



## TECHNICAL SPECIFICATIONS

(Mentioned are min. requirement) –Advanced Smart Class (1 Nos.)

(technically more superior product always acceptable)

### **Lectern / Management Podium**

All in one design; Ergonomically designed interface, expert quality, powder coated steel body; Pneumatic lifting tablet monitor; Touch Pen Optional; Movable Keyboard with Locks; Central control panel for switching all inputs; Storage drawer for visualizer; Laptop interface / ports (optional); CD/DVD writer (optional), main frame in the cabinet; Cooling fan with proper heat sink housing; Annotation software, white board, screen capturing session recording & export to PDF; International standard equipment racks; Controller for the ALL input & output AV equipments ; Space for amplifier & Mixer with twitter & woofer & all speakers for the sound reinforcement; Two gooseneck Mic & collar microphone, & 2 Nos wireless microphone(All are high quality only); Dimension (approx.) 1100mm (H) x 580mm (L)x 420 (W) mm, with 19" inbuilt Touch Screen, ; Adjustable drawer for Document Camera/visualizer ; Sufficient port for USB/HDMI/VGA/3.5 Audio ports; RoHS Compliant/Standard; HDMI to HDMI male cable 4K (4096 x 2160 @30Hz) (4 Nos); Complete management & solutions Central Controller all-in one-Device for HD Switching, Control, Relay etc. supplied with 7-inch button pad - Functionality with controller: Button pad + Projector On/Off + Motorized screen - Up/Down - 1 No + Audio - Mute/Unmute + Volume - Up/Down + System - On/Off + Podium PC/ laptop source switching) (Details or Microphones : Gooseneck Microphone with on off base, Gooseneck with integrated microphone capsule, RF shielding against intermodulation from wireless devices, Streamlined design for seamless integration, Integrated light ring, Solid Microphone Stand, Timeless design, Bi-colored light ring for clear visual feedback, Logical function for easy control of e.g. cameras, Microphone modes Toggle on/off Push to mute Push to talk permanent on (external LED control) + Wireless Hand Microphone set. Excellent live sound featuring, True diversity receiver with metal housing, Automatic frequency management and synchronization via, remote channel for easy setup, Fully tunable over a wide range of UHF frequencies, Rack mount kit included, Up to 12 compatible channels + Wireless LAVALIER mic. Set Unobtrusive clip-on microphone for hands-free operation and compact body pack transmitter, True diversity receiver with metal housing, External antennas, Automatic frequency management and synchronization via remote channel for easy setup, Fully tunable over a wide range of UHF frequencies, Rack mount kit included, Up to 12 compatible channels) (Video Codec details : Video codec, Full High Definitions end point support, followed video standard h.263, h.264, h.264HP/AVC/SVC/VBR or h.265. video call support 1+4 or higher from day-1 using internet / external MCU, Support SIP protocol, Support 1080p@30fps, Support 4:3 & 16:9 & 16:10 aspect ratio, Support 30 frame per second from 512 kbps, Support all type standard Audio & Video Codec standard, Headphone output, Support external audio system(In-Out) & Mixer, IP Port, System hardware support multi camera feed by external/internal module/devices for the support min. 4 cameras or video feeds where video feeds should be viewed all cameras locally & remotely, Dual display system by HDMI/DVI port, Support recording system by external NAS box where entire codec format may soft or hard.) (Control PAD : Control PAD : Resolution should be 800x400, RS232 Interface, Control by all system with ON & OFF, Should have viewing area of 154(H) mm X 92(V) mm or more, Colour.)

### **VC Equipemnts**

Support Full HD VC Camera with CODEC : VC System with 1+3 License with Hardware/Software based VC Joint + Recording License for recording at external NAS Box + Remote with look at me facility, RoHS Compliant/Standard (Should be compatible with external audio system for in & out with VC+AC system) (Efficient Full HD Performance, Embedded Multi-party Conferencing, Support Video Format 1080p60/50/30/25 720p60/50/30/25, 5x Optical Zoom, Digital Zoom 8x, Uncompressed on HDMI, White Balance(Auto/Manual), Focus Mode(Auto/Manual), Sharpness, Backlight, Exposure Compensation, Picture (Auto/Manual) & WDR, Camera Output DVI-I, 50Hz-8KHz



