

**LIST OF EQUIPMENT, WITH SUITABLE ACCESSORIES TO BE SUPPLIED TO THE
EDUCAITONAL MULTIMEDIA RESEARCH CENTRE, PONDICHERRY UNIVERSITY**

SUMMARY

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1. Camera

| Sl.No | Description | Qty |
|-------|---|-----|
| 1 | <p>For PTZ and Remote Camera Controller</p> <p>Integrated Robotic PTZ Camera Integrated Broadcast Quality Robotic PTZ Camera with CMOS Sensors HD – 1080/50i & 1080/50p (1920X1080 resolution)</p> <p>Lens Lens Zoom Ratio : 14 x (optical) or better</p> <p>Camera Imaging Device (Type) : ½ -type CMOS sensor or better Focusing System : Auto / Manual Horizontal Resolution : ≥1000 lines Gain /Focus : Auto/Manual SNR : 50db or better Output Format : 1080/50p/1080/50i Pan/Tilt Operation Speed : Auto/Manual Pan Range / Angle : ±170° or better Tilting Range : -30° to 90° Preset Positions : 50 or more White Balance : Auto Sync System : Internal/External (BBS/Tri-level Sync) Control Interface : IP/RS422/RS 232 Video Outputs : HD – SDI OR Better Power Requirements : DC 12 V (Should be supplied with suitable power supply adaptor, 50 Hz AC).</p> <p>Remote Control for PTZ Camera Protocol and Interface : IP or RS-422/RS232 Preset Memory : More than 50 LAN : 10BASE-T/100BASE-T (for IP control)/RJ45 x 1 Adjustment functions in Control Panel : Pan/Tilt, Zoom, Focus, Iris, Gain, White Balance (Auto, R/B Gain)</p> | 1 |
| 1.1 | Tripod (if available) and suitable Installation Accessories | 1 |

| Sl.No | Description | Qty |
|-------|---|-----|
| 1.2 | EVF handheld Camera | |
| | <p>EVF Camera Three 1/2-type CMOS sensors for high sensitivity and low noise images. Recordings Format: Full HD XAVC Intra and XAVC Long GOP, as well as MPEG HD 422 50 Mbps MPEG HD 420 35 Mbps, MPEG IMX and DV. Professional features Dual SxS memory card slots for simultaneous recordings, SDXC card Slot, Lens Mount: Fixed Zoom Ratio : 17x (optical), servo/manual Focal Length :f = 5.6-95.2 mm(35 mm equivalent: 29.3-499 mm) Iris: F1.9-F16 and close, auto/manual selectable Focus:800 mm to ∞ (Macro Off), 50 mm to ∞ (Macro On, Wide), 800 mm to ∞ (Macro On, Tele),AF/MF/Full MF selectable Image Stabilizer :On/Off selectable, shift lens Filter Diameter :M77 mm, pitch 0.75mm Effective Picture Elements: 1920 (H) x 1080 (V) Built-in Optical Filters :Clear, 1: 1/8ND, 2: 1/64ND Sensitivity F12 (typical, 1920 x 1080/59.94i mode) F13 (typical, 1920 x 1080/50i mode) Minimum Illumination 0.09 lx (typical, 1920x1080/59.94i, F1.9, +18 dB gain, with 64-frame accumulation, Gamma off, 100% video level) 0.02 lx (typical, 1920x1080/59.94i, F1.9, +18 dB gain, with 64-frame accumulation, Gamma on, 50% video level) S/N Ratio :58dB (Y) (typical) Shutter Speed: 1/32 sec to 1/2,000 sec Slow & Quick Motion Function :XAVC Intra/Long mode: - 1080P: 1-30 and 60 fps in NTSC setting, 1-25 and 50 fps in PAL setting - 720P: 1-60 fps in NTSC setting, 1-50 fps in PAL setting MPEG HD422 mode: - 1080P: 1-30 fps in NTSC setting, 1-25 fps in PAL setting - 720P: 1-60 fps in NTSC setting, 1-50 fps in PAL setting MPEG HD420 HQ mode: - 1080P: 1-30 fps - 720P: 1-60 fps White Balance Preset (3200K), Memory A, Memory B/ATW</p> | 1 |
| 1.3 | Suitable Memory Card for EVF handheld Camera | 3 |
| 1.4 | Tripod (75mm) and suitable Accessories | 1 |

