#

CORRIGENDUM

**No. 4**

**24 May 2024**

**Necessary Corrections made to the Technical Specifications**

**Title: Supply, Deliver and Installation of Equipment and Fixtures for the Caribbean Court of Justice**

**REFERENCE:** 11th EDF/CARIF/CCAT/433-111

# *ANNEX II + III :* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

**Contract title : Supply of [**……………………………**]** **p 1 /…**

**Ref. No.:** ……………………………

**Column 1-2 should be completed by the CARICOM Secretariat**

**Column 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

* Column 2 is completed by the CARICOM Secretariat shows the required specifications (not to be modified by the tenderer),
* Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words “compliant” or “yes” are not sufficient)
* Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.

| **1.****Item Number** | **2.****Specifications Required** | **Qtty** | **3.****Specifications Offered** | **4.** **Notes, remarks, ref to documentation** | **5.****Evaluation Committee’s notes**  |
| --- | --- | --- | --- | --- | --- |
| **1** | **Audio – Microphone Systems : This description relates to all subitems 1 (1.a. to 1.i.)****Court Room Microphones****Role:** voice capture of Judges, Attorneys, Witness, Speaker at the podium and Registry staff for local reproduction, videoconferencing, streaming and recording**Technology:** Gooseneck type, cardioid microphones, Wired digital audio network, Dante compatible * Digital Solution
* Daisy chain cabling for simpler installation and maintenance
* Personal speaker built in on the microphone base
* For The Record® (FTR) Compatible
* Interpretation System
 |
| **1.a.** | **Gooseneck Conference Microphone Base**:* Touchscreen base: Capacitive LCD TFT
* Screen Size: 5.2” (max)
* Built-in Speaker
* 3.5mm headphone output jack
* RJ-45 network connection
* LED status indicators
* Mute/Unmute button
* Microphone connector
 | **50** |  |  |  |
| **1.b.** | **Gooseneck Conference Microphone:*** Transducer: Back Elelctret
* Polar pattern: Unidirectional, cardoid
* Signal to noise ratio: >67 db(A)
* LED status indicator
* 40 cm
* Support base connector above
 | **28** |  |  |  |
| **1.c.** | **Gooseneck Conference Microphone:*** Transducer: Back Elelctret
* Polar pattern: Unidirectional, cardoid
* Signal to noise ratio: >67 db(A)
* LED status indicator
* 50 cm
* Support base connector above
 | **22** |  |  |  |
| **1.d.** | **Room Recording Device:*** Network enabled recording, Dante
* Rack mountable
* Cat 5e shielded
* RJ-45 standard connectors
* 500 GB storage (min)
* 8 GB RAM (min)
* Balanced XLR input
* Balanced XLR output
* Redundant Dante ports
 | **2** |  |  |  |
| **1.e.** | **Cables**Shielded Cat 5e and above STP AWG24 (Microphone manufacturer recommended) | **2 boxes (305m each)** |  |  |  |
| **1.f.** | **Cables**Microphone manufacturer recommended ethernet connection cables | **8 (20m each)** |  |  |  |
| **1.g.** | **Cables**Microphone manufacturer recommended ethernet connection cables | **48 (2m each)** |  |  |  |
| **1.h.** | **Connectors**RJ-45 8 pin connectors (This applies to all cable connectors above) | **100** |  |  |  |
| **1.i.** | **Network Extender*** Link speed: 1Gb
* PoE 48 VDC
* 2 Upstream ports
* 4 Powered downstream ports
 | **2** |  |  |  |
| **2** | **Presentation Microphones****Role**: Court visiting, presentations, training, public participation, and other room activities**Technology**: Handheld, wireless, DECT, Dante digital audio network**Handheld wireless Microphone:*** Network enabled charger with 4 charging bays
* 4 Channel wall mount receivers
* Dynamic range: >120 db(A)
* Encryption: AES 256
* 2 Handheld transmitters digital 1.9 GHz
* Polar pattern: Omnidirectional, super-cardioid
* RJ-45 connectors
 | **4** |  |  |  |
| **3** | **Processing, Amplification and Output: This description relates to all subitems 3 (3.a. to 3.c.)****Audio Processing and Amplification*** **Role:** audio processing and reinforcement of oral content for local and on-line streaming and reproduction, with intelligibility priority

