

NAME OF WORK: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF AUDIO-VISUAL SYSTEM IN CONFERENCE ROOM, 7TH FLOOR, GIFT CITY ONE, CANARA BANK, GANDHINAGAR.

TECHNICAL SPECIFICATION OF AUDIO-VISUAL SYSTEM

NOTE: UNLESS OTHERWISE MENTIONED/COMMUNICATED, IN CASE OF ANY DISCREPANCY BETWEEN TECHNICAL SPECIFICATIONS AND APPROVED MAKE PROVIDED BELOW AND IN BOQ, THE TECHNICAL SPECIFICATIONS PROVIDED IN BOQ SHALL PREVAIL

1. 2 x 2 55 inch Video wall

- Extremely narrow bezel (B-to-B 1.7mm) for a virtually seamless, life-like viewing experience
- Superb colour accuracy and brightness uniformity thanks to precise calibration and panel technology
- Daisy Chain through use of Display Port 1.2 or HDMI port, eliminating the need for graphic cards
- Highly reliable displays designed for 24/7 operation, with simple, easy-to-use special wall mount
- It should support advanced colour management, Auto source switching and recovery, Temperature sensor, Video Wall Daisy Chain, Plug and Play.

Diagonal Size	55
Type	D-LED DID
Resolution	1920x1080 (Full HD)
Pixel Pitch(mm)	0.63mm(H) x 0.63mm(V)
Active Display Area(mm)	1209.06mm x680.40mm
Brightness(Typ.)	500 nit
Contrast Ratio	4000:1
Viewing Angle(H/V)	178/178
Response Time(G-to-G)	8ms
Display Colors	8 bit - 16.7M
Color Gamut	72%
Operation Hour	24/7
Haze	25%
H-Scanning Frequency	30kHz ~ 81kHz
V-Scanning Frequency	48Hz ~ 75Hz
Input Connectivity	
RGB	Analog D-SUB, DVI-D, Display Port 1.2
Video	HDMI 2.0 (2)
HDCP	HDCP 2.2
Audio	Stereo mini Jack
USB	Only F/W upgrade
Output Connectivity	
RGB	DP1.2
Audio	Stereo mini Jack
External Control	RS232C(in/out), RJ45
External Sensor	Detachable type(IR, Ambient)

Power Supply	AC 100 - 240 V~ (+/- 10 %), 50/60 Hz
Key Features	Extreme Narrow Bezel
Operating Temperature	0 °C ~ 40 °C
Humidity	10 % ~ 80 %

2. Bracket for Video Wall

- Bracket for Video wall from same OEM.

3. 55'' 4K UHD Display

Diagonal Size	55
Panel Type	60Hz E-LED BLU
Resolution	3840 x 2160
Brightness(Typ.)	250 nit
Contrast Ratio	4700:1
Viewing Angle(H/V)	178/178
Response Time(G-to-G)	8ms (Typ.)
Display Colours	16.7M
Colour Gamut	72%
Operation Hour	16/7
Input Connectivity	
Video	HDMI x 2
USB	USB x 1
RF	1 Terrestrial / 1 Cable / 0Satellite
Output Connectivity	
Audio	Optical
External Control	RJ45
Wi-Fi / Bluetooth	Wi-Fi 5, Bluetooth
Power Type	Internal
Power Supply	AC110-120V 50/60Hz
Media Player	USB Media Player

4. Wall Bracket for 55'' Display

- Wall Bracket for 55'' 4K UHD Display from same OEM.

5. Video Conference System

- Plug-and-play connectivity with quality audio and HD video to enhance the BYOD meeting room experience.
- It Includes :

- i. PTZ Camera
- ii. Remote Control
- iii. Power Supply and Cables

- PTZ Camera: Full HD 1080p30
 - 12x Optical Zoom
 - 73° wide-angle view
 - Pan/Tilt Angles: $\pm 170^\circ$, Tilt: -30° to $+90^\circ$
 - USB 3.0/2.0

Line In

Control: Remote control, USB (UVC), RS-232

- COMPATIBLE APPLICATIONS :
 - Spontania
 - Skype® for Business
 - Zoom
 - WebEx
 - GotoMeeting
 - COLLABORATE Space
 - And more

6. 1 x 4 HDMI Splitter

- 1 x 4 HDMI Splitter with extended out and it should support 4K/UHD resolutions
- HDCP 2.2, and HD multi-channel audio formats
- splits a single HDMI 4k/UHD source to four 4k/UHD display devices
- It Supports resolutions up to 4k@60hz.