2. Vision Mixer

| Sl.No | Description | Qty |
|-------|--|-----|
| 2. | <p><u>Digital Video Production Switcher</u></p> <p>Specifications for Digital Video Production Switcher</p> <p>Essential Requirements</p> <p>1. Production Switcher Operations and Features.</p> <p>1.1 These specifications are for HD-SD Digital Video Production Switcher. It should be compatible with formats SD/ HD- 1080/50i/ & 50p.</p> <p>1.2 Minimum Inputs required are 9 Inputs, 6 HD-SD SDI and 3 HDMI.</p> <p>1.3 Switcher should be all in one Electronic & Control panel surface.</p> <p>1.4 The offered equipment should be from an internationally reputed manufacturer having proven records. User submit list of the broadcasters should be submitted along with the bid.</p> <p>1.5 The switcher should have six or more assignable FS (Frame Synchronizer)</p> <p>1.6 User friendly control panel layout is required to facilitate high quality Video compositing in the live environment. It should also have facility to operate the switcher on a computer display panel/touch screen.</p> <p>1.7 The switcher should have 8 directly accessible buttons.</p> <p>1.8 It should also have 5 or more HD SDI configurable outputs and at least 1 HDMI output and should support two PGM, one preview & two aux.</p> <p>1.9 The switcher should be capable of producing two windows (boxes) in live environment matching.</p> <p>1.10 It should have built-in Wipe Generator for M/E</p> <p>1.11 The switcher should have 4 keyers with built-in full functions DVE/Chroma/Linear / Luminance Keyer. It should also have one transition keyer.</p> <p>1.12 Apart from this it should have 2 or more keyers on floating MEs/secondary-mini MEs with dissolve and cuts.</p> <p>1.13 It should support one high quality Chroma keyers matching with Ultimate Chroma keyer quality</p> <p>1.14 The switcher should have built-in multi-viewer with in monitor labels and tally. It should be capable of showing all the sources including PVW and PGM on one screen.</p> <p>1.15 The switcher should have enough memory for the storage of switcher set-up parameters. It should also have in built memory / memory Drive for storing and recalling the various settings of the switcher.</p> <p>1.16 The switcher should have 4 channels of Frame stores.</p> <p>1.17 The switcher should have two or more 2D DVEs.</p> <p>1.18 The switcher should have auto as well as manual transition facility.</p> | 1 |

- 1.19** It should be possible to preview all the sources and various effects created on them. It should allow each keyers to be adjusted simultaneously.
- 1.20** There should enough buttons /macros to store the events for easy recall. Control panel design should be users friendly easy to use with dedicated effect control module to allow simultaneous memory recall and trimming *etc.* It should also have high quality three axis joystick & T bar to provide position wipes, pattern washes and DVE effects *etc.* Switcher should also support separate media wipe transaction.
- 1.21** It should also have the provision to attach a computer with touch screen/LCD screen for preview, monitoring and for operation of various parameters/ macros/memories with the help of web buttons, thumbnails *etc.*
- 1.22** It should have tally out for all the cross buttons for tally light indication of on -air source via tally indicator distributor.
- 1.23** It should also have GPI inputs & outputs
- 1.24** It should also have Multi-viewer output

TECHNICAL SPECIFICATION

1 ME Production Switcher

No. of Video :6 Nos. or more HD-SD SDI, plus 3 or more HDMI inputs

Video input: 4:2:2, HD-SD SDI, BNC, 75 ohms, SMPTE 259M / 292M (1.5 Gbps or 270 Mbps)

Reference input: Standard definition operation - Analogue black

burst 0.3 Vpp and for HD(1080i, 1080p) Tri-level Sync., BNC, 75 ohms

Output: Total No. of Video outputs should be 5 or more, plus one HDMI output

All the outputs on regular BNC, 75Ω, 4:2:2 HD – SD SDI 1080/50i 1.5 Gbps or 576/50i 270 Mbps. Amplitude: 800 m V p-p terminated