**Technology:*** DSP-AEC Processor connected to the FTR PC, videoconferencing and streaming
* Microphone/speakers to be managed by the DSP
* Digital Mixer for redundancy audio processing and manual sound adjustment is being considered as part of the Studio System
* Analog-Dante interface for third party connection
* Networked Amplifier
 |
| **3.a.** | **Audio Amplifier:*** Network Connections: (2) Gigabit Ethernet with RJ-45 (Cat 5e and above)
* Number of Output Channels: 4 (min)
* Connectors: 2-pin, 0.3-inch Euroblock [up to 10 AWG]
* Amplifier Topology: Class D
* Number of Power Banks : 2
* Maximum Rated Output2 (4Ω, 8Ω, 70V, 100V): All Channels Driven: 2400W
* Frequency Response (20Hz-20kHz): +0/-0.5dB
* Dynamic Range (20Hz-20kHz, unweighted): > 108dB
* RJ-45 connectors
 | **2** |  |  |  |
| **3.b.** | **Digital Signal Processor:*** 64x64 AVB Streams of digital audio
* 128 x 128 channels of digital audio
* 32 x 32 channels of digital audio networking via the Dante protocol
* AES67-enabled Dante endpoint
* Supports port authentication via IEEE 802.1X
* SIP VoIP interface via Gigabit Ethernet connection
* CE marked, UL listed, and RoHS compliant
* PoE+ power ports (IEEE 802.3. at Class 4, 30W)
* RJ-45 connectors
 | **2** |  |  |  |
| **3.c.** | **Audio Network Interface*** 2 XLR inputs
* 6-pin block connector
* 2 XLR outputs
* 3-pin block connector
* 1 RJ-45 connection
* Dante digital audio
* PoE Class 0
 | **2** |  |  |  |
| **4** | **Speakers: This description relates to all subitems 4 (4.a. to 4.d.)*** **Role:** Local reproduction of audio content

**Technology:*** Personal active speakers integrated to the conference microphones
* Courtroom speakers: on wall micro line array speakers
* Monitor speakers for the AV Room
* PoE active ceiling speakers in the external lobby area for BGM and paging
 |
| **4.a.** | **Wall Column speaker*** Operating mode: passive
* Operating Environment Indoor or outdoor
* Operating Range 120 Hz to 22 kHz
* Nominal Beamwidth (H x V) 140°  x  20°
* Transducers: LF 6 x 80 mm long excursion mylar driver HF 2 x 3-element Compact Ribbon Emulator
* Continuous Power Handling3 @ Nominal Impedance Passive 35 V 150 W @ 8 Ω (600 W peak)
* RJ-45 connectors
 | **4** |  |  |  |
| **4.a.i** | **Wall Column speaker*** Operating mode: passive
* Operating Environment Indoor or outdoor
* Operating Range 120 Hz to 22 kHz
* Nominal Beamwidth (H x V) 140°  x  20°
* Transducers: LF 20 x 80 mm long excursion mylar driver HF 2 x 3-element Compact Ribbon Emulator
* Continuous Power Handling3 @ Nominal Impedance Passive 35 V 150 W @ 8 Ω (600 W peak)
* RJ-45 connectors
 | **4** |  |  |  |
| **4.b.** | **Celing Speakers*** 6.5- inch (165 mm) low frequency transducer
* Coaxially mounted 1.0-inch (25mm) exit high frequency compression driver
* Operating Range: 63 Hz to 20 kHz
* Low Impedance (8 ohm) input capability of 22V
* *Connectors*:
	+ Four-position, 5.08 mm (0.2 inches) pluggable Euroblock
	+ RJ-45 connectors for audio signal connections
 | **8** |  |  |  |
| **4.c.** | **Monitor Speaker*** 2-way bass-reflex bi-amplified nearfield studio monitor with 5" cone woofer and 1" dome tweeter
* 54Hz - 30kHz (-10dB), 74Hz - 24kHz (-3dB) frequency response
* 45W LF plus 25W HF
* XLR and TRS phone jack inputs accept balanced or unbalanced signals
 | **2** |  |  |  |
| **4.d.** | **Conferencing Amplifier*** Four Channel amplifier
* Powered by PoE+ (IEEE 802.3at Class 4, 30W)
* RJ-45 Output Jacks
* Class D amplifier
* Network Connections: Gigabit Ethernet with RJ-45 (Cat 5e and above)
* RJ-45 connectors
 | **2** |  |  |  |
| **5** | **Audio – Sound Masking: This description relates to all subitems 5 (5.a. to 5.b.)****Sound Masking*** **Role:** Sound masking together with automated microphone muting will create the conditions for private conversations on both local and videoconferencing