7. USB Extender

- USB Extender should extend a Super Speed USB signal beyond the 16 ft. (5 m) limitation up to 98 ft. (30 m) over cat 6 cable.

8. 24 Port POE Network Switch

- 24 port POE Network switch Connects up to 10x faster than Fast Ethernet Fan less design for quiet Operation.
- Network switch having 10/100/1000 Gigabit Switches provide non-blocking, wire speed switching for your 10, 100, and 1000 megabit network clients.

9. Wireless Presentation Device

- Compact & Secure 4K Wireless Presentation Device.
- Connect using conventional Wi-Fi and/or LAN.
- The product features content streaming with crystal-clear mirrored images and stunning video playback and includes iOS mirroring via Air Play, Windows & Android mirroring via Mira cast, as well as ChromeBook mirroring.
- Two participants can present simultaneously.
- It includes industry-leading 1024-bit encryption for secure use on the internal network.

Ports	1 x Ethernet, 1 x USB 3.0, 1 x USB 2.0
Output Ports	1 x HDMI
Video Resolution	4K @ 30HZ
Storage Temperature	-40° to +70°C
Operating Temperature	0° to +40°C (32° to 104°F).
Humidity	10% to 90%, RHL
Power Supply	45W
Main Memory	2GB

10.AV Over IP Decoder

- Encoder features 4K output for high quality 4K scaling of single images or display of 4 images in a grid formation at their native 1080p resolution.
- Multi-view capable of displaying 1 to 8 simultaneous NetworkHD Encoder streams on a single display.
- Multiple layouts to choose from including single, dual and quad view grid layouts and pre-set multiscreen arrangements - up to 10 on-screen layouts available.
- 4K output for high quality scaling of single images or native display of multiple 1080p images.

Input	1x LAN (PoE) 8-pin RJ-45 female
Output	1x HDMI In 19-pin HDMI type A female 1x Audio Out: 3-pin Phoenix
Audio Formats	2ch PCM
Output Video Resolutions	640x480p @60Hz~3840x2160p @60Hz
Output Video Type	H.264/MPEG-4 AVC

Power Supply	Input: 100~240V AC 50/60Hz
PoE Power	>15.4W 802.3.AF
Max Power Consumption	7.2W
Operating Temperature	0°C ~ 45°C
Storage Temperature	-20°C ~ +70°C
Maximum BTU	60 BTU/hr
Communication and Control	
HDMI	Max Cable Run: 15m DVI/D supported with adapter
RS-232	1x RS-232 3-pin Phoenix Connector
Ethernet	1x 8-pin RJ-45 female

11.AV Over IP Encoder

- Highly scalable, visually lossless HD over IP solution using the most efficient compression technology to allow for very large commercial AV deployments.
- Plug and Play setup with automatic networking configuration and auto discovery of components.
- Use with the controller for simple configuration and control via the LAN, as well as for allowing control from third party control system.
- Supports PoE to enable remote powering from PoE network switches, eliminating the need for a nearby power outlet.

Input	1x HDMI IN
Input Video Type	HDMI 1.3
Input Video Signal	0.5 ~ 1.2 V p-p
Output Video Ports	1x LAN
Output Video Type	H.264/MPEG-4 AVC
Video Impedance	100Ω
Input DDC Signal	5V p-p (TTL)
Supported Audio Format	2ch (Stereo)
Output Audio Ports	1 x Phoenix Connector
Control Method	Rear panel source switch, PC configurator and RS-232

Operating Temperature	0°C ~ +45°C
Storage Temperature	-20°C ~ +70°C
Power	12V DC 1A
Max. Power Consumption	6W

12.Controller

- Innovative control interface that makes the powerful Network HD system the most simple and quickest-to-configure AV over IP system available.
- Compatible with all Network HD 100/200/400 and 600 components.
- Instant deployment available for the NetworkHD Touch iPad control App to provide live video previews and drag and drop source selection.
- Dual Ethernet Ports for complete isolation of control and AV network traffic.

Input / Output	1x LAN AV - 8-pin RJ-45 female 1x LAN Control - 8-pin RJ-45 female
Ethernet	1x LAN AV - 8-pin RJ-45 female 1x LAN Control - 8-pin RJ-45 female 10/100 Mbps auto-negotiating
RS-232	1x RS-232 6-pin Phoenix Connector
Power Supply	100~240V AC 50/60Hz
Max Power Consumption	1.6W
Video Impedance	100Ω
PoE	<15.4W
Operating Temperature	0 to + 45°C
Storage Temperature	-20 to +70°C
Maximum BTU	5.45 BTU/hr

13.POP UP Box

- Pop-up Boxes provide real ease of use and rapid connection solutions for mobile application such as Laptop, audio and video systems.