# राष्ट्रीय प्रौद्योगिकी संस्थान, मणिपुर NATIONAL INSTITUTE OF TECHNOLOGY, MANIPUR

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An Autonomous Institute under MHRD, Govt. of India.

microphone, PAN +/- 100 degree, Tilt +/- 25 degree, Desktop & Mobile client support, Extended IP Bit Rate: Multipoint=12Mbps, P2P=10/8Mbps(SIP/h.323), Advance Audio Codec Pack, Support 1/2 display, Wall Mount, Power Supply Unit)

## **Projector with Projector Mounting Stand**

High brightness 5000 Lumens, BigZoom 1.6X, Vertical Lens shift, Projection System DLP, Native Resolution XGA(1024 x 768), Contrast Ratio 5000:1, 1.07 Billion Color, 16:10/16:9 aspect ratio & other standard selectable, Clear Image size 60"-240", Zoom Ratio 1.6X, Lamp Type 370W, Lamp life appx 2500 Hrs, resolution support upto UXGA(1600X1200), HDTV & VIDEO compatible, Interface should be LAN, D-Sub, HDMI, LAN, USB, RS232, Audio in & out, S-Video, RoHS Compliant/Standard + Appx 1500 mm height ceiling mounting projector hanging kit.

## **Projector Screen with Mounting kit**

Support Max View(Inch) Diagonal 109 inch; Top Musk : 2 ft height; Orthographic projection, 4:3 / 16:09 / 16:10 Aspect Ratio, Motorized Projector Screen; RF Remote Cordless Remote, High Gain Fabric with 1.2 Gain, Matt White Fabric; Use the tubular motor, Life time Lubricated Motor, Strain Free Viewing; Full HD Resolutions, Brightness Support >3000 Lumens, Rim Width : Within 20mm; All related cables, connectors, clamps & fittings accessories, RoHS certified

## **Document Camera**

Gooseneck, 1/3"CMOS, 2MP, 9x Optical & 12x digital, 12/25 Input Terminals, 340mm x 270mm, Auto/Manual Focus, SXGA 1280x1024, XGA, 750 TVL, Color adjustment, 180 Image rotation, HDMI, VGA, OSD, Remote Control, Embedded LED Lamp on Arm, Incl 12V DC Power Adapter & related all accessories fittings & operational software, RoHS Compliant/Standard.

## **Interactive Camera & Interactive Ceramic Board**

**Interactive Whiteboard System** ( Form factor: Surface independent & portable Interactive whiteboard system / Interactive area: Upto 100" Diagonal for 16:9 Aspect ratio (wide angle) and upto 80" Diagonal for 4:3 Aspect ratio. / Technology: 3D Optical Technology / Calibration: Automatic / Lens: Ultra Short focus (T/R 0.18 or less) / Movement detection: IR/Optical tracking / Tracking speed: Upto 195 Mn dots / sec / Simultaneous touch point support: Min. 10 touch point for Finger touch Upto 255 Touch Point for Stylus. / Resolution: Sub-pixel up-to 6768 x 4320 pxsq (Native 752x480) / Active background subtraction: Required / Storage temperature -10°C to 50°C / Interface: Through 1 x USB 2.0 / Compatibility platform: Windows / Linux / Power consumption: Less than 1 watt / Should support interactivity even on edge-blended projection surface / Interactivity: Stylus as well as Finger Touch **Stylus specification:** Battery FREE Super-capacitive technology / Stylus Recharge time: 180 seconds / Stylus weight & design: Weight less than 35gm and Design orientation towards comfort while writing for a long session. / Mouse click using stylus: Left & right click of mouse to be integrated in a single button. **Finger Touch Specification:** Finger Touch Technology: 180°PRISM laser Curtain / Compliance Certification: Class 1 certified, complied with IEC 60825-1 Safety standard of Laser product. / Wavelength: 830nm +/- 20 iv. Red Line Laser Wavelength: 650nm +/-20 / Divergence Angle: 180° / Power Voltage: 5v/ 1.5A / Power Consumption: 1W / Operating Temperature: -10°C ~ 50°C / Humidity 0%-95% / Storage Temperature: -30°C ~ 70°C / Humidity 0%-95% / Life Time: ≥7000Hrs / Line Width: 2.0mm ± 0.5mm at 1.5m / Magnets provided to Stick on Metallic Whiteboard Board: Yes / Interface: 1x Mini USB2.0 **Interactive Software:** Should Support multi touch & multi writing / Should support Gesture Recognition like zoom, pan, tilt, flicks etc./ Native handwriting recognition of English (on Windows platform) / Should have the following interactive tools/features like Pen, Eraser, spot light, curtain, shape recognition, shape editing, auto grouping, infinite color options for annotation, color bucket, back ground pattern, lines & arrows, screen capture tools (freehand capture is must), import / export files, recycle bin, unlimited pages, Cut & Paste, page navigation, save page(s), Undo/Redo, Geometric Tools like protractor, compass, ruler etc. / Shape-recognition up to six-sided figures (on Windows platform) / Should capable to annotate on any 3rd party applications / Annotation Capability & integration with MS office application (on Windows platform) a. MS Word: handwriting recognition & draw object, b. MS Excel: Should draw graph w/o touching KB & Mouse, c. MS Power point: Should Create, Edit, Save, delete & annotate slides.Should have recording feature / Extensive Resource Library with relevant Educational content / Software should support & compatible with document camera solution / Capability of taking Snapshot from running video (Win platform) /