General :Power supply: 230 V AC ± 5%, 50 Hz Operating: 5 deg. to 35 deg. C

3. HARD DISK RECORDER

| Sl.No | | Description | Qty |
|-------|-------------------|--|-----|
| 3 | Video Formats | <p><u>Video Recorder</u> (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (4K) 4096 x 2160PsF 23.98, 24, 25, 29.97* (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (UltraHD) 3840 x 2160PsF 23.98, 24, 25, 29.97* (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60 (HD) 1080i 50, 59.94, 60 (HD) 1080PsF 23.98, 24, 25**, 29.97** (HD) 720p 50, 59.94, 60 *Only 4x 1.5G-SDI, 10-bit 4:2:2 YCbCr, Square Division **25 and 29.97 requires Record Type>PsF selection</p> | 1 |
| | Codec Support | Apple ProRes 4444, 4K/UltraHD/2K/HD up to 30 fps Apple ProRes 422 (HQ), Apple ProRes 422, Apple ProRes 422 (LT) Apple ProRes 422 (Proxy), Avid DNxHR HQX up to 4K/29.97 fps Avid DNxHR SQ up to 4K/29.97 fps, Avid DNxHR LB up to 4K/29.97 fps Avid DNxHD HQX (220x) up to 1080p 59.94 fps Avid DNxHD SQ (145) up to 1080p 59.94 fps, Avid DNxHD LB (36)* | |
| | Codec Container | Apple ProRes .MOV, AVID DNX MXF or .MOV, AVID DNxHR MXF only | |
| | Removable Storage | 2x slots, SSD media , | |

| | |
|----------------------|---|
| Video Input Digital | 4x 3G-SDI, SMPTE-292/296/424, 10-bit (12-bit input supported) 4x Fiber LC*, 3G-SDI, SMPTE-297, 10-bit 4K/UltraHD 4:2:2 or 4:4:4 (4x BNC or Fiber LC*) Dual Link 4:2:2, 4:4:4 (2x BNC or Fiber LC*) Single Link 4:2:2, 4:4:4 (1x BNC or Fiber LC*) 1x HDMI standard type A connector/ HDMI v1.4b, RGB or YCbCr HDMI v2.0 YCbCr, 4:2:0 only at 4K/UltraHD 50, 59.94, 60 |
| Video Output Digital | 4x 3G-SDI, SMPTE-292/296/424, 10-bit 4x Fiber LC* 3G-SDI, SMPTE-297, 10-bit 4K/UltraHD 4:2:2 or 4:4:4 (4x BNC or Fiber LC*) Dual Link 4:2:2 or 4:4:4 (2x BNC or Fiber LC*) Single Link 4:2:2 or 4:4:4 (1x BNC or Fiber LC*) 1x HDMI standard type A connector HDMI v2.0 YCbCr, 4:2:0 only at 4K/UltraHD 50, 59.94, 60 HDMI v1.4b, RGB or YCbCr |
| Audio Input Digital | 16-Channel, 24-bit SDI/Fiber embedded audio, 48 kHz sample rate, synchronous 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous 8-Channel, AES/EBU via (1/2x DB-25 TASCAM pinout) |
| Audio Input Analog | 8-Channel, 24-bit A/D analog audio, 48 kHz sample rate (1x DB-25 TASCAM Pinout) +24 dBu full scale digital +/- 0.2 dB 20 Hz to 20 kHz frequency response |
| Audio Output Digital | 16-Channel, 24-bit SDI/Fiber embedded audio, 48 kHz sample rate, synchronous 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous 8-Channel, AES/EBU via (1/2x DB-25 TASCAM pinout) |
| Audio Output Analog | Stereo unbalanced headphone jack (1x 3.5mm jack) with volume control 8-Channel, 24-bit D/A analog audio, 48 kHz sample rate (1x DB-25 TASCAM pinout) 2-Channel unbalanced 2x RCA connectors |
| Time code | SDI RP188/SMPTE 12M via SDI BNC LTC input (1x BNC) LTC output (1x BNC) |