**Technology:*** Sound Masking System will allow Judges to have private local conversations during a court session, while microphone muting will cut the audio to remote participants at the videoconferencing
* Private conversation among judges in a remote locations must be made using private chats at the videoconferencing platform
 |
| **5.a.** | **Emitters**:* Frequency Response: 200Hz to 6.3kHz
* Masking Output Level: 30-57 dB when operated from any control module and recommended emitter array
* Nominal Impedance: 3.6 kΩ
* Wiring Standard: Cat5e and above
* Connections: RJ-45
* Sensitivity: 50 dB at 1 meter and 1 milliwatt input
* Spectral Output: Within 1 dB of optimum spectrum shape for sound masking as measured in standard ISO 1/3 Octave bands as equalized by control module
* Maximum Sound Pressure Output: 74 dB at 1 meter when operated with control module
* Directivity: 3 dB hemispherically omni-directional when mounted in a ceiling tile. Within 1 1/2 dB of axial response at 60 degrees
 | **12** |  |  |  |
| **5.b.** | **Sound Masking Controller*** Wall mountable
* LCD display
* Network enabled
* Cat 5e and above
 | **2** |  |  |  |
| **6** | **Audio – Interpretation System: This description relates to all subitems 6 (6.a. to 6.m.)****Role:** to allow other languages and dialects to be understood by local and remote participants of the court functions. The interpreter may be at the courtroom or remotely participating on a court function.**Technology:** Interpretation System will be based on two separate systems: Local and Remote**Local System:** to be installed on premises in the courtroom interpretation room and AV Rack, which may be installed on one or both Courtrooms:* Dedicated Camera System to allow Interpreter to have the better view possible for face expression and lip reading
* PC with 3 video outputs, to participate in the videoconferencing and manage the cameras
* 3 monitors, for the 2 cameras and videoconferencing view
* Cameras may be controlled using a PTZ network joystick or through the PC connected to the network using an ONVIF protocol
* In-room interpretation hearing and assistive listening