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Should support & operational with MS Touch Pack (Free Multi-Touch application on Win platform) / Must have "Cloud Access" in Interactive Whiteboard Application to access filtered free educational content on any topic in the world from WWW. + Suitable size of Ceramic Board for best possible performance, , RoHS Compliant/Standard

## **Sound & Speaker System & Microphone**

6 Nos. Wall Speaker (12Watt) & 4 Nos. Ceiling Speaker(9Watt) + Individual Volume Control + 120W Amplifier + Mixer + Noise reducer + Low Noise Speaker Cable + Audio Jack & Port + Announcement Station, Cordless Microphone(As per details of Lectern), Suitable for Lectern based audio end points handshaking & ready interface with VC equipments for Audio Conference RoHS Compliant/Standard

## **Light Control Unit**

3 Set Light control unit(240V) for 3 circuit with dimmer(complete single phase), Needbased MCB, fitting accessories, RoHS Compliant/Standard

## **Matrix Switches**

4 In & 4 Out Matrix Switch, HDMI Port, HD Support(Superior video quality – HDTV resolutions of 480p, 720p,1080i, 1080p (1920x1080); VGA, SVGA, SXGA, UXGA (1600x1200), and WUXGA (1920 x 1200)), Separate Console Port, Rack Mountable, Managed & Intelligent System with Remote Control, RoHS Compliant/Standard

## **42" LED Display**

Professional grade display panel: Screen Size 42", 50000 Hrs Operation Rating, Aspect Ratio 16:09 or better, Native Resolution 1920 x 1080 Pixels or better, 2 HDMI, 1 VGA, D-SUB, USB Port, RCA Audio & Video Port, Viewing angle 178° x 178° better, Backlight scanning 100Hz or better, Rated power consumption 120W or less, standby conditions <0.5W or less, Built in speaker 20W(10W+10W) (10%THD) or better, Followed safety rule IS13252:2010 or better, Wall Mounting Clamp(Customized, Wall/Ceiling Mounting, Revolving Mechanism), Remote, RoHS Compliant/Standard

## **4 CCTV with NVR**

3MP CCTV Camera, Dome Type, (Full HD)(Varifocal Lenses) with wide angle, long range & WDR, PoE, Inbuilt Audio Capture microphone + 8 Port Full HD NVR (Enterprise level) with 2Tb Video storage, 100 Mbps Ethernet Port + Intelligent Video Management Software for Audio +Video, Customized Playback & Recording Clips.

