

STAGE I EVALUATION APPROVAL

GeM Bid No: GeM/2022/B/2682738 dt: 28.10.2022

Date: 24.02.2023.

Name of Supply: Supply of Audio Visual Equipment for Classrooms

Name of the Indentor & Department: Dr Roshan Karan Srivatsav, Computer Centre.

The tender has been published in GeM as a GeM BoQ Bid for Supply of Audio Visual Equipment for Classrooms.

We have received 07 responses from the below mentioned bidders before due date & time.

1. M/s. AV Designers, Bangalore ✓
2. M/s. Genesis IT Innovations Pvt Ltd, Bangalore ✓
3. M/s. Global Gadgets, Chennai
- ✓ 4. M/s. Gurusons Communications Pvt Ltd, New Delhi ✓
- ✓ 5. M/s. KS Smart Solutions Pvt Ltd, Chennai
- ✓ 6. M/s. S Cube Consultancy Services, Howrah
- ✓ 7. M/s. SEC Communications Pvt Ltd, Bangalore

The Indentor Dr Roshan Karan Srivatsav, Computer Centre has evaluated the e-bids received from the above bidders and found the below mentioned **three bidders** qualified technically in the Stage-I evaluation i.e pre-qualification evaluation as per the ATC document of GeM bid.

- 1) M/s. Gurusons Communications Pvt Ltd, New Delhi
- 2) M/s. S Cube Consultancy Services, Howrah
- 3) M/s. SEC Communications Pvt Ltd, Bangalore

Referencing to bid evaluation
The clause is reproduced below for your ready reference.

“ **Stage-I Evaluation (Pre-qualification criteria):** In this stage, the received bids will be evaluated by the committee as per the eligibility criteria, terms and conditions of the tender. Only the shortlisted bidders in this stage will be informed for a demo of the AV equipment. The shortlisted bidders will have to give a demo of the following equipment at IIT Tirupati Transit Campus, Yerpedu Mandal, Venkatagiri Road, Tirupati District, Andhra Pradesh – 517619 **within 10 days** of the receipt of mail from IIT Tirupati. No demos requests after **10** will be considered for evaluation.

The bidders are required to bring the following equipments as per the tender document (setup for the hybrid classroom along with DSP processor):

1. Camera for the board and camera for the student
2. Interactive display
3. Microphone and speaker system
4. Projectors Type 1, Type 2 and Type 3 as mentioned in the tender document
5. DSP Processor and Mixer as per the tender document “

The evaluation sheets along with the indentor recommendations are enclosed for your kind perusal & Approval please. [Enclosure-1]



The Indentor recommends that the following bidders have **not qualified** for the reasons mentioned below

S No	Name of the Bidder	Tender Clause No of non compliance	Reasons for disqualification
1	M/s. AV Designers, Bangalore	—	Not meeting the tender specifications
2	M/s. Genesis IT Innovations Pvt Ltd, Bangalore	—	Not meeting the tender specifications
3	M/s. Global Gadgets, Chennai	—	Not meeting the tender specifications
4	M/s. KS Smart Solutions Pvt Ltd, Chennai	Not meeting the ATC document point No.7	Site Visit not done

The procurement was satisfactorily advertised and sufficient time [i.e 60 days] was given for submission of bids and the qualification criteria were not unduly restrictive.

Submitted for approval for the following:

- i. The recommendations of the evaluation may be approved please.
- ii. If approved, the recommendations of the Stage-I evaluation report may be published in our website. (X)
- iii. Approval may be accorded for communicating the qualified bidders to submit the above mentioned equipment for demo within 10 days of the date of receipt of mail from the purchase section. (Y)

[Signature]
JA, Purchase

[Signature]
JS (P&S)

AR [P&S] (1) The recommendations of the tender evaluation may kind be perused and approved please.

(2) (X) & (Y) may kindly be approved please.

Submitted for approval please.

[Signature]
28/02/2023
AR [P&S]

DR [P&S]

hak hol...
01.3.23.

Approved.
[Signature]
13/3/23
Director.

H O D : *[Signature]*
07/03/2023.

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Digital Uniformity Equalizer	Yes	Yes	Not provided	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	
Presets Modes	User, Adobe RGB, sRGB, Calibration	Yes	Not provided	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	
OSD Language	English, German, French, Italian, Japanese, Simplified Chinese, Spanish, Swedish, Traditional Chinese	Yes	Not provided	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	
Other	Color Adjustment, Input Color Format, YUV Color Matrix, Input Range, Noise Reduction, IP Conversion, Picture Expansion, Menu Rotation, Power Save, Input Skip, Mode Skip, Custom Key, Information Display, Key Lock, DUE Priority	Yes	Not provided	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	
Physical Specifications										
Dimensions (Landscape, W x H)	618 x 404.1 x 519.1 x 265 mm	Yes	Yes	613x412.67-542.67x215	No	609.9 - 534.15	No	609.9 - 534.15	No	609.9 - 534.15
Dimensions (Without Stand)	618 x 378.2 x 75 mm	Yes	Yes	636x355x50	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Net Weight	10.1 kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Weight (Without Stand)	6.3 kg	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Height Adjustment	155 mm	Yes	No	130mm	No	150 mm	No	150 mm	No	150 mm
Range	13° Up, 5° Down	Yes	No	4° to 21°	No	4° to 21°	No	4° to 21°	No	4° to 21°
Tilt	344°	Yes	Yes	120°	No	45° to 45°	No	45° to 45°	No	45° to 45°
Swivel	344°	Yes	Yes	120°	No	45° to 45°	No	45° to 45°	No	45° to 45°
Pivot	90°	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Certifications & Standards (For more contact EZZO for the latest information)	CE, CB, UKCA, TUV/GS, eTUV/ve, FCC-B, CAN ICES-3, IEC, TÜV/S, PSE, VCCI-B, RoHS, EAC, RAL, WEEE, TIIV/Environmental, I.D./BIS	Yes	No	TUV/GS, CAN ICES-3(B), TÜV/S, PSE, VCCI-B, TÜV/ergonomic, UL/BIS not there	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Dedicated Software										
Easy Screen-to-Cover Management Software	Supported	Yes	Not provided	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Signal Cable	USB Type-C (2 m), HDMI (2 m)	Yes	Yes	Yes	No	1.8 m each cable	Yes	Yes	Yes	Yes
Other	AC power cord, USB Type-A - USB Type-	Yes	Yes	Yes	Yes	But USB Type-A Not providing	Yes	Yes	Yes	Yes

PROJECTORS

52061SPROJ	Type 1 : Supply Installation Testing Commissioning of 52061 Lensare Projector	41	Optoma ZU615AT	EPSON - EB-L530U	PT-VMZ51/PT-VMZ51S	PT-VMZ51/PT-VMZ51S	PT-VMZ51/PT-VMZ51S	PT-VMZ51/PT-VMZ51S
Light Source	Laser Diode/Thyristor	Yes	Yes	Laser	Yes	Yes	Yes	Yes
Panel, Resolution	Transparent 3LCD panel/DLP Panel, 0.64" WXGA(1920 x 1200) or better	Yes	Yes	WXGA 1920x1200 Full HD, 3LCD 0.67 inch	Yes	Yes	Yes	Yes
Brightness	5,000 lumens or higher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Light source life in Normal	20,000 hours or better	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Filter maintenance Cycle	20,000 hours or better	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Contrast Ratio (Dynamic)	3,000,000:1 or higher	Yes	No	2500000:1	Yes	Yes	Yes	Yes