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|-----|----------------------------------|--|---|
| | Reference Input | External, 2x BNC Looping, non terminating ,Black burst or tri-level sync | |
| | Network Interface | 10/100/1000 Ethernet (RJ-45) Embedded web server for remote control via REST Video Confidence Monitor via Web Interface Clip upload/download via Web Interface in DATA-LAN mode Configuration and Transport Control via WEB Interface | |
| | Machine Control | RS-422, 1x DE-9 female connector, 9-pin protocol 9-pin D-connector pinout is as follows: | |
| | User Interface | Rotary selector knob Dedicated, backlit transport controls and menu buttons Large 1280 x 720 TFT LCD display with Video Monitor and Menu/Status Overlays | |
| | Closed Captioning Support | CEA-708, CEA-608 | |
| | File System Support | HFS+, exFAT | |
| 3.1 | a) External Hardisk | 1. High capacity Solid State Drive (SSD) Storage capacities 1TB | 2 |
| | b) External data transfer device | 2. External Thunderbolt and USB 3.0 fast transfer of media to a host computer. <i>Note: Suitable for the above hard disk recorder</i> | 2 |

4. Video Monitor, TV

| Sl.No | Description | Qty |
|-------|---|-----|
| 4 | <p><u>Broad cast Studio Monitor 17 inch or better</u></p> <p>Aspect Ratio : 16:9 / 4:3 switchable Panel Back light : LED Display Resolution : 1,920 (W) x 1,080 (H) Viewing Angle : 176 degree or better Brightness : 350cd/m2 Contrast : 800:1 or better Image Processing : 10Bits Input : 3G-SDI x 2, CCVS, Outputs :3G-SDI x 1 Audio input : RCA and SDI Embedded Audio Meter : Min 8 channel or better</p> | 1 |
| 4.1 | <p><u>Android 123.2cm (49 inch) Ultra HD (4K) LED Smart TV</u></p> <ul style="list-style-type: none"> • 20 W Speaker Output • 3840 x 2160 Ultra HD - 4X resolution of Full HD • 50 Hz : Standard refresh rate for blur-free picture quality • 4 x HDMI : Plug in lots of devices at once • LED Display Type : Edge LED • Refresh Rate : 50Hz • 3 x USB : Easily connect your digital camera, camcorder or USB device | 1 |
| 4.2 | <p><u>Smart Tv 55 Inch 4K support -(Multi viewer)</u></p> <ul style="list-style-type: none"> • 20 W Speaker Output • 3840 x 2160 Ultra HD - 4X resolution of Full HD • 50 Hz : Standard refresh rate for blur-free picture quality • 4 x HDMI : Plug in lots of devices at once • 3 x USB : Easily connect your digital camera, camcorder or USB device | 1 |

5. Tablet (Interactive Pen & Touch)

| Sl.No | Description | Qty |
|-------|---|-----|
| 5 | <p style="text-align: center;"><u>Specifications</u></p> <p>Dimensions : (W × H × D) 601 x 356 x 46 mm, 23.6 x 14 x 1.8 inch Weight : 7.2kg, 254 oz (including the Stand) Operating temperature & humidity: 5 to 40 degrees C, Humidity: 30% to 80% RH (non-condensing) Storage temperature & humidity: 20 to 60 degree C, Humidity: 30% to 90% RH (non-condensing) (Maximum storage humidity is 38% at a temperature of 60 degree C, and maximum storage temperature is 42 degree C at humidity of 90 %.)</p> <p>Power Consumption (with AC adaptor): 45 W (110VAC) or less (Full load) 0.5W or less in sleep mode (USB non-connected) 0.5 W or less in OFF mode</p> <p>USB HUB Up stream: 1 Downstream: 3 (internal; 2, external; 1) Load current is Maximum 0.5A per port.</p> <p>Display : Display Panel VA Mode, Normally Black Screen Size : 23.8inch (527.04(H) x 296.46 (V) mm) Aspect ratio : 16:9 Number of pixels : 1920 × 1080 Input Video Connector: DVI-I (29 pin) Input Video Signal : DVI 1.0 compliance Analog RGB Output Video Connector : DVI-I (29 pin) Output Video Signal : DVI 1.0 compliance Analog RGB Supported Resolution : 1920×1080, 1680×1050, 1366×768, 1280×1024, 1024×768, 1280×800, 800×600, 640×480 pixels</p> | 1 |

