	300Mbps Wireless N Router for interruption sensitive applications like HD video streaming		
	Minimum Two antennas		
	Wireless security encryption at a push of WPS button		
	Compatible with IPv6		

Minimum Specifications for HDMI Ultra-Flexible Cable - 6' (1.8 m)			
Quantity	41 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
Feature-1	4K Premium High Speed HDMI Ultra-Flexible Cable - 6' (1.8 m)		

Minimum Specifications for VGA with Audio cable			
Quantity	4 Nos.		
Make			
Model			
Part No.			
	Item Description	Offered Spec	Complied (Yes/No)
Feature-1	VGA with Audio Cable: 15-pin HD Male to Male Molded - 6' (1.8 m)		

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Minimum Specifications for Serial Control/Audio Cable - 1,000' (305 m) spool			
Quantity	2 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Feature-1	Serial Control/Audio Cable - 1,000' (305 m) spool		

Minimum Specifications for 16 AWG Speaker Cable - 1,000' (305 m) spool			
Quantity	8 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Feature-1	16 AWG Speaker Cable - 1,000' (305 m) spool		

Minimum Specifications for Cat6 control Cable (305 m Box)			
Quantity	4 Nos.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Feature-1	CAT6 UTP 4 Pair PVC cable		

Minimum Specifications for Connectors, conduits and accessories			
Quantity	2 Lot.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Feature-1	Compatible connectors necessary as required. Conduits and accessories as per requirement.		

Minimum Specifications for 15" AV Rack with 2 trays, 2 power strip and castor wheels			
Quantity	2 Nos.		
Make			
Model			

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Part No.			
Item Description		Offered Spec	Complied (Yes/No)
	Enclosure Type: Floor mount Side Integrated castor wheel		
	Weight Capacity: Load Capacity of up to 70 Kg.		
	Enclosure: Rack Robust and consist of standardized multifold, welded and powder coated sheet steel frame structure integrated with top, bottom, front and two side panels.		
	Front Door: Glass		
	Horizontal Cable Manager: 19"Horizontal sheet steel powder coated texture finish cable manager with PVC cable loops		
	Equipment Shelf: Front mounted vented 1U Cantilever Tray 4 nos.		
	Earthing Strip: Copper bare finish Earthing strip provided for achieving electrical ground		
	Measurement: 15U 600W x600D		
	Required PDU and 2 nos. of FANs		

Minimum Specifications for Installation & commissioning work			
Quantity	1 Lot.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Feature-1	Installation, Programming & Commissioning		

Minimum Specifications for facility management services			
Quantity	1 Lot.		
Make			
Model			
Part No.			
Item Description		Offered Spec	Complied (Yes/No)
Feature-1	Facility Management Service for 1 year (8hrsx5days basis) on site one manpower for each location - Total two locations		

Specification of UPS	
Quantity	2 Nos.
Make	
Model	
Part No.	

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Item Description		Offered Spec	Complied (Yes/No)
Input Characteristics			
Nominal Input Voltage	230Vrms		
Nominal Input Frequency	50Hz.		
Input Power Factor	0.99		
Type of Rectifier	IGBT Based PWM Rectifier		
Input Voltage Range	110 Vac to 280 Vac.		
Voltage Detection Tolerance $\pm 3\%$ Calibration	$\pm 3\%$ Calibration		
Input Frequency Range	40-70Hz		
Inrush Limitation	7*IRMS_Nom		
Current Protection	With Fuse.		
Battery Parameters			
Charging Method	Constant voltage constant current (CVCC)		
Charging current Capacity	1/2/4/6 Amps settable.		
Number of Batteries	6 Nos.		
VAH require for backup	min 3024 VAH		
Maximum Battery Leakage Current	500uA		
External Battery Charger	12 Amps with Capable of paralleling with Inbuilt Charger.		
Charge Voltage Accuracy	$\pm 1\%$		
Output Parameters			
Load power factor	0.8		
Nominal Output voltage	208/220/230/240VAC Settable		
Output Frequency	Frequency Range (Batt. Mode): 50 Hz \pm 0.1 Hz ; Frequency Range (Synchronized Range): 46Hz ~ 54 Hz @ 50Hz system		
Output Waveform	Pure sine wave		
Total Harmonic distortion (THD)	Less than 3% for Linear Load and Less than 6% for RCD Load		
Inverter	IGBT based PWM with Instantaneous Sine wave control		
Power Rating	2kVA/1.6kW		
Dynamic response	IEC62040-3 Classification 1		
Crest factor	3:1		
Duty.	Continuous duty		
Overload Capacity	AC mode:105%~110%: 10min, 110%~130%: 1min, >130% : 1sec;		
Frequency synchronization Band for Static. Bypass			