- Should support all Format i.e. HDMI,DVI-D/DVI-I connector, Display Port, VGA, Stereo Audio on 3.5 mm mini jack.

Input Ports	1 HDMI, 1 DVI, 1 DisplayPort, 1 stereo audio on a 3.5mm mini jack
Output Ports	1 RJ-45 connector.
Maximum Step in Distance	50m (164ft) up to 1080p @60Hz.
Power Consumption	12V DC, 800mA.
Operating Temperature	0° to +40°C (32° to 104°F).
Humidity	10% to 90%, RHL non-condensing
Input Ports	1HDMI, 1 DVI, 1 Display Port, 1 stereo audio on a 3.5mm mini jack

14.Boundary Microphone

- With slim design and superior audio reproduction, Micro flex Boundary Microphones are the ideal conference room solution.
- Equipped with features like programmable, silent membrane switches, interchangeable cartridges, logic inputs and outputs, and LED indicators, Micro flex Boundary microphones provide high-quality sound for a wide range of applications.

Type	Condenser
Frequency Response	50 Hz – 17 kHz
Polar Pattern	Cardioid
Output Impedance	EIA rated at 150 Ω
Sensitivity	-27.5 dBV/Pa
Maximum SPL	117.0 dB
Equivalent Output Noise	23.0 dB
SNR	71.0 dB
Dynamic Range	94.0 dB
Common Mode Rejection	45 dB minimum, 10 Hz to 100 kHz
Operating temperature range	-18° C – 57° C
Relative Humidity	0 – 95%

15.Audio Processor

- Multipurpose software based digital audio signal processor with a total of 8 balanced Analog line level audio inputs and 8 balanced Analog line level audio outputs.
- Features a software definable bank of 8 balanced analog audio Input/output Flex Channels
- Each channel can be independently configured during design or run time as either a microphone/line level input or a line level output.
- The USB Device port (B type) implementation supports up to 16x16 digital audio channels
- 24 Channels of Total Analog Audio
- 16x16 GPIO Logic Ports,
- 16 Channels of Routable AEC
- Multiple Instance VoIP Lines
- All the flexibility of a card based DSP solution without the cost and inconvenience of multiple SKU's.

Input Frequency Response 20Hz to 20kHz @ +21dBu	+0.05% / -0.5%
Input THD+N @ 1KHz	
@ +21 dBu Sensitivity & +21 dBu input	< 0.1%
@ +21 dBu Sensitivity & +10 dBu input	< 0.0015%
@ +10 dBu Sensitivity & +8 dBu input	< 0.0007%
@ -10 dBu Sensitivity & -10.5 dBu input	< 0.0006%
@ -39 dBu Sensitivity & -39.5 dBu input	< 0.007%
Input to Input crosstalk @1kHz	> 110dB typical, 90dB Max
Input Dynamic Range	
@ +21 dBu Sensitivity	> 109.5dB
@ +10 dBu Sensitivity	> 106.4dB
@ -10 dBu Sensitivity	> 104.6dB
@ -39 dBu Sensitivity	> 104.6dB
Input Impedance	5K ohms nominal
Input Sensitivity Range	-39 dBu min to +21 dBu max
Phantom Power	+48V DC, 10mA per input max
Sampling Rate	48kHz
Output Frequency Response 20Hz to 20kHz @ all settings	+0.2 / -0.5 dB
Output THD	0.003%, +10 dBu max output level
Output Crosstalk @1kHz	> 100dB typical, 90dB max
Output Dynamic Range	> 108dB
Output Impedance	220ohms

16. Wireless Handheld Microphone

- Wireless Handheld Microphone is easy-to-use and easy-to-setup and features excellent audio quality and RF performance.
- Audio Frequency Response : 50 Hz to 15 kHz
- RF Level Switch between 1mW and 10mW, 2 "AA" batteries
- 8 selectable frequencies per band
- Up to 4 compatible channels per band
- Offer two options: i) single channel diversity receiver; and ii) dual channel diversity receiver
- Antenna diversity ensures continuous reception
- Balanced and unbalanced audio output
- Adjustable Squelch and Mic / Line Switch
- Fixed antenna at front
- External power supply.
- Power Supply: 12-18V
- Maximum Output Level: -19 dBV