Pixel Pitch : 0.2745 (H) x 0.2745 (V) mm
Viewing Angles @ CR>10
(horizontal/vertical): 178(89/89) / 178(89/89) (typ.)
Display Colors : 16,7M colors (Depends on display card used.)
Contrast Ratio : 1000:1 (typ.)
Luminance : 210 cd/m2 (typ.)
LCD quality : Each LCD panel is produced under very stringent quality standards. Production techniques cannot guarantee an absolutely perfect TFT display. Wacom does not allow any pixel to be always white or always black. A small number of pixels are allowed to show a wrong color for some parts of the color spectrum. This does not mean the display is defective.

Pen tablet
Reading Technology : Electro- magnetic resonance technology Active area 479.2 x 271.3 mm Resolution :0.01 mm/point (2540 lpi)
Accuracy : ± 0.5mm (center), the edge area 1 (20mm wide from edge of display area) to be ± 2.0mm, the edge area 2 (3mm wide from edge of display area) to be ± 4.0mm
Reading Height : 10 mm or more (Center)
Maximum Report Rate: 187 points/sec
Pressure levels : 2048 levels
Communication Interface : USB
Power adapter
Input voltage : 100 to 240 VAC, 50/60Hz
Output voltage : 12 VDC, 5 A (max)

Pen
Physical size: (L × D) : 156.5 x 11.5 mm
Weight : 17g, approximate

Technology type: Projected capacitive
Resolution: 0.03 mm/point
Coordinate Accuracy: ±1mm (contact location is greater than 3.5mm from digitizer edge)
Maximum Report Rate : 100 point/sec

6. Virtual Studio

| Sl.No | Description | Qty |
|----------|---|-----|
| 6 | <p>5 Inputs SD-SDI & 4 inputs HD SDI 3D TRACKLESS VIRTUAL STUDIO</p> <p><u>Specifications for 5 Inputs SD-SDI & 4 inputs HD SDI 3D TRACKLESS VIRTUAL STUDIO SYSTEM</u> SCOPE: Trackless 5 cameras SD-SDI or 4 Camera HD-SDI Virtual Studio System is required. The virtual studio system should be easy to operate and user friendly. Vendor/Manufacturer must have supplied the virtual studio systems to reputed government organization as well as private network. Essential features:-</p> <ul style="list-style-type: none"> • The offered equipment should be fully integrated system with all hardware and software. It should be fully plug and play system and no optional or additional hardware or software should be required to use the system at highest configuration level. • The offered equipment should accept SD-SDI and HD-SDI video inputs in PAL video standard. It should support High Definition (HD) and Standard Definition (SD) resolution simultaneously in a single system. The equipment should be able to switch to any supported resolution with the selection of that resolution. • The equipment should support SMPTE 259M for SD-SDI and SMPTE 292M for HD-SDI video signal for inputs. • The equipment should handle multiple cameras and switching through computer keyboard and touch screen monitor panel. • The equipment should have user interface designed to work with touch screen monitor panel. • The equipment should have 5 live camera inputs in SD format or 4 live camera inputs in HD format and should be able to simultaneously process, chroma key and display all 5 standard definition live video streams or all 4 high definition live video streams in a virtual set and on the live video output in the single screen. • The equipment should support three dimensional (3D – non stereoscopic) virtual sets. • The equipment should have advanced chroma keying facility per video input channel for all 5 standard definition live video inputs or 4 high definition live video inputs. • The equipment should have the built in virtual camera switcher with 10 virtual camera positions. | 1 |