## **8 Tb NAS Box with 4x2Tb HDD**

ReadyNAS, Intel Atom C3338 Dual Core Processor, 2GB DDR4, 4 Bays, 1-40Users, Upgradable upto 48Tb based on 12 Tb HDD, Support SATA/SSD 2.5" or 3.5", Hot Swappable Drive, Support : 1 for eSATA HDD, 2 \* 1000 Mbps LAN Port, Two (2) USB 3.0 ports (1 Front, 1 Rear), 90W Power Adapter; Input 100-240V AC, 50/60Hz, 3 Yrs Hardware Warranty, RAID Levels: 0, 1, 5, 6, 10, Support Cloud-Discovery, Setup & Management, Data Protection, Web Managed Replication, Disaster Recovery, Real-Time Antivirus, iSCSI & thin provisioning, local & remote streaming, Certification: FCC Class B, CE Class B, RoHS, VCCI Class B & With 2\*4Tb NAS HDD

## **Connectors & Cables**

Needbased 4 Set HDMI Cable + 2 Set VGA cable + Low noise Audio cable(speaker microphone) + Data Cable + Co-Axial Cable + USB Cable + HDMI to VGA & VGA to HDMI converter + 1 Set AV Cable + Related all type connector (standard quality along with performance certificates)

## **Touch Screen Desktop**

Core i7, Min. 2.5 Ghz processor, Cache 10 MB, Memory Speed above 1000 Mhz, RAM 16 GB (Upgradable upto 24GB), Hard Disk : 1 x 1TB high speed, 1000 Mbps LAN Port, Keyboard, Mouse, 19" LCD Display touch screen(This screen already mentioned at Lectern) , 4Gb Graphics Card, Original latest Windows Professional OS, , RoHS Compliant/Standard

## **Wireless (With Controller)**

Enterprise level Wi-Fi system, 2.4 & 5 Ghz dual band, 1300 Mbps, .ac Indoor Access Point with 1000 Mbps port, PoE (to be achieved using multiple routers), Inbuilt Controller, RoHS Compliant/Standard



<b>Biometric Room Access Control</b>
Fingerprint+Card+Numbering(all together) & Time Attendance & Access Control System(Storage Capacity Fingerprints 10000, Card :10000, Transaction : 100000, Inbuilt proximity card reader, CPU 800Mhz, 32 bit microprocessor, 500DPI optional fingerprint sensor, FAR:<=0.0001% , FRR:<=1%, Identification speed is <0.5 sec, min 3"colour TFT/LCD display, inbuilt speaker, TCP/IP, USB, Optional WiFi, Push Data, SMS, DLST, external speaker output, BMS compatible, support all type exit readers , support door bell, support door sensor, support fire alarm, 12V relay for EM lock, Web based, SDK, 3rd party payroll/HRMS/ERP & other related software support with 1200Lb Magnetic Lock & swing & internal push switch.
<b>8 Port Managed Switch</b>
8*100/1000 Mbps full managed switch, PoE+(support min. 4 ports), internal SMPS, RoHS, intelligent, rackmount(optional), separate management console RJ45/USB
<b>17U Racks &amp; PDU</b>
Floor Standing Rack, Size: 17U H x 600mm W x 550mm D - (Dimensions are approximate), Front Glass Door with lock, 3 nos. self, 2*6 points PDU, 2 Nos. FAN, 40 Nos. Hardware mount screw, 2 Nos. Cable manager
<b>Full HD LCD, 55 Inch</b>
Professional grade display panel: Screen Size 55", 50000 Hrs Operation Rating, Aspect Ratio 16:09 or better, Native Resolution 1920 x 1080 Pixels or better, 2 HDMI, 1 VGA, D-SUB, USB Port, RCA Audio & Video Port, Viewing angle 178° x 178° better, Backlight scanning 100Hz or better, Rated power consumption 120W or less, standby conditions <0.5W or less, Built in speaker 20W(10W+10W) (10%THD) or better, Followed safety rule IS13252:2010 or better, Wall Mounting Clamp(Customized, Wall/Ceiling Mounting, Revolving Mechanism), Remote, RoHS Compliant/Standard

**SERVICE DETAILS :** Complete fixing & installations, commissioning, project management, needbased all cable laying along with fittings accessories supply, end-to-end all terminations, testing with test report submissions, training, documentation submission, Supervisor & project team posting at the time of installations, after proper go live 03 months man power posting & comprehensive warranty support included of all materials & services.