**Remote System:** a laptop, good quality noise canceling headphone/microphone and a second monitor to stablish a remote connection through a VPN or Remote Desktop type connection with the local camera system and to participate remotely of the court function videoconferencing as the MTR interpreter. |
| **6.a.** | **Soundcard*** Quad core CPU
* 4 Gbyte of RAM
* Standard wired Ethernet network interface (100Mbps or Gigabit)
* DANTE Capable
* Network connectors: RJ-45
 | **4** |  |  |  |
| **6.b.** | **Analog Input Adapter for Dante*** 2 Channel
* Audio Resolution up to 24-Bit / 96 kHz
* Dante Audio Over IP & AES67 RTP Formats
* Balanced, Line-level Analog Inputs
* Network connectors: RJ-45
 | **6** |  |  |  |
| **6.b.i** | **Analog Output Adapter for Dante*** 1 Channel
* Audio Resolution up to 24-Bit / 96 kHz
* Dante Audio Over IP & AES67 RTP Formats
* Balanced, Line-level Analog Inputs
* Network connectors: RJ-45
 | **4** |  |  |  |
| **6.c.** | **HDMI to USB-3 Converter*** Interface: USB 3.0
* Inputs & Outputs: HDMI input, USB 3.0 Type-C output
* Video Output Formats: MJPEG format, YUY2
* Sample Rate: 48 kHz PCM
* Resolutions: 640x480, 720x480, 720x576, 800x600, 1024x768, 1280x720, 1280x1024, 1600x1200, 1920x1080
 | **6** |  |  |  |
| **6.d.** | **Remote Interpretation Camera*** Image Sensor: 1/2.8"-Type CMOS
* Sensor Resolution**:** 8 Megapixel
* Optical Zoom Ratio: 21x
* External Recording Modes: SDI/BNC / HDMI / RJ45 / USBUHD 4K (3840 x 2160) at 25/29.97/30.00 fps1920 x 1080p at 25/29.97/30.00/50/59.94/60.00 fps1280 x 720 at 25/29.97/30.00/50/59.94/60.00 fps
* POE Support: PoE+ 802.3at
* RJ-45 connectors
 | **4** |  |  |  |
| **6.e.** | **HDR Network AV Decoder*** Video Resolutions: Up to 4096x2160@60Hz (DCI 4K60), 4:4:4 colour sampling, HDR10, HDR10+, Dolby Vision®, and Deep Colour support
* Audio Formats: Multichannel (up to 8-channel LPCM or encoded HBR 7.1 surround sound)
* Streaming Protocols: RTP, SDP
* Connectors: (1) 8-pin RJ-45 connector, (1) HDMI Connector Femle, (1) 5 Pin, 3.5 mm Detachable terminal Block, (1) Micro USB connector, female; USB 2.0 computer console port (for setup)
 | **2** |  |  |  |
| **6.f.** | **24” USB-C Hub Monitor*** DisplayPort (DisplayPort 1.2 mode, HDCP 1.4)
* DisplayPort output (MST)
* HDMI (HDCP 1.4)
* USB-C 3.1
* 4 x USB 3.2
* Network (RJ-45)
* Diagonal Size: 23.8"
* Aspect Ratio: 16:9
* DisplayPort (M) to HDMI (M) Cable (10ft)
 | **2** |  |  |  |
| **6.g.** | **34” Curved USB-C Monitor*** Ultra-Wide WQHD
* 3440 x 1440
* Display
* USB-C Connectivity
* DisplayPort (M) to HDMI (M) Cable (10ft)
 | **2** |  |  |  |
| **6.h.** | **Interpreter Desktop Tower*** Core i7 12-Core (12th Gen)
* 16GB 4800 MHz DDR Ram
* 512 GB SSD
* Windows 11 Pro (64 Bit)
 | **2** |  |  |  |
| **6.i.** | **Interpreter Microphone Base*** Touchscreen base: Capacitive LCD TFT
* Screen Size: 6.3” (max)
* Built-in Speaker
* 3.5mm headphone output jack
* RJ-45 network connection
* RJ-45 loop through
* LED status indicators
* Mute/Unmute button
* Microphone connector
* 32 channels (min)
* Channel selection buttons
* Volume control
* Language selector buttons
* System licenses
 | **2** |  |  |  |
| **6.j.** | **Interpreter Microphone** * Transducer: Back Elelctret
* Polar pattern: Unidirectional, cardoid
* Signal to noise ratio: >67 db(A)
* LED status indicator
* 40 cm
* Support base connector above
 | **2** |  |  |  |
| **6.k.** | **Interpreter Headset with Microphone*** 4 pin 3.5mm jack
* Lightweight
* Over-ear design
* Transducer: back electret
* Polar pattern: omnidirectional
 | **2** |  |  |  |
| **6.l.** | **Headphones*** Single earphone
* Bluetooth 5.1
* Lightweight
* Transducer: Dynamic
 | **16** |  |  |  |
| **6.m.** | **Interpreter Broadcast System/Audio-to-network Bridge*** Dante digital audio
* Assistive listening channels
* Multiple channels
* Streams/ broadcasts audio to a mobile app