7	Displays & Projectors							
Lens Driving	Manual	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Lens (Standard)	1.6x Zoom	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Throw Ratio	1.09~1.771 : +/-20% of tolerance	1.4~2.24	Yes	Yes	Yes	Yes	Yes	Yes
Lens Shift (Manual)	V:44~0%, H:1~20% (from the center of the screen)	Information not clear	Yes	V:11~50%, H:1~20%	Yes	Yes	Yes	Yes
6 point image correction/Key stone correction	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
HDMI CEC	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
4K Signal Input support	Yes (Up to 4K/30p)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup Logo function	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Auto screen image rotation	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Auto Input signal search	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Built in speakers	10W or higher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quick start and Quick Off	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Color board and Back board	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Digital Input Terminal	HDMI x 2 (Should support 4K@30Hz & HDCP Compatible, HDMI CEC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Inputs	BD Base - T IN X 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Inputs	VGA IN X 2, Audio IN X 2, Audio Out x 1, USB X 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Inputs	RS232 X 1, LAN(RJ45) X 1(P1 Link Compatible)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power Consumption	Not more than 255W in Normal mode	No	310W	293 W	Yes	Yes	Yes	Yes

SITE VISIT NOT DONE

62061SPROJ	Type 2 : Supply Installation Testing Commissioning of 62061 Lensare Projector	13	Optoma ZU60T	EPSON - EB-L630U	PT-VMZ61	PT-VMZ61	PT-VMZ61	PT-VMZ61
Light Source	Laser Diode/Thyristor	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel, Resolution	Transparent 3LCD panel/DLP Panel, 0.64" WXGA(1920 x 1200) or better	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Brightness	6,000 lumens or higher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Light source life in Normal	20,000 hours or better	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Filter maintenance Cycle	20,000 hours or better	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Contrast Ratio (Dynamic)	3,000,000:1 or higher	Yes	No	2500000:1	Yes	Yes	Yes	Yes

8	Displays & Projectors							
Lens Driving	Manual	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Lens (Standard)	1.6x Zoom	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Throw Ratio	1.09~1.771 : +/-20% of tolerance	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lens Shift (Manual)	V:44~0%, H:1~20% (from the center of the screen)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6 point image correction/Key stone correction	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
HDMI CEC	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
4K Signal Input support	Yes (Up to 4K/30p)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup Logo function	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Auto screen image rotation	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Auto Input signal search	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Built in speakers	10W or higher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quick start and Quick Off	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Color board and Back board	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Digital Input Terminal	HDMI x 2 (Should support 4K@30Hz & HDCP Compatible, HDMI CEC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Inputs	BD Base - T IN X 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Inputs	VGA IN X 2, Audio IN X 2, Audio Out x 1, USB X 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Inputs	RS232 X 1, LAN(RJ45) X 1(P1 Link Compatible)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power Consumption	Not more than 320W in Normal mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes

70061SPROJ	Type 3 : Supply Installation Testing Commissioning of 70061 Lensare Projector	3	Optoma ZUR20T	EPSON - EB-L730U	PT-VMZ71	PT-VMZ71	PT-VMZ71	PT-VMZ71
Light Source	Laser Diode/Thyristor	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel, Resolution	Transparent 3LCD panel/DLP Panel, 0.64" WXGA(1920 x 1200) or better	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Brightness	7,000 lumens or higher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Light source life in Normal	20,000 hours or better	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Filter maintenance Cycle	20,000 hours or better	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Contrast Ratio (Dynamic)	3,000,000:1 or higher	Yes	No	2500000:1	Yes	Yes	Yes	Yes

9	Displays & Projectors							
Lens Driving	Manual	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Lens (Standard)	1.6x Zoom	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Throw Ratio	1.09~1.771 : +/-20% of tolerance	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lens Shift (Manual)	V:44~0%, H:1~20% (from the center of the screen)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6 point image correction/Key stone correction	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
HDMI CEC	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
4K Signal Input support	Yes (Up to 4K/30p)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Startup Logo function	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Auto screen image rotation	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Auto Input signal search	Required	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Built in speakers	10W or higher	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quick start and Quick Off	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Color board and Back board	Yes	Not provided	Yes	Yes	Yes	Yes	Yes	Yes
Digital Input Terminal	HDMI x 2 (Should support 4K@30Hz & HDCP Compatible, HDMI CEC)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Inputs	BD Base - T IN X 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Inputs	VGA IN X 2, Audio IN X 2, Audio Out x 1, USB X 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Inputs	RS232 X 1, LAN(RJ45) X 1(P1 Link Compatible)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Power Consumption	Not more than 375W in Normal mode	Yes	Yes	Yes	Yes	Yes	Yes	Yes

SCREENS								
SCRN199	Type 1 : Supply Installation Testing Commissioning of 199 inches SCREEN	14	SVRMOHDS109	EHM - SK110XHW-E10	SVRMOHDS109	SVRMOHDS109	SVRMOHDS109	SVRMOHDS109