- The equipment should have overlay (swipe) transition between two virtual cameras. It should display channel logo or program id during this transition.
- The equipment should have a separate media switcher to switch to any video clip or live video source or network input to full screen. This should work as a standalone basic switcher with mix transition without loading the virtual set.
- The equipment should have Depth of Field (Defocus) facility where the backdrop behind the anchor can be blurred to achieve the realistic look like in the optical camera lens.
- The equipment should have the facility to integrate external CG through downstream keyers – video fill and key (DSK) inputs utilizing the same video inputs. The CG graphics so integrated should be part of the virtual set environment and move with the virtual camera movement.
- The equipment should have real time preview facility to provide the look-ahead preview of the virtual camera motions and angles on VGA monitor.
- The equipment should have in-built gallery for organizing video clips & graphic image files to be used in the virtual studio system.
- The equipment should have in-built 2 digital disk players to play video clips which can be changed dynamically by drag and drop operation on air. The digital disk players should have Cue facility to automatically play and pause the video clips while playing them from these players.
- The equipment should have the facility to replace pre-defined media images and videos used in the virtual sets from the software application by simple drag and drop operation to do last minute changes in the virtual sets.
- The equipment should have in-built automation with dissolve transition between two video or image files.
- The equipment should have in-built playlist generator for playing video clips in sequence with the Mark in and Mark out facility for video clips to do simple last minute editing.
- The equipment should have in-built graphic overlay support to display images with cut and fade transition and it should support 32-bit alpha image in TGA, BMP and PNG file formats.
- The equipment should support one bi-directional scroll line overlay with variable speed.
- The equipment should have built in software capability and Ethernet input to support display of VGA screen from client computer system or laptop.
- The equipment should have in-built software module of audio mixer for 2 live audio input channels and 2 video clips.
- The equipment should have in-built virtual camera switcher with cuts and virtual motion

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| <p>capability like zoom in, zoom out, pan, tilt, and trolley and jib motions.</p> <ul style="list-style-type: none"> • The equipment should support reflections of virtual set and shadows of live anchors in real time • The equipment should have built in motion designer software for creating and modifying virtual camera motion such as zoom, pan, tilt and dolly. • The equipment should have built in global camera software support for creating and modifying virtual camera angles and motions. • The equipment should have built in image compositing software for creating images for the use in image overlay facility in the virtual set. • The equipment should have mechanical and logical bypass facility. SDI input 1 should be routed to SDI output 1 in case of power failure. • The equipment should have built in audio delay facility to synchronize incoming audio and video inputs to processed video at synchronized output. • The equipment should have Shader materials supports like glass & metal to give realistic look to the virtual set. • The equipment should support 3D animated object in the virtual set and it should retain its original animation and should play continuously in loop irrespective of the virtual camera angles and motions. • The equipment should have built-in Genlock input and reference loop output for synchronizing video inputs. • The equipment should have GPI, RS 232 and RS 422 interface ports. • The equipment should have tally facility for all its camera inputs. • The equipment supplier should offer minimum 25 virtual sets free with the equipment. • The equipment supplier should design, create and provide 1 custom virtual set free as per our requirement. • The equipment should function with standard AC230 VOLT, 50Hz power supply. If the offered product function on DC supply than the firm should offer the necessary standard power adapter with required cables. • The offered equipment should have the standard warranty of 2 years from the date of supply and installation of equipment. • The equipment supplier should provide onsite training free of cost for operation of equipment at their expenses. | |
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- The equipment supplier should provide onsite training free of cost for creating virtual set at their expenses.
- The equipment supplier should do installation and commissioning of supplied equipment free of charge at our studio.

HARDWARE SPECIFICATIONS:

Computer System:

- 4 RU rack mount cabinet with minimum 700 watts power supply
- Motherboard: Supermicro or Intel or Asus
- Processor: Intel i7 or Intel Xeon
- RAM: DDR IV – 16 GB or more
- Hard Disk Drive: 500 GB (2 nos.) or greater
- Graphic display card: Radeon HD RX 470 with 8 GB RAM or better
- DVD writer , Computer keyboard
- Optical mouse
- 21.5” or higher size touch screen monitor panel
- Operating System: Microsoft Windows 7 – 64 bit - Licensed version

External breakout box with the following specification:

(For audio and video inputs and outputs with necessary cables to connect to the main system)

Video Inputs: 5 x SD-SDI Inputs via BNC connectors **or** 4 x HD-SDI Inputs via BNC connectors

Video Outputs:

- 2 x SDI (SD or HD) via BNC connectors
- 1 x CCVS for SD via BNC connector
- All outputs should be simultaneously visible and available for further utilization.

Audio Inputs: :1 x Analogue Balanced (XLR) stereo inputs.

Audio Output:1 x Analogue balanced (XLR) stereo output.