* Integrates with third-party control systems
* PoE
* Supports 100 clients per station
 | **2** |  |  |  |
| **7** | **Video Sources and AI Cameras: This description relates to all subitems 7 (7.a. to 7.b.)****Main Court Function Cameras*** **Role:** Videoconferencing, Streaming and Recording
* **Technology:** voice-activated camera switching solution that brings the full multi-camera studio experience to meetings. Camera switching and movement is done automatically based on the location of the active speaking participant.
* Speaker Tracking: intuitively shows the person speaking and follows the conversation, switching focus as the speaker changes.
* Dynamic Composition: shows more than one view of the meeting space to add context and provide an intelligent, immersive experience**.**
 |
| **7.a.** | **Presenter Cameras*** 20x Optical Zoom
* NDI | HX Compatible
* Auto pan, tilt, zoom
* AI tracking
* Presenter tracking
* White
* HDMI and SDI interface
* PoE power source
* Signal Formats: 1080p60/50/30/25, 1080i60/50, 720p60/50
* Ethernet: RJ‑45, 100Mb
* Image Sensor:
	+ Tracking Camera: 1/2.8 in. Sony Exmor CMOS, 2.14MP
	+ Reference Camera: 1/2.8 in. CMOS, f=3.4 mm, Horz: 92°, Vert: 50°
* Camera Systems Support Services
 | **10** |  |  |  |
| **7.b.** | **Multi-Camera Switching Solution*** 2 RJ-45 Gb ethernet ports
* 7 SDI input
* 5 NDI inputs
* 1 USB-C input
* 1 HDMI output
* NDI output
* 3.5mm Line in
* Dante input
* H.264 codec (MP4) recording
* Recording capacity 1TB SSD Storage
* Streaming encoder
* Camera control
* Licenses
* Compatible with DSP above
 | **2** |  |  |  |
| **8** | **Document Cameras: This description relates to all subitems of 8 (8.a. to 8.b.)*** **Role:** located at the podium and witness both, for document presentation
* **Technology:** Foldable, preview display, HDMI or USB output, integrated to the AVoIP routing system
 |
| **8.a.** | **Podium Document Camera** * An Ultra-high-definition camera with 4K UHD output enables presentation of materials in unrivalled picture quality, and the adjustment-free LED lighting system which is specially optimized for the working surface, ensures even illumination at all times.
* High speed continuous autofocus, manual focus, plus an easy-to-use 9-point touch and focus mode, ensure crisp presentation of all content materials.
* High speed continuous autofocus, manual focus, plus an easy-to-use 9-point touch and focus mode, ensure crisp presentation of all content materials.
* The popular swivel plate option allows the Visualizer arm to be rotated through 90°, enabling storage at 90° to its normal forward facing working position, leaving the table or podium surface obstruction-free.
* Simultaneous 2160p UHD recording and streaming for capture and distribution of content materials in outstanding quality.
* Native 4K UHD (30fps) Visualizer
* 12x Zoom (6x optical)
* 1080p Streaming and recording
* 1 HDMI input
* 1 HDMI output
* RJ-45 port
* USB port
* Network controllable
* Touchscreen menu display
 | **2** |  |  |  |
| **8.b.** | **Witness Document Camera*** 30 fps
* 13.2MP camera sensor
* 4x HD Zoom (10x extended digital zoom)
* 1080p Streaming and recording
* HDMI output
* RJ-45 port
* USB port
* Network controllable
 | **2** |  |  |  |
| **9** | **Annotation: This description relates to 9.a.****Role:** To annotate and make markings on the screen to illustrate during presentations. Annotations can be done over video as well as still images and documents.**Technology:** Capacitive pen, touch screens, encoder/decoder |
| **9.a.** | **Capacitive pen*** 1.5mm point fine tip
* Compatible with touchscreen monitors
* Light weight
* 12h battery life
* Automatic power off for energy efficiency
 | **20** |  |  |  |
| **10** | **Lectern****Lectern Furniture*** Ergonomic
* ADA Compliant
* Height adjustable
* Moveable