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		AAT FTU 12 (10x)-page 73	Panasonic-AW-UE41WZD- Page 63	Data video, PTC 140-Page no 500	UNITE 200 Pro PTZ HD camera-Clear one	UNITE 200 Pro PTZ HD camera-Clear one	UNITE 200 Pro PTZ HD camera-Clear one
3	CAM-CAM	Supply Installation Testing Commissioning of Ceiling Mount Kit for Camera					
		Supply Installation Testing Commissioning of Ceiling Mount KIT : Ceiling Mount kit for Camera or Sensor	Yes	Yes	Yes	Yes	Yes
			nT	NT 73B01	Logic LG-CCM-SF	Logic LG-CCM-SF	Logic LG-CCM-SF
4	PC	Supply Installation Testing Commissioning of PC	Yes partially	check USB C Port, Check wireless keyboard and mouse, Check min 4 DDR4 slot	Yes	Yes	Yes
		Latest X86 processor 12th Generation Intel® Core™ i7 or higher, 20MB cache, Min 12 cores, Min 20 threads, Min 2.10GHz to 4.90GHz, 65W or higher. The offered Processors should not be mentioned in end-of-life declaration by OEM as on bid closing date. Intel Q770 Chipset or better, OEM Motherboard, Min 16 GB DDR4 RAM 2666 MHz expandable up to 128 GB with min 4 DIMM Slots. External USB: (Minimum 5 USB 3.2 Gen 1 Type-A port, 1 USB 3.2 Gen 2 Type-C port), 1 Universal Audio Jack, 1 Line-out / Line-in audio port, 2 DisplayPort 1.4 ports, 1 RJ-45 port 10/100/1000 Mbps, 2 PCIe slots (Minimum: 1 PCIe Gen 4 16-lane, 2 PCIe 3.0 Gen 3 slots or better, Min 256 GB M.2 PCIe NVMe SSD or higher, 1 TB SATA or better, Min 21.5" FHD Monitor or better, 10/100/1000 Gbps Ethernet and 802.11ac Wi-Fi 6 + Bluetooth 5. Small Form Factor, Tool less Chassis with Lockdown Switch, 260W internal power supply unit (PSU), 40% Efficient or better, wireless Keyboard (same make as pc), Wireless mouse (same make as pc), Windows 10 Pro 64 Bit or better, Energy star 6.0, EPEAT India Certified for Desktop & TCO 8.0 for Monitor, ISO 9001:2008 certification for OEM or better.	Yes	Reg Monitor 7 Data sheet	Yes	Yes	Yes
		Lenovo M80 desktop + S23e (21.5" FHD monitor)-page 74	Lenovo-M77T Gen 3, Page NO 91	Dell Optiplex 5000 Tower	Dell Optiplex 5000 Tower	Dell Optiplex 5000 Tower	Dell Optiplex 5000 Tower
5	CAM-HANDY	Supply Installation Testing Commissioning of 4K Handy camera	Yes	Sony FDR-AX43+Sony 64GB Card+Camera bag	Panasonic, AG-CX8	SONY, FDR-AX43/BCN5	sony FDR-AX43/BCN5
		Sensor: 1/2.5 type(7.2mm) back-illuminated Exmor R CMOS Sensor	Yes	Information not provided	Yes	Yes	Yes
		Optical Zoom - 20x	Yes	Information not provided	Yes	Yes	Yes
		LCD Viewer with Touch/Non touch	Yes	Better 24x	Yes	Yes	Yes
		Focus and Exposure - Auto/Manual, White Balance - Auto	Yes	Information not provided	Yes	Yes	Yes
		Focus Distance Support - Tele 1 cm, Wide - 80 cm Approx.	Yes	Information not provided	Yes	Yes	Yes
		Recording Format - MPEG4/H.264, Storage Via SD Card Capacity 64 or Above	Yes	Information not provided	Yes	Yes	Yes
			Information not provided	Yes	Better MOV/MP4, AVCHD, MPEG/H.264 Streaming CAM	Yes	Yes
			Sony FDR-AX43+Sony 64GB Card+Camera bag	Panasonic, AG-CX8	SONY, FDR-AX43/BCN5	sony FDR-AX43/BCN5	sony FDR-AX43/BCN5
6	CAM-USB	Supply Installation Testing Commissioning of USB Camera	Yes	USB 3.0 interface, 1.5M cable, Plug and play	Cable with SI Scope 7	Yes	Yes
		Connection Type	USB with Integrated Cable, Minimum 6ft or Above	Yes	Yes	Yes	Yes
		USB Parameter	USB 2.0, High Speed, UVC 1.5	Yes	UVC 1.5 7	Yes	Yes
		Is Built Microphone	Yes, Dual Stereo	Yes	Yes	Yes	Yes
		Focus Type	Auto	Yes	Yes	Yes	Yes
		Optical Resolution	3MP or above	Yes	Yes	Yes	Yes
		Horizontal Field of View	82.1°	Yes	78°	Yes	Yes
		Frame Rate (fps)	1080p @ 30fps	Yes	Yes	Yes	Yes
		Privacy Shutter	Yes	Yes	Yes	Yes	Yes
		tripod, Display Mount	Yes	Yes	Yes	Yes	Yes
			AAT SNAP U2-page 94	Panasonic-VC-VDW120X	Logitech-C930e	Logitech-C930e	Logitech-C930e
		Page 2					
		Switches, DA, Extenders, Cables					
		Technical Specifications AV System for Class Room					
		Unique ID No.	Features	Compliance (Yes/No)			
		SWITCHERS					
1	SWX1	Type 1 : Supply Installation Testing Commissioning of 2x1 4K HDR HDMI Intelligent Auto Switcher	Yes	Extron SW2 HD 4K PLUS	Liberty, AV - DL-641D	Kramer VS-211XS	Kramer VS-211XS
		INPUTS	2 HDMI: On a female HDMI connector	Yes	Yes	Yes	Yes
		OUTPUTS	1 HDMI: On a female HDMI connector	Yes	Yes	Yes	Yes
		1 Balanced Stereo Audio: On 5-pin terminal block connector	Yes	Yes	Yes	Yes	Yes
		RS-232: On a 9-pin terminal block connector	Yes	Yes	Yes	Yes	Yes
		Remote Control Channel: On an 8-pin terminal block connector	Information not clear	Information not provided	Yes	Yes	Yes
		Ethernet: On an RJ-45 connector	Yes	Information not provided	Yes	Yes	Yes
		Max Data Rate: 17.82Gbps (5.94Gbps per graphic channel)	Yes	Information not provided	Yes	Yes	Yes
		Max Resolution: 4K@60 (4:4:4)	Yes	Information not provided	Yes	Yes	Yes
		Compliance: HDR10 as specified in HDMI 2.0, HDCP 2.2	Yes	DVI 1.0, HDMI 2.0a, HDMI 1.4, HDCP 1.4, HDCP 2.3, CEA	Yes	Yes	Yes
		Source: 5V DC, 4A	Yes	Device: 3.0 watts, 12 VDC Device	Yes	Yes	Yes
		Consumption: 810mA	Information not provided	Information not provided	Yes	Yes	Yes
		USER INTERFACE	Control: Input selection, volume, and mute buttons, DIP-switches for configuring switching policy and multi-decoding source, embedded web page via IP	Information not provided	Yes	Yes	Yes
		Remote Device	Control meeting and presentation device connected	Information not provided	Yes	Yes	Yes
		Multi-channel Audio Switching	16 channels or above of digital stereo uncompressed signals for supporting audio-grade surround sound	Information not provided	Yes	Yes	Yes
		Display Operation	Automatically turning ON/OFF a CE-C-enabled display when the presentation source is plugged in / unplugged with user-defined time delay	Information not provided	Yes	Yes	Yes
		ENCLOSURE	Type: Aluminum	Yes	Metal	Yes	Yes
		Operating Temperature: 0° to +40°C (32° to 104°F)	Yes	Yes	Yes	Yes	Yes
		Storage Temperature: -40° to +70°C (-40° to 158°F)	Yes	Yes	Yes	Yes	Yes
		Humidity: 10% to 90%, R.H.L, non-condensing	Yes	Yes	Yes	Yes	Yes
		Health, Safety, Environmental: RoHS, WEEE, CE, preffered or applicable	Yes	Yes	Yes	Yes	Yes
2	SWX2	Type 2 : Supply Installation Testing Commissioning of 8x4 4K HDR HDMI 2.0 HDCP 2.2 Matrix Switcher with Audio De-embedding	Yes	Extron DXP 8 HD 4K PLUS	Liberty, AV - DL-HDM8A1D	Kramer VS-8H2A	Kramer VS-8H2A
		INPUTS	8 HDMI: On female HDMI connectors	Yes	Yes	Yes	Yes
		OUTPUTS	8 HDMI: On female HDMI connectors, 8 Balanced Stereo Audio: On 5-pin terminal block connector	Yes, Partially	2, 4, 8, or 16 HDMI, embedded/2 or 4 stereo, balanced or unbal	Yes	Yes
		PORTS	1 USB: On a Mini female connector, RS-232: On a 9-pin D-sub connector, 1 IR IN: On a 3.5mm mini jack, 1 Ethernet: On an RJ-45 female connector	Yes	Information not provided	Yes	Yes
		VIDEO	Max. Resolution: 4K@60Hz 4:4:4, Max. Data Rate: 18Gbps (6Gbps per graphic channel), Compliance: Supports HDMI 2.0/1.4, HDCP 2.3/1.4	Yes	HDCP 2.3	Yes	Yes
		USER INTERFACE	Front Panel: IN and OUT selection buttons, Front Panel: OFF, ALL, STO, MUTE, EDID LOCK buttons	Yes	Information not provided	Yes	Yes
		ENVIRONMENTAL CONDITIONS	Operating Temperature: 0° to +40°C (32° to 104°F), Storage Temperature: -40° to +70°C (-40° to 158°F), Humidity: 10% to 90%, R.H.L.	Yes	Information not provided	Yes	Yes
		POWER	Source: 100-240V AC, 50/60Hz, Consumption: 60VA	No	30.8 watts	Yes	Yes
		STANDARDS COMPLIANCE	Safety: CE, Environmental: RoHS, WEEE preferred or applicable according to country of origin	Yes	Information not provided	Yes	Yes
		ENCLOSURE	Size: 19" 1U, Type: Aluminum	No	1.79" H x 17.5" W x 9.5" D Type - Metal	Yes	Yes
		ACCESSORIES	Include: Power cord, rack ears, remote control transmitter with batteries	No	Information not provided	Yes	Yes
		OTHER SPECIFICATIONS	Audio and Digital Audio Extension (De-embedding), Equalization & Reducing Technology - Rebuilds the digital signal to travel longer distances, Flexible Content Protection - Selectable HDCP per input, Quick Access to Common Configurations - Sets up to maintain site present configurations, EDID Management - Individual EDID management per input, Capture and stores the EDID from a display device.	No	Information not provided	Yes	Yes
3	SWX4	Type 3 : Supply Installation Testing Commissioning of 4x4 4K HDR HDMI 2.0 HDCP 2.2 Matrix Switcher with Audio De-embedding	Yes	Extron DXP 4 HD 4K PLUS	Liberty, AV - DL-HDM4A1D	Kramer VS-4H2A	Kramer VS-4H2A
		INPUTS	4 HDMI: On female HDMI connectors	Yes	Information not provided	Yes	Yes