17. Wireless Tie-Pin Microphone

- Wireless Tie-Pin Microphone system with Centraverve Lavalier offers convenience and performance in an easy-to-use, clip-on cardioid condenser microphone.
- Up to 8 selectable channels
- Up to 4 compatible systems
- 2 Audio Output: 1/4" Connector - XLR Connector
- Type Electret Condenser
- Frequency Response 50 to 20,000 Hz
- Polar Pattern : Unidirectional (Cardioid)
- Antenna Switching Diversity
- Output Impedance @ 1 kHz, typical: 600 Ω Audio Output Level: -43.5 dBV/Pa
- Signal-To-Noise Ratio @ 1 kHz : 72 dB Maximum
- SPL1000 Ω
- THD : 3%
- Dynamic Range : 139.0 dB
- Power Requirements: +5 V DC (nominal), 10 V maximum (DC bias).

18. Gooseneck Microphone

- Wide dynamic range and frequency response for accurate sound reproduction across the audio spectrum
- Interchangeable cartridges provide the right polar pattern for any application
- Balanced, transformer less output for increased immunity to noise over long cable runs
- Programmable on/off switch and LED on/off indicator
- New brighter LED improves visibility under strong ambient lighting

- Logic input and output terminals for remote control or use with automatic microphone mixers
- Snap-fit foam windscreen

Frequency Response	50 to 17,000 Hz
Polar Pattern	Cardioid Super cardioid Omnidirectional
Output Impedance	150 Ω
Sensitivity	Cardioid : -33.5dbV Super Cardioid : -32.5dbV Omnidirectional : -28.0dbV
Maximum SPL	Cardioid: 123.0 dB Super cardioid: 122.0 dB Omnidirectional: 117.5 dB
Signal to Noise Ratio	Cardioid: 65.0 dB Super cardioid: 66.0 dB Omnidirectional: 70.5 dB
Dynamic Range	94.0 dB
Operating Temperature	-18° to 57° C
Relative Humidity	: 0 to 95%

19.6" Wall Mount Speaker

Type	Wall Mount
Size	Woofer : 6" Graphite Cone, Rubber Surround Tweeter : 1" Silk Soft Dome
Frequency Range +/-3	57Hz - 20kHz
Power Handling RMS	100W Program, 60W (IEE 219) 60W Program, 40W (IEE 219) (Switchable 70V/100V or Ohms)
Sensitivity	86 dB
Impedance	8ohms

20.2-Channel Power Amplifier

- Class D amp with Crown's ultra-efficient DriveCore technology weighs less than 11 lb
- Higher DSP capabilities: More control; has band pass filter per channel
- Increased lighting functionality; turn off all LED indicators except clip and thermal to reduce distraction in dark venues

- Selectable input sensitivity; 1.4Vrms and .775Vrms options so that amp can be driven at full power
- Set sleep mode after specified time without having to press a button
- Security setting disables menu buttons; menu locked/unlocked by entering combination
- System reset allows factory settings to be restored
- Remote power trigger
- XLR, 1/4", RCA inputs provide flexibility

Frequency Response	+0dB, -1dB
Sensitivity	1.4Vrms
THD	< 0.5%
Signal to Noise Ratio	>103dB
Intermodulation Distortion	< 0.3%
Damping Factor	> 200
Crosstalk	@ 1kHz: > 85dB, @ 20kHz: > 55dB

21. Wi-Fi Router

- Wireless Router with 300 Mbps Speed with integrated Antenna.

22. I-Pad

- It should have LED-backlit Multi-Touch display with IPS technology.
- Pixel Resolution 2732x2048 at 264 pixels per inch
- Fingerprint-resistant oleo phobic coating, Fully laminated display, Anti-reflective coating
- Brightness : 600 nits
- Reflectivity : 1.8%
- 12 Megapixel Camera
- 4K video recording at 30 fps or 60 fps, 1080p HD video recording at 30 fps or 60 fps, 720p HD video recording at 30 fps

23. Docking Station for I-Pad

- Charging Station for I-Pad.
- It should charge, mount and protect I-Pad.
- System consists of two main components: a Station and a Sleeve, Station holds an iPad-in-Sleeve, and charges the iPad while mounted and held.

APPROVED MAKE FOR ALL ITEMS

AS PER MAKES PROVIDED IN BOQ