**Equipment at Lectern*** Touch Display
* Document Camera
* BluRay Player
* Desktop Computer
* Control Touch Panel
* AVoIP Encoder and Decoders

**Lectern Specifications:*** Flip-Up Side Shelf
* Installed Power Equipment
* Pull-Out Keyboard Tray
 | **2** |  |  |  |
| **11** | **Network Infrastructure: This description relates to all subitems 11 (11.a. to 11.c.)****Technology:** Network backend support for AV over IP connectivity and services. |
| **11.a.** | **Managed Network Switch*** 48 ports (40x 1Gb PoE+ 8x SFP+)
* 30W per port
* AVB Support
* AVB license
* Fanless or 59dB @ 25 deg. Celsius
 | **2** |  |  |  |
| **11.b.** | **Network Patch Panel*** 24 port modular patch panel
* 19” shielded
 | **4** |  |  |  |
| **11.c.** | **Standing Equipment Rack*** 24RU
* 32” Overall depth
* 28” Wide
* 90 deg. Pivot
* 500lb load capacity
* Cable access at top
 | **2** |  |  |  |
| **12** | **Video – AVoIP Signal Distribution: This description relates to all subitems of 12 (12.a. to 12.e.)****AVoIP:*** Audio and Video over Internet Protocol
* An ecosystem of endpoints designed to work with your network and security protocols. One platform that delivers flawless video, audio, USB and control.
* Highest level of security certification from FIPS to JITC security certifications.
* Routes, distributes and manages all of your content, flawlessly and with no latency. As the only AV-over-IP solution with Pixel Perfect Processing every image looks as good as the source.
* Multi-layered technology ensures that all content (not just some of it) is routed through a single wire. A platform that delivers greater flexibility and efficiency
* Supports the lossless transport of audio signals and stereo audio breakaway across your entire network
* Uses standard protocols to expand control across the entire network, which provides greater flexibility, system efficiency, and easier management
* AV-over-IP with Every format, including 4:4:4 and HDR, is picture perfect every time.
 |
| **12.a.** | **AV Encoder / Decoder*** 4:4:4 HDR Network AV Encoder/Decoder
* Input**:** HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Output: HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Audio Conversions: 24-bit 48 kHz
* Communications: Ethernet, USB, RS-232, HDMI, IR/Serial
 | **24** |  |  |  |
| **12.b.** | **AV Encoder / Decoder with Downmixing*** 4:4:4 HDR Network AV Encoder/Decoder
* Input**:** HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Output: HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Audio Conversions: 24-bit 48 kHz
* Communications: Ethernet, USB, RS-232, HDMI, IR/Serial
 | **2** |  |  |  |
| **12.c.** | **AV Decoder** * 4:4:4 HDR Network AV Decoder
* Input**:** HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Output: HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Audio Conversions: 24-bit 48 kHz
* Communications: Ethernet, USB, RS-232, HDMI, IR/Serial
 | **54** |  |  |  |
| **12.d.** | **AV Encoder** * 4:4:4 HDR Network AV Encoder
* Input**:** HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Output: HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Audio Conversions: 24-bit 48 kHz
* Communications: Ethernet, USB, RS-232, HDMI, IR/Serial
 | **8** |  |  |  |
| **12.e.** | **Wireless Collaboration Device*** RJ-45 Gigabit connection
* Dual-band 802.11a/b/c/n/ac/ax (2.4GHz/5 GHz)
* USB connection
* HDMI output
 | **2** |  |  |  |
| **13** | **Control System: This description relates to all subitems of 13 (13.a. to 13.e.)*** **Role:** will be used to automate, control and manage all AV systems in the courtrooms