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OUTPUTS	4 HDMI: On female HDMI connectors 4 SPDIF; On female RCA connectors 4 Balanced Stereo Audio: On 3-pin terminal block connectors	Yes	2, 4, 8, or 16 HDMI; embedded2 or 4 stereo, balanced or unbalanced	Information not provided	Yes	Yes	Yes	Yes	Yes
PORTS	1 USB: On a Mini female connector 1 RS-232: On a 9-pin D-sub connector 1 IR IN: On a 3.5mm mini jack	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
VIDEO	Max. Resolution: 4K@60Hz (4:4:4) Max. Data Rate: 18Gbps (6Gbps per graphic channel) Compliance: Supports HDMI 2.0/1.4, HDCP 2.2/1.4	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
USER INTERFACE	Front Panel: IN and OUT selection buttons Front Panel: OFF, ALL, STG, RCL, EDID, LOCK buttons	No		Information not provided	Yes	Yes	Yes	Yes	Yes
ENVIRONMENTAL CONDITIONS	Operating Temperature: 0° to +40°C (32° to 104°F) Storage Temperature: -40° to +70°C (-40° to 158°F) Humidity: 10% to 90% R.H. non-condensing	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
POWER	Source: 100-240V AC, 50/60Hz Consumption: 60VA	No		Information not provided	Yes	Yes	Yes	Yes	Yes

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Switchers, DA, Extenders, Cables									
STANDARDS COMPLIANCE	Safety: CE preferred or applicable according to country of origin Environmental: RoHS, WEEE preferred or applicable according to country of origin	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
ENCLOSURE	Size: 1P 1U Type: Aluminum Cooling Fan	No		Information not provided	Yes	Yes	Yes	Yes	Yes
ACCESSORIES	Included: Power cord, rack ears, remote control transmitter with battery	No		Information not provided	Yes	Yes	Yes	Yes	Yes
OTHER SPECIFICATIONS	Analog and Digital Audio Extraction (De-embedding)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Show my PC over HDMI	Not mentioned		Information not provided	Yes	Yes	Yes	Yes	Yes
	Equalization & re-clocking Technology — Rebuilds the digital signal to travel longer distances	No		Information not provided	Yes	Yes	Yes	Yes	Yes
	Flexible Content Protection — Selectable HDCP per input	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Quick Access to Common Configurations — Save up to 16 minimum six preset configurations	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Cost-Effective Maintenance — IR and Input Selection indicators facilitate easy local maintenance and troubleshooting	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	EDID Management — Individual EDID management per input. Captures and stores the EDID from a display device.	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes

Type 4: Supply Installation Testing Commissioning of 1:4 4K HDR HDMI Distribution Amplifier									
INPUT	1 HDMI connector	Yes	Aim V7184D	Yes	Liberty AV-DLHD14-1R	Yes	Kramer VM-4H2	Yes	Kramer VM-4H2
OUTPUTS	4 HDMI connectors	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
PORT	1 RS-232 for firmware upgrade	Not mentioned		Information not provided	Yes	Yes	Yes	Yes	Yes
MAX. DATA RATE	17.4Gbps (5.94Gbps per graphic channel) supporting resolutions up to 4K @60Hz (4:4:4)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
COMPLIANCE WITH HDMI	Supports HDR10, HDR10+ and HDCP 2.2	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
OPERATING TEMPERATURE	0° to +40°C (32° to 104°F)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
STORAGE TEMPERATURE	-40° to +70°C (-40° to 158°F)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
HUMIDITY	10% to 90% R.H. non-condensing	No	0 - 80% RH, Non-Condensing	Information not provided	Yes	Yes	Yes	Yes	Yes
POWER	5V DC, 750mA	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
OTHER FEATURES	Max. Data Rate — 17.4Gbps	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Max. Resolution — 4K@60Hz (4:4:4)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Intelligent EDID Processing	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Equalization & re-clocking Technology (in-built)	No		Information not provided	Yes	Yes	Yes	Yes	Yes
Field Maintenance — RS-232 connection for simple field firmware	No		Information not provided	Yes	Yes	Yes	Yes	Yes	Yes