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Transfer (Inverter to Bypass)	0 ms		
Retransfer (Bypass to Inverter)	0 ms		
Automatic Bypass	Inbuilt		
Efficiency Battery mode	87%		
Overall efficiency (AC to AC)	88%		
Miscellaneous Function			
Intelligent Fans Speed Control	Yes.		
Auto Restart Function	Yes.		
Physical and Environmental Characteristics.			
Acoustic Noise Level	Less than 58dB @ 1 Meter		
Ambient Temperature	0 - 40 Deg C		
Storage Temperature	-15°C~60°C		
Humidity	<95 % and non-condensing		
Altitude	<1000m		
Enclosure Protection Grade	IP 20		
Cooling	Forced Air		
Metering (Digital display)			
Input voltage	Advanced LCD based Display System, able to monitor Input Voltage/Battery Voltage/Output Voltage/Output Frequency/Input Frequency/Ambient Temperature.		
Battery voltage			
Output voltage			
Output current			
Output frequency			
Input Frequency			
Heat sink temperature			
Fault indicated on Digital Display Alarms	LED indication display		
input fail	Input fail, Battery Low, Transfer to bypass and system fault alarms Inbuilt and accessible on LCD Display.		
Battery Low			
Transfer to bypass and system fault			
LED Indications	Overload/Short Ckt/Battery Deep Discharge/Low Battery/Reverse Battery/Inverter Current Limitation/Over Temperature/Output Overvoltage.		
Protection			
Optional features	RS 232 communication port for interfacing, Remote monitoring		
Standards			
Low freq Conducted disturbance	IEC61000-2-2		
Other Standards			
Continuous	IEC 61000-4-3		

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Electromagnetic Susceptibility			
Electrical Fast Transient Compatibility	IEC 61000-4-4		
Surge	EN 61000-4-5: 2005		
CRFI	IEC61000-4-6		
Magnetic Field Immunity	IEC 61000-4-8		
Voltage dips and interrupts	IEC61000-4-11		
Transportation	IEC 60068-2-32,IEC 60068-2-64,IEC 60068.2-27		
Protection	IP-20		
Features			
Temperature Compensated battery Charging	Yes		
External Charger Compatibility	Yes		
Operating Temperature	0 to 50 Degree Celsius with Temperature Deration factor		
4-Stage Charger Design	Yes		
Intelligent Deep Discharge Protection	Yes		
Intelligent Fan Speed Control	Yes		

Minimum Specifications for Switch		
Quantity	2 Nos.	
Make		
Model		
Part No.		
Item Description	Offered Spec	Complied (Yes/No)
8 port 10/100/1000 layer 2 managed switch with minimum one SFP port		

- Bidder should submit all relevant data sheet/brochure of all quoted items and should also available in respective OEM's official website.
- Bidder should indicate items mentioned in the OEM data sheet / brochure by marketing as mentioned in minimum specification in the RFP

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____

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Annexure - III

SECTION – M

MANUFACTURER'S AUTHORIZATION FORM

Date:

To
Webel Technology limited
Plot-5, Block-BP, Sector-V
Salt Lake
Kolkata-700 091

Ref: Tender No.: WTL/PWD/VC/19-20/001 dated 08/04/2019

WHEREAS _____ who are official producers of _____ and having production facilities at _____ do hereby authorize _____ located at _____ (hereinafter, the "Bidder") to submit a bid of the following Products produced by us, for the Supply Requirements associated with the above Invitation for Bids.

When resold by _____, these products are subject to our applicable standard end user warranty terms.

We assure you that in the event of _____, not being able to fulfill its obligation as our Service Provider in respect of our standard Warranty Terms we would continue to meet our Warranty Terms through alternate arrangements.

We also confirm that _____ is our authorized service provider/system integrator and can hence provide maintenance and upgrade support for our products.

We also confirm that the products quoted are on our current product list and are not likely to be discontinued within 2 years from the day of this letter. We assure availability of spares for the products for the next two years after five years warranty.

We also confirm that the material will be delivered as per delivery schedule against above mentioned tender from the date of placement of confirmed order.

Name _____ In the capacity of _____

Signed _____

Duly authorized to sign the authorization for and on behalf of _____

Dated on _____ day of _____ 2019

Note: This letter of authority must be on the letterhead of the Manufacturer and duly signed by an authorized signatory.