**Technology:*** Dedicated touch displays will be available at the AV Tech Room, Court President seat, Lectern and Registry Desk
* Each touch display will have the necessary User Interface for the functions planned for the respective position
* The touch displays may be fixed at their designated location
 |
| **13.a.** | **AV Control Panel*** 7 inches
* Wi-Fi & PoE+ Connectivity
* Touchscreen – 5 point multitouch
* Auto Brightness
* 1920 x 1200 pixel resolution
* USB support
* Wall or desk cradle
 | **6** |  |  |  |
| **13.b.** | **AV Control Panel*** 10 inches
* Wi-Fi & PoE+ Connectivity
* Touchscreen – 5 point multitouch
* Auto Brightness
* 1920 x 1200 pixel resolution
* USB support
* Wall or desk cradle
 | **2** |  |  |  |
| **13.c.** | **Court AV Control System*** RJ45 100Mbps / 1Gbps interface.
* PoE Support
* Support SSL, TLS, SSH, SFTP, AD authentication.
* Web browser
* Remote management
* Operating status indicators
* Rack mount support
* 8 GB minimum flash storage
* 2 GB minimum RAM
* USB port
* RS-232 support
* IR support
* USB mass storage support up to 1TB
* Control license.
* Tablet app license
 | **2** |  |  |  |
| **13.c.** | **Court Lighting System*** Auto-Detecting Universal Dimming
* 8 Channels minimum.
* Auto Load type detection
 | **2** |  |  |  |
| **13.d.** | **Court Lighting System Panel*** Backlit buttons
* Wall mounted.
 | **2** |  |  |  |
| **13.e.** | **Mainstream AV Control Tablet with stand*** 10.9” display
* 64GB
* Wi-Fi 6
* Bluetooth
* 12MP camera
* USB-C support
 | **2** |  |  |  |
| **14** | **Video – Videoconferencing/UCC - This description relates to all subitems of 14 (14.a. to 14.d.)****Videoconferencing – MTR (Microsoft Teams Room)*** High performance AV over IP encoder/decoder
* Transports video over ethernet with no latency or quality loss
* With the easy-to-use Microsoft Teams interface, it’s simple to initiate and control meetings, share content, and collaborate—no matter where remote colleagues are located. Engineered for convenience, the design features two viewing angles, integrated IR sensors that detect presence in the room and automatically turn the system on/off, and USB-C connectivity.
* MTR - Pre-define court hearing assets by selecting date and time, adding required and optional attendees, specifying roles and selecting hearing and appointment types. IT teams can easily deploy, monitor, manage, and resolve all issues remotely. This is a management console designed specifically on a subscription basis and, as part of the kit, includes one year of Premium renewable subscription.
 |
| **14.a.** | **Core Computing MTR Device*** 2 HDMI output
* 1920x1080 – 4096x2160 resolution
* 30Hz – 240Hz frame rate
* 4:2:0 – 4:4:4 colour sampling
* 8 – 12-bit colour depth
* Wi-Fi 6
* Streaming protocols RTP, SDP
* Multi Stereo channel support
* Analog-to-digital and vice versa
* Support most digital and analog formats
* RJ45 100Mbps – 1Gbps interface
* 2 USB-C interface (1 for controller)
* 2 USB-A interface
* Remote management
* Web and application GUI
* Operating status indicators
* Rack mountable
* Microsoft Teams integration.
 | **2** |  |  |  |
| **14.b.** | **MTR Controller*** 10.1” touch HD display
* Adjustable viewing angles
* USB-C 2.0 (for core)
* Headphone/mic combo
 | **2** |  |  |  |
| **14.c.** | **Adapter for Dante Audio Network*** 2 Inputs
* 2 Outputs
* 1 RJ-45 Female port
* 1 USB Male connector
* Dante audio over IP
 | **2** |  |  |  |
| **14.d.** | **USB Extender*** Extend up to 100 meters
* 2 USB-A ports
* USB over Cat5e or higher
* LED status lights
 | **2** |  |  |  |
| **15** | **Video - Personal Monitor Displays: This description relates to all subitems of 15 (15.a. to 15.c.)****Table Monitors****Role:** general visualization of content at the personal/individual level**Technology*** Non glare
* FCC Class "A" / CE / KC Certification
* New ErP Environmental Certification
 |
| **15.a.** | **24” Monitors*** 1920x1080 minimum resolution
* Height and pivot adjustable
* HDMI, USB and RJ45 interfaces
* Picture in Picture and Picture by Picture
* Thin bezel
 | **24** |  |  |  |
| **15.b.** | **34” Monitors*** 1920x1080 minimum resolution
* Height and pivot adjustable
* HDMI, USB and RJ45 interfaces
* Picture in Picture and Picture by Picture
* Thin bezel
 | **12** |  |  |  |
| **15.c.** | **22” Monitors** * Touch enabled.
* 1920x1080 minimum resolution
* Height and pivot adjustable
* HDMI, USB and RJ45 interfaces
 | **32** |  |  |  |
| **16** | **Video - Large Format Displays: This description relates to all subitems of 16 (16.a. to 16.f.)****Role:** general visualization of content at thecourtroom ambient**Technology*** Pro grade Digital Signage Displays
* Non glare
* FCC Class "A" / CE / KC Certification
* New ErP Environmental Certification
 |
| **16.a.** | **98” Display*** 1920x1080 minimum resolution
* Height and pivot adjustable
* HDMI x2, USB and RJ45 interfaces
* PIP
* Thin bezel