SITE VISIT NOT DONE

Type 5: Supply Installation Testing Commissioning of 1:16 4K HDR HDMI Distribution Amplifier									
INPUT	1 HDMI on HDMI female connector	Yes	Aim V501101A	Yes	Liberty AV-DLHD16-1R	Yes	Kramer VM-16H2	Yes	Kramer VM-16H2
OUTPUTS	16 HDMI on HDMI female connectors	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
PORT	1 RS-232 on 3-pin terminal block connector for device control 1 Mini-USB female connector for firmware upgrade	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
VIDEO	Up to 17.4Gbps bandwidth (5.94Gbps per graphic channel), Up to 4K@60Hz (4:4:4) resolution, HDR10, HDR10+ and HDCP 2.2 signal compliance	No	10.2 Gbps (3.4 Gbps per lane)	Information not provided	Yes	Yes	Yes	Yes	Yes
CONTROLS	EDID SELECT and READ buttons, DIP switches	No	No Read button and DIP switches	Information not provided	Yes	Yes	Yes	Yes	Yes
OPERATING TEMPERATURE	0° to +40°C (32° to 104°F)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
STORAGE TEMPERATURE	-40° to +70°C (-40° to 158°F)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
HUMIDITY	10% to 90% R.H. non-condensing	No	0 - 80% RH, Non-Condensing	Information not provided	Yes	Yes	Yes	Yes	Yes
POWER	5V DC, 800mA	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
OTHER FEATURES	High Performance Distributor — Professional 1:16 HDMI distributor for up to 4K@60Hz (4:4:4), HDR10 Signal Transmission — HDR, HDR10+ and HDCP 2.2 compliant signal	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes

Type 6: Supply Installation Testing Commissioning of 4K HDR HDMI Transmitter with									
INPUTS	1 HDMI: On female HDMI connector	Yes	Aim VE1843	This product come with Transmitter	Liberty DL-18D79	Yes	Kramer TP-683T	Yes	Kramer TP-683T
OUTPUTS	1 HDMI: On an RJ-45 connector	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
PORTS	1 RS-232: On a 3-pin terminal block connector for serial link extension 1 IR: On a 3.5mm mini jack connector	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
STANDARD COMPRESSION EXTENSION	Up to 40m (130ft) at 4K@60Hz (4:4:4)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
HIGH COMPRESSION EXTENSION	Up to 70m (230ft) at 4K@60Hz (4:4:4), 4K@60Hz (4:2:2), or Full HD (1080p @60Hz 30ppp)	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
VIDEO	Max Data Rate: Up to 18Gbps (6Gbps per graphic channel) Standard Compression Max Resolution: 4096x2160@60Hz (4:4:4) 240ppp High Compression Max Resolution: 3840x1600@60Hz (4:4:4) 240ppp Compliance: HDMI 2.0, HDCP 2.2, HDR 10	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
EXTENDED BIDIRECTIONAL RS	300 to 11500 baud rate	No		Information not provided	Yes	Yes	Yes	Yes	Yes
EXTENDED BIDIRECTIONAL IR	20kHz to 100kHz frequency	No	30K - 56 KHz full range transmission	Information not provided	Yes	Yes	Yes	Yes	Yes
USER INTERFACE	Indicators: IN, OUT, LINK, and ON LEDs Controls: DIP-switches	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
POWER	Source: 12V DC, 2A Consumption: 480mA	No	DC 12 V : 6.45 W : 40 BTU	Information not provided	Yes	Yes	Yes	Yes	Yes
ENVIRONMENTAL CONDITIONS	Operating Temperature: 0° to +40°C (32° to 104°F) Storage Temperature: -40° to +70°C (-40° to 158°F) Humidity: 10% to 90% R.H. non-condensing	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
ENCLOSURE	Type: Aluminum Cooling: Convection ventilation	No	Metal	Information not provided	Yes	Yes	Yes	Yes	Yes
ACCESSORIES	Included: Power adapter, power cord, bracket set	Not mentioned		Information not provided	Yes	Yes	Yes	Yes	Yes

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Switchers, DA, Extenders, Cables									
REGULATORY	Safety: CE, UL Environmental: RoHS, WEEE	Not mentioned		Information not provided	Yes	Yes	Yes	Yes	Yes
OTHER SPECIFICATIONS	High-performance, long-reach HDMI transmitter for 4K HDR HDMI, RS-232 and IR signals over twisted pair	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Intelligent EDID pass-through algorithm that corrects Plug and Play operation for HDMI source and display systems	Not mentioned		Information not provided	Yes	Yes	Yes	Yes	Yes
	Multi-channel Audio Extension — Up to 32 channels of digital stereo uncompressed signals for supporting studio-grade surround sound	Not mentioned		Information not provided	Yes	Yes	Yes	Yes	Yes
	Bidirectional RS-232 Extension — Serial interface data flows in both directions, allowing data transmission and device control	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Cost-Effective Maintenance — Status LED indicates for HDMI and HDMI ports facilitate easy local maintenance and troubleshooting	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes
	Easy Installation — Compact fan-less enclosure for dropped-ceiling mounting	Yes		Information not provided	Yes	Yes	Yes	Yes	Yes

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HDMI-A	Type 7: Supply Installation Testing Commissioning of 4K HDR HDMI Transmitter with Ethernet, RS-232, IR, ARC & Stereo Audio Routing over PoE Extended-Reach		Yes	Alta VE183	Yes	Liberty AV - DLHDE100-H2	Yes	Kramer TP-594Txr	Yes	Kramer TP-594TxrUL: CM; RoHS; 2011/65/ EU	Yes	Kramer TP-594TxrUL: CM; RoHS; 2011/65/ EU	Yes	Kramer TP-594Txr
	INPUTS	HDMI: On a female HDMI connector	Yes		Yes		Yes	UL: CM; RoHS;	Yes		Yes		Yes	
	OUTPUTS	HDMI: On an RJ-45 connector	Yes		Yes		Yes		Yes		Yes		Yes	
		Optical (Digital Audio): On a TOGLINK® connector	Not mentioned		Yes		Yes		Yes		Yes		Yes	
	PORTS	Balanced Stereo Audio: On a 5-pin terminal block connector	Yes		Yes		Yes		Yes		Yes		Yes	
		Ethernet: On an RJ-45 female connector for device control and LAN extension	Yes		Yes		Yes		Yes		Yes		Yes	
		RS-232: On a 5-pin terminal block for serial link extension	Yes		Yes		Yes		Yes		Yes		Yes	
		IR: On a 3.5mm mini Jack for IR extension	Yes		Yes		Yes		Yes		Yes		Yes	
		Control RS-232: On a 3-pin terminal block for device control	Yes		Yes		Yes		Yes		Yes		Yes	
		USB: On a female USB-A connector for device firmware upgrade	Yes		Yes		Yes		Yes		Yes		Yes	
	EXTENSION LINE	Compression: Low-level standard DDC compression for signals above 4K@60 (4:2:0)	Yes		Yes		Yes		Yes		Yes		Yes	
		4K@60 (4:4:4) Range with Compression: Up to 100m (130ft)	Yes		Yes		Yes		Yes		Yes		Yes	
		4K@60 (4:2:0) Range with No Compression: Up to 100m (130ft)	Yes		Yes		Yes		Yes		Yes		Yes	
		Full HD (1080p@60Hz) Range with No Compression: Up to 130m (430ft)	Not mentioned		No		Yes		Yes		Yes		Yes	
		Full HD (1080p@60Hz) Range in Ultra-Long Mode: Up to 180m (590ft)	Not mentioned		No		Yes		Yes		Yes		Yes	
		Compliance: HDC2.2, HDR 10	Yes		Yes		Yes		Yes		Yes		Yes	
	VIDEO	Max Bandwidth with Compression: 17.5Gbps (3.9Gbps per graphic channel)	Yes		Yes		Yes		Yes		Yes		Yes	
		Max Bandwidth with No Compression: 10.2Gbps (3.4Gbps per graphic channel)	Not mentioned		Yes		Yes		Yes		Yes		Yes	
		Max Resolution with Compression: 3440x2160@60Hz 4:4:4 24bpp	Yes		Yes		Yes		Yes		Yes		Yes	
		Max Resolution with No Compression: 4096x2160@60Hz 4:2:0 24bpp	Yes		Yes		Yes		Yes		Yes		Yes	
		Compliance: HDCP 2.2, HDR 10	Yes		Yes		Yes		Yes		Yes		Yes	
		Indicators: Active source detection, PoE status, HDMI-T link and power LEDs	Yes		Yes		Yes		Yes		Yes		Yes	
	USER INTERFACE	Rear Panel: DIP-switches	Yes		Yes		Yes		Yes		Yes		Yes	
		Band Rate: 300 to 115,200	Yes		Band Rate: 19200	Yes			Yes		Yes		Yes	
		Data Rate: Up to 100Mbps	Not mentioned			Yes			Yes		Yes		Yes	
EXTENDED IR	Frequency: 38kHz to 60kHz	No		30K - 56 kHz full range transmission	Yes			Yes		Yes		Yes		
POWER	Consumption of Tx when supplying PoE to an 8.5A	No		DC 12 V, 6.45 W, 40 BTU	Yes		Consumption of TP-594Txr when supplying PoE to TP-594Rxr 0.65A	Yes		Yes		Yes		
ENVIRONMENTAL CONDITIONS	Operating Temperature: 0° to +40°C (32° to 104°F)	Yes		Yes		Yes		Yes		Yes		Yes		
	Storage Temperature: -40° to +70°C (-40° to 158°F)	Yes		Yes		Yes		Yes		Yes		Yes		
	Humidity: 10% to 90%, RH, non-condensing	Yes		Yes		Yes		Yes		Yes		Yes		
STANDARDS COMPLIANCE	Safety: CE, UL, preferred or applicable according to country of origin	Not mentioned		Yes-CE, FCC	Yes		Yes	Yes		Yes		Yes		
	Environmental: RoHS, WEEE, preferred or applicable according to country of origin	Not mentioned		Yes	Yes		Yes	Yes		Yes		Yes		
ENCLOSURE	Type: Aluminium	No		Metal	Yes		Yes	Yes		Yes		Yes		
	Cooling: Convection ventilation	Yes		Yes	Yes		Yes	Yes		Yes		Yes		
ACCESSORIES	Included: Power adapter, power cord and bracket	Not mentioned		Yes	Yes		Yes	Yes		Yes		Yes		
HDMI-B	Supply Installation Testing Commissioning of 4K HDR HDMI Receiver with RS-232 & IR over Long-Reach HDMI-T		Yes	Extreme DTP2 R 211	Yes	Liberty AV - DLHDE100-H2	Yes	4RxUL: CM; RoHS; 2011/65/ EU	Yes	Kramer TP-594Rxr	Yes	Kramer TP-594Rxr	Yes	Kramer TP-594Rxr
	INPUTS	1 HDMI: On an RJ-45 connector	Yes		Yes		Yes		Yes		Yes		Yes	
	OUTPUTS	1 HDMI: On a female HDMI connector	Yes		Yes		Yes		Yes		Yes		Yes	
		Optical (Digital Audio): On a TOGLINK® connector	Not mentioned		Yes		Yes		Yes		Yes		Yes	
	PORTS	RS-232: On a 3-pin terminal block connector for serial link extension	Yes		Yes		Yes		Yes		Yes		Yes	
		IR: On a 3.5mm mini jack connector	Yes		Yes		Yes		Yes		Yes		Yes	
	EXTENSION LINE	Standard Compression	Information not provided		Yes		Yes		Yes		Yes		Yes	
		Up to 40m (130ft) at 4K@60Hz (4:4:4) or 4K@60Hz (4:2:0)	Yes		Yes		Yes		Yes		Yes		Yes	
		Up to 70m (230ft) at 4K@60Hz (4:4:4), 4K@60Hz (4:2:0), or Full HD	Yes		Yes		Yes		Yes		Yes		Yes	
		No Compression Extension: Up to 40m (130ft) at 4K@60Hz (4:2:0)	Information not provided		No		Yes		Yes		Yes		Yes	
		Up to 70m (230ft) at Full HD (1080p @60Hz 24bpp)	Information not provided		No		Yes		Yes		Yes		Yes	
		Standard Compliance: HDC2.2, HDR 10	Information not provided		Yes		Yes		Yes		Yes		Yes	
	VIDEO	Max Data Rate: Up to 18Gbps (6Gbps per graphic channel)	Information not provided		Yes		Yes		Yes		Yes		Yes	