 | **6** |  |  |  |
| **16.b.** | **65” Display*** 1920x1080 minimum resolution
* Height and pivot adjustable
* HDMI x2, USB and RJ45 interfaces
* PIP
* Thin bezel
 | **8** |  |  |  |
| **16.c.** | **49” Display*** 1920x1080 minimum resolution Height and pivot adjustable
* HDMI x2, USB and RJ45 interfaces
* PIP
* Thin bezel
 | **2** |  |  |  |
| **16.d.** | **Display Wall Mount Fixed*** Portrait fixed
* 43” to 100”
* Max weight load 100Kg
* VESA hole pattern
 | **2** |  |  |  |
| **16.e.** | **75” Ceiling Mount*** Landscape fixed
* 75”
* VESA hole pattern
 | **8** |  |  |  |
| **16.f.** | **98” Ceiling Mount*** Landscape fixed
* 98”
* VESA hole pattern
 | **6** |  |  |  |
| **17** | **Video Production & Streaming Studio: This description relates to all subitems of 17 (17.a. to 17.g.)****Technology:**Hardware/Software for real-time video recording and livestreaming/broadcasting.* Audio mixer with per-source filters such as noise gate, noise suppression, and gain.
* High-performance real-time video/audio capture and mixing, with limitless scenes in which you can switch through custom transitions without interruptions.
* Filters for video sources such as image masking, color correction, chromakey, and more.
* Simplified Setup panel to quickly fine-tune your streams and recordings. Switch between different profiles with ease.
* Studio Mode allows you to preview your scenes and sources before going live. Adjust your scenes and fonts or create new ones and make sure they're perfect before your viewers see them.
* Set hotkeys for almost any type of action, such as switching between scenes, starting/stopping broadcasts or recordings, muting audio sources, press-to-talk, and more.
 |
| **17.a.** | **Broadcast Software*** Create, mix, switch, record and live stream professional live productions
* Support for inputs including Cameras, IP Cameras, Video Files, Images, NDI, SRT, Virtual Sets, Titles, Audio, Instant Replay, Video Calls.
* Connect, capture or stream media sources from Cameras, Webcams, IP Cameras, Capture Cards, Audio Devices and much more.
* Stream production to multiple destinations e.g including Facebook, YouTube,
* Record live production in a variety of high-quality formats.
 | **2** |  |  |  |
| **17.b.** | **Audio mixer*** Inputs: 16 mic/line (XLR/TRS combo)
* Outputs: 16 (XLR + TRS)
* Channels: 40
* Rack mountable
* 34 USB recording tracks
* RJ-45 Network port (100Base-TX) for control
* USB port for external storage
* 2 RJ-45 Dante ports
* 128 Digital channels
 | **2** |  |  |  |
| **17.c.** | **Video Converter – HDMI to SDI*** Input: 1 HDMI
* Output: 2 SDI
* 1 USB-C for power and configuration
* 2K and 4K support
 | **2** |  |  |  |
| **17.d.** | **Video Converter – SDI to HDMI*** Input: 1 SDI
* Output: 1 HDMI/ 1 SDI loop out
* 1 USB-C for power and configuration
* 2K and 4K support
 | **2** |  |  |  |
| **17.e.** | **24” Monitors*** 1920x1080 minimum resolution
* Height and pivot adjustable
* HDMI, USB and RJ45 interfaces
* USB-C hub built-in
* Thin bezel
 | **4** |  |  |  |
| **17.f.** | **AV Decoder** * 4:4:4 HDR Network AV Decoder
* Input**:** HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Output: HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Audio Conversions: 24-bit 48 kHz
* Communications: Ethernet, USB, RS-232, HDMI, IR/Serial
 | **2** |  |  |  |
| **17.g.** | **AV Encoder** * 4:4:4 HDR Network AV Encoder
* Input**:** HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Output: HDMI with HDR10, deep colour, and 4K60 4:4:4 support
* Audio Conversions: 24-bit 48 kHz
* Communications: Ethernet, USB, RS-232, HDMI, IR/Serial
 | **2** |  |  |  |
| **17h** | **Studio PC****•** Core i7 (13th Gen)• 12 Cores• 64GB DDR5 RAM• 2TB SSD• RTX graphics card 16GB GDDR6• Wi-Fi 6E• 2 USB-C ports• Windows 11 Pro• Wireless keyboard• Wireless mouse | **2** |  |  |  |
| **18** | **Compute Equipment: This description relates to all subitems of 18 (18.a. to 18.b.)****Role:** The devices will be used to capture the court record using FTR software. |
| **18.a.** | **Digital Court Recording*** Core i7 (13th Gen)
* 12 Cores
* 16GB DDR5 RAM
* 1TB SSD
* Windows 11 Pro
* Wireless keyboard
* Wireless mouse
 | **2** |  |  |  |
| **18.b.** | **Video Capture Card*** 1080p minimum resolution
* 60fps
* Input: 1 HDMI
* Output: 1 HDMI
* 1 USB
* 1 3.5mm headphone output jack
* 1 3.5mm microphone input jack
 | **2** |  |  |  |

**Notes:**

1. All licenses associated with the above equipment which are required to facilitate the role and function of the equipment, must be included in the submission.
2. All equipment must be rated for 120V/ 60Hz and fit 120V receptacles.
3. All accessories required for the proper functioning of the above equipment must be included in the submission.
4. This is an integrated AV over IP solution, and as such all proposed equipment must be compatible to provide a seamless solution that can be managed over the IP network.