		No Compression Max Resolution: 4096x2160@60Hz (4:2:0) 24bpp	Information not provided		Yes		Yes		Yes		Yes		Yes	
		High Compression Max Resolution: 3440x2160@60Hz (4:4:4) 24bpp	Information not provided		Yes		Yes		Yes		Yes		Yes	
		Standard Compression Max Resolution: 4096x2160@60Hz (4:4:4) 24bpp	Information not provided		Yes		Yes		Yes		Yes		Yes	
		Compliance: HDCP 2.2, HDR 10	Information not provided		Yes		HDCP 1.4, 2.3		Yes		Yes		Yes	
		Indicators: IN, OUT, LINK, and ON LEDs	Information not provided		Yes		Yes		Yes		Yes		Yes	
	USER INTERFACE	Controls: DIP-switches	Information not provided		Yes		Yes		Yes		Yes		Yes	
		Band Rate: 300 to 115,200 baud rate	Information not provided		Yes		Yes		Yes		Yes		Yes	
					Yes		Yes		Yes		Yes		Yes	
	Page 3													
	EXTENDED IR	Switches, DA, Extenders, Cables	Information not provided		Yes		Yes		Yes		Yes		Yes	
	POWER	Source: 12V DC, 2A	Information not provided		Yes		Yes		Consumption of TP-594		Yes		Yes	
ENVIRONMENTAL CONDITIONS	Operating Temperature: 0° to +40°C (32° to 104°F)	Information not provided		Yes		Yes		Yes		Yes		Yes		
	Storage Temperature: -40° to +70°C (-40° to 158°F)	Information not provided		Yes		Yes		Yes		Yes		Yes		
	Humidity: 10% to 90%, RH, non-condensing	Information not provided		Yes		Yes		Yes		Yes		Yes		
STANDARDS COMPLIANCE	Safety: CE, UL	Information not provided		Yes		Yes		Yes		Yes		Yes		
	Environmental: RoHS, WEEE	Information not provided		Yes		Yes		Yes		Yes		Yes		
ENCLOSURE	Type: Aluminium	No		Metal	Yes		Yes	Yes		Yes		Yes		
	Cooling: Convection ventilation	Yes		Yes		Yes		Yes		Yes		Yes		
ACCESSORIES	Included: Power adapter, power cord, bracket and	Information not provided		Yes		Yes		Yes		Yes		Yes		
RECORDER & STREAMER														
REC	Type 1: Supply Installation Testing Commissioning of Recorder		Yes	Lumens LC200 + Preview Display + Alta VC480	Yes	DataVideo HDR-80	Yes	Data Video HDR 80 DTB	Yes	Data Video HDR 80 DTB	Yes	Data Video HDR 80 DTB	Yes	Data Video HDR 80 DTB
	Video Standard	UHD & HD	Information not provided	Page no - 126, Please check the configurations, configurations are not matching	Information not provided		Yes	Yes		Yes		Yes		
	Video Input signal	1x 3G12G-SDI	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Multimedia		Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Audio Input		Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Audio Output	2x Balanced XLR	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Embedded Audio	SDI Input / Output (RCH)	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Storage Medium	2.5" SSD	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Multi-channel	Yes, 4-CH HD	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Editted Record	HD: 77 (Proxy), 11.5 (LTC), 4 (Standard), 5.5 (IRI)	Information not provided		Information not provided		Yes	256GB: 4K@60, 1021m (P)		Yes		Yes		
	Recording Media	2x 2.5" Removable SSD	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Storage File System	exFAT	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Recorded File	QuickTime MOV, MP4, MPEG	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Video Recording	ProRes 422 HQ	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Audio Recording	Uncompressed PCM	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Preview Display	9" Touch LCD	Information not provided		Information not provided		Yes	Yes		Yes		Yes		
	Timecode	1x BNC LTC Input	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
		LTC Out/Loop 1 x BNC	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
		ATC, LTC / ATC, VITCX SDI	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
	External Sync / External Control	D-VITC X SDI	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
	Audio Monitor / Closed Caption	Black Bars @ 75-level with loop thru	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
		RS-232/422 (Data-7pin), DVI-D (Ethernet)	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
		Speaker 4x1	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
		Input / Output SDI Embedded QuickTime	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
	Overlay	Waveform	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes		
Analysis	Focus Assist	Information not provided		Information not provided		Yes	Information not provided		Yes		Yes			
Type 2: Supply Installation Testing Commissioning of Video Streaming Server		Yes	Buildin 3-nv - 32	Data Video NVS-33	Yes	Data Video NVS-33	Yes	Data Video NVS-33	Yes	Data Video NVS-33	Yes	Data Video NVS-33	Yes	Data Video NVS-33
Video Input	HDMI 1.1	Yes	4 HDMI digital video	Yes		Yes		Yes		Yes		Yes		
Audio Input	SDI & HDMI embedded audio	No	4 Line In (stereo, 3.5mm phone jack) 4 stereo, digital 04	Yes		Yes		Yes		Yes		Yes		
Encode	H.264/AVC, Main/High Profile Level 4.1	Yes	Yes	Yes		Yes		Yes		Yes		Yes		
Video Bitrate	Record Only: Up to 100Mbps (1080p/50/60)	Information not provided		Record/Stream: Up to 100Mbps (1080p/25/30) - Record C	Yes			Yes		Yes		Yes		



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ELECTRICAL	Power Consumption: Up to 300mA / 1mA (standby mode) Temperature Rating: 80°C or better Voltage Rating: 30V or better Conductor Resistance - 24AWG: 31 Ω/km or better	Not provided	Not provided	Not provided	Yes		
UL Listed	CL3YFT4 rated preferred or applicable according to country of origin for in-wall installations	Not provided	Not provided	Not provided	Yes		
REGULATORY	Electrical: UL listed, CL3YFT4 preferred or applicable according to country of origin Environmental: RoHS 2011/65/EU preferred or applicable according to country of origin	Yes	Not provided	Yes	Yes		
CAB-100-50 Type 5 : Supply Installation Testing Commissioning of HDMI50							
TYPE	Premium / High-Speed HDMI Cable with Ethernet	Yes	Also 1L-7D15H	NT 18CK3 15M	Kramer-C-1DM1D6PRO-50	Kramer-C-1DM1D6PRO-50	
MAX. RESOLUTION	Max Data Rate for 50ft (15.2m) length: 4.95Gbps (396Mbps per foot)	Not provided			Yes	Yes	
CONDUCTOR AWG	50ft (15.2m) length: 24AWG (16.2)	Yes			Yes	Yes	
AUDIO	Supported Audio Formats: Dolby Digital Plus™, Dolby TrueHD™	Not provided			Yes	Yes	
PHYSICAL	HDMI Source: On a male HDMI type A, 24K gold-plated Lock connector HDMI Display: On a male HDMI type A, 24K gold-plated Lock connector	Yes		Gold plated	Yes	Yes	
JACKET	Material: PVC Color: Black Diameter for 4 x 0.19mm	Yes	104-0.2mm	Color: Pearl Brown, OD: 10mm	Yes	Yes	
MECHANICAL	Cable Bending Radius for 50mm or better	Not provided			Yes	Yes	
ELECTRICAL	Temperature Rating: 80°C Voltage Rating: 30V Conductor Resistance - 24AWG: 63.2Ω/km MAX. at 20°C	Not provided			Yes	Yes	
Specification	high-speed, high-performance digital video and audio with impeccable impedance stability, low skew, high signal integrity, and noise immunity	Not provided			Yes	Yes	
MOULDED	Yes	Not provided			Yes	Yes	
GOLD-PLATED	Yes	Yes			Yes	Yes	
STANDARDS COMPLIANCE	Safety: Flammability Rating - CL3YFT4 preferred or applicable according to country of origin Environmental: RoHS 2011/65/EU preferred or applicable according to country of origin	Not provided			Yes	Yes	
CAB-CAT5 Type 6 : Supply Installation Testing Commissioning of CAT5 With RJ45 Connector							
CONDUCTORS:	4 x 2 x 24AWG, annealed copper.	Yes	Liberty or Extron	NT2CGX3	Kramer-BC-UNIKATLSIF-100M	Kramer-BC-UNIKATLSIF-100M	
OUTER DIAMETER:	0.564 ± 0.01mm (0.022in)	Yes			Yes	Yes	
INSULATION	Shioflon/Minlon 118WPE	No	Polyethylene		Yes	Yes	
OUTER DIAMETER:	1.31 ± 0.10mm (0.052in)	No	1.84mm		Yes	Yes	
COLOR:	Per TIA/EIA 568-B	Not provided			Yes	Yes	
SCREENING:	Alu/PET per pair (Alu side out)	Not provided			Yes	Yes	
DRAIN WIRE:	90% tinned copper, outer diameter: 0.4 ± 0.01mm (0.016in)	Not provided			Yes	Yes	
JACKET:	LSHF, Min. RAL 5012	Not provided			Yes	Yes	
IMPEDANCE:	100-1000Hz: 100 ± 1Ω 100-5000Hz: 100 ± 20Ω	Yes			Yes	Yes	
PROPAGATION	76%	No	68%		Yes	Yes	
MUTUAL PAIR	52pF/m	No	52pF/m		Yes	Yes	
CAPACITANCE	215pF/km	No	233pF/100m		Yes	Yes	
MAX. CONDUCTOR	<7.62Ω/m	Yes			Yes	Yes	
PAIR RESISTANCE	DC <1.5%	No			Yes	Yes	
DIELECTRIC	2.5kV DC (2s)	Not provided			Yes	Yes	
Page 2 Cables, Rack, Podium							
INSULATION	>5000VAC/1min	Not provided			Yes	Yes	
VOLTAGE RATING:	30V	No	300V		Yes	Yes	
REGULATORY					Yes	Yes	
ELECTRICAL:	EIA/TIA 568A, ISO/IEC 11801	No	ANSI/TIA-568-C		Yes	Yes	
FIRE PERFORMANCE:	IEC 60332-1	Not provided			Yes	Yes	
SMOKE DENSITY:	IEC 61034	Not provided			Yes	Yes	
HALOGEN FREE:	IEC 60754	Not provided			Yes	Yes	
MAXIMUM PULSING	100%	Yes			Yes	Yes	
BENDING RADIUS:	Installation 60mm (2.36in), installed 50mm (1.97in)	Not provided	1.96" ± 5.92"		Yes	Yes	
THERMAL CHARACTERISTICS:	Storage/transport/installation 0° to 50°C (32° to 122°F), operation -20° to 60°C (-4° to 140°F)	Not provided			Yes	Yes	
THICKNESS:	±0.5mm (0.020in)	Yes			Yes	Yes	
DIAMETER:	7.2 ± 0.2mm (0.284in)	No	7.52mm		Yes	Yes	
Connector: The shielded RJ-45 connector is designed to fit larger 23AWG cables, but also fits 24AWG cables. All STP cables require a shielded connector.		Not provided			Yes	Yes	
Applicable Standards: TIA/EIA-568C.2	Yes				Not provided	Yes	
Max Current/Voltage: 2A/250V	Yes				Not provided	Yes	
Contact resistance: 20mΩ min	Not provided				Not provided	Yes	
Insulation resistance: 100MΩ min	Not provided				Not provided	Yes	
Temperature rating (min/max): -25/55 °C Max.	Not provided				Not provided	Yes	
Insertion/Extraction: 200 mating cycles	Not provided				Not provided	Yes	
Material/Finish:					Not provided	Yes	
(A) Plating: Plating: Polycarbonate, UL94-V0	Not provided				Not provided	Yes	
(B) Contact: Copper	Not provided				Yes	Yes	
(C) Rear Shield: Copper	Not provided				Yes	Yes	
(D) Inner Ferrous: Polycarbonate	Not provided				Not provided	Yes	
Wire AWG min/max (solid/stranded) 24AWG to 23AWG Conductor diameter (min/max) 0.490/0.55mm Core diameter (max): 1.35mm	Not provided				Not provided	Yes	
UL, CM, RoHS: 2011/65/EU or applicable according to country of origin	No		EU RoHS 2002/95/EC		Yes	Yes	
CAB-MAD Type 7 : Supply Installation Testing Commissioning of Mass Audio/Control Bulk Cable							
CONDUCTORS:	20AWG (10/0) tinned copper conductors.	Yes	22AWG		Yes	Yes	
INSULATION:	PVC color coded: red, black.	Yes			Yes	Yes	
DRAIN WIRE:	20AWG (10/0) tinned copper (in contact with shield).	Yes			Yes	Yes	
SHIELD:	Aluminum Mylar foil 25% overlap rate.	Yes			Yes	Yes	
OUTER JACKET:	Dial grey with blue lettering	Yes	Grey only		Yes	Yes	
CONDUCTOR:	0.91mm (0.036in) or better	No	0.74mm		Yes	Yes	
PVC INSULATION:	0.44mm (0.017in) nominal thickness, 1.8mm diameter or better	No	0.20 mm wall thickness & 1.14 mm diameter		Yes	Yes	
OUTER JACKET:	3.4mm (0.134in) or better	No	3.3 mm		Yes	Yes	
IMPEDANCE:	40 to 100Ω	Yes			Yes	Yes	
DC RESISTANCE:	34.6Ω/m (10.5Ω/100ft) or better	Yes			Yes	Yes	
MUTUAL	89pF/m (27pF/ft)	Yes			Not provided	Yes	
MUTUAL	161pF/m (49pF/ft)	Not provided			Not provided	Yes	
TEMPERATURE:	-20° to 73°C (-4° to 167°F) or better	Not provided			Yes	Yes	
UL:	CL-2 preferred or applicable according to country of origin	Not provided			Not provided	Yes	
CSA:	CL(U) FT4 preferred, 150 Standard or applicable according to country of origin	Yes			Not provided	Yes	
ROHS:	In compliance with European directive 2002/95/EC.	Yes			No	2011/65/EU	Yes
CAB-SPKR Type 8 : Supply Installation Testing Commissioning of Speaker Bulk Cable							
CONDUCTORS:	Material: Bare Copper	Yes			Yes	Yes	
INSULATION:	Material: PVC	Yes			Yes	Yes	
JACKET:	Material: PVC	Yes	Dia: 4.63mm		Yes	Yes	
ELECTRICAL:	Temperature Rating: 75°C	Not provided			Yes	Yes	
STANDARDS:	UL CM	Not provided			Yes	Yes	
	1 Pair, 16 AWG Speaker Bulk Cable 985 300 000M	Yes			Yes	Yes	
Page 3 Cables, Rack, Podium							
OTHER SPECIFICATIONS	High-quality twisted pair cable designed for connecting speakers and amplifiers in commercial or residential AV systems. Quality Construction - Conductors are stranded and flexible jacket. Length - Available in reels of 300m (984ft).	Yes			Yes	Yes	

SITE VISIT N

SITE VISIT NOT DONE

P.No: 10/13

Techno Commercial statement								
S N	Name of the Item : AV System for Class Room	M/s. AV DESIGNERS	M/s. GENESIS IT INNOVATIONS PRIVATE LIMITED	M/s. Global gadgets	M/s. GURUSONS COMMUNICATIONS	M/s. KS SMART SOLUTIONS PRIVATE LIMITED	M/s. S Cube Consultancy Services	M/s. SEC COMMUNICATIONS PRIVATE
1	Bidder Turn Over Criteria: The minimum average annual financial turnover of 290 lakhs during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a 4 / 7 certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.	Not qualified Technically	Not qualified Technically	Not qualified Technically	Yes	Not qualified Technically	Yes	Yes
2	The bidder should be a Class-I/ Class-II suppliers in line with the Public Procurement (Preference to Make in India) Order 2017 No. P-45021/2/2017-PP (BE-II) dated 04 Jun 2020. A Self-Declaration Certificate regarding "Class-I/ Class-II / Non-Local suppliers" for the item to be submitted.				21%		21%	21%
3	Final Recommendations	Not qualified	Not qualified	Not qualified	Qualified	Not qualified	Qualified	Qualified


 23/04/23
 JA(P&S)