Genlock input and output:

- Analog or digital reference in and loop out via BNC.

Tally: 15 Pin Tally Input connector for all video inputs.

Deck Controls:

- 9 Pin RS 232 connector for external VTR or digital disk player
- 9 Pin RS 422 connector for external VTR or digital disk player

7. Microphones, Professional Headphones, Audio Monitors

| Sl. No | Description | Qty |
|--------|---------------------------------------|--|
| 7.1 | Microphones | |
| a) | Wireless Body pack Transmitter | 2 |
| | Modulation | Wideband FM stereo |
| | Transmission Frequency | Maximum 2000 frequencies, adjustable in 25 kHz steps 20 frequency banks, each with up to 32 factory-preset channels, no intermodulation 6 frequency banks with up to 32 programmable channels |
| | Switching Bandwidth | Up to 50 MHz |
| | Nominal/Peak Deviation | ±24 kHz / ±48 kHz |
| | Frequency Stability | ≤ ±15 ppm |
| | RF Output Power | At 50 Ohms Switchable: Low: Typical 10 mW Standard: Typical 30 mW High: Typical 50mW |
| | Pilot Tone Squelch | Can be switched off |
| | Compander | HDX |
| | AF Frequency Response | Mic: 80 Hz to 18 kHz Line: 25 Hz to 18 kHz |
| | Signal to Noise Ratio | Approximately ≥ 115 dBA (1 mV, peak deviation) |
| | Total Harmonic Distortion (THD) | ≤ 0.9% |

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| Maximum Input Voltage | Mic and Line: 3 V eff | |
| Input Impedance | Microphone: 68 kOhms, unbalanced Line: 1 MOhms | |
| Input Capacitance | Switchable | |
| Input Sensitivity Range | 60 dB, adjustable in 3 dB steps | |
| Temperature Range | 14 to 131°F (-10 to 55°C) | |
| Power Supply | 2 x AA batteries, 1.5 V or BA 2015 accupack | |
| Nominal Voltage | 3 V battery / 2.4 V rechargeable battery | |
| Current Consumption | At Nominal Voltage: Typical 180 mA With Transmitter Switched Off: ≤ 25 μA | |
| Operating Time | Typically 8 hours | |
| Dimensions (L x W x H) | 3.2 x 2.5 x 0.9" (82 x 64 x 24 mm) | |
| Weight | 5.6 oz (160 g) including batteries | |
| Wireless True Diversity Receiver | | |
| Modulation | Wideband FM | |
| Receiving Frequency | Maximum 2000 receiving frequencies, adjustable in 25 kHz steps 20 frequency banks, each with up to 32 factory-preset channels, no intermodulation 6 frequency banks with up to 32 programmable channels | |

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|---------------------------------|---|--|
| Switching Bandwidth | Up to 50 MHz | |
| Nominal/Peak Deviation | ± 24 kHz / ± 48 kHz | |
| Principle of Operation | True diversity | |
| Sensitivity | < 2.5 μ V for 52 dBA eff S/N (with HDX, peak deviation) | |
| Adjacent Channel Selectivity | Typically ≥ 75 dB | |
| Intermodulation Attenuation | Typically ≥ 70 dB | |
| Blocking | ≥ 75 dB | |
| Squelch | Off, 5 to 25 dB μ V in steps of 2 dB | |
| Pilot Tone Squelch | Can be switched off | |
| Antenna Inputs | | |
| Compander | | |
| EQ Presets | | |
| Signal to Noise Ratio | (1 mV, peak deviation) Line: ≥ 115 dBA | |
| Total Harmonic Distortion (THD) | $\leq 0.9\%$ | |
| Maximum AF Output Voltage | 1/4" (6.3 mm) Jack Socket: +12 dBu (unbalanced) (at peak deviation, 1 kHz AF) XLR Socket: +18 dBu (balanced) (at peak deviation, 1 kHz AF) | |
| Output Level Range | 48 dB (3 dB steps) | |
| Temperature Range | 14 to 131°F (-10 to 55°C) | |

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| Power Supply | 12 VDC | |
| Current Consumption | 350 mA | |
| Dimensions (L x W x H) | 8.0 x 8.3 x 1.7" (202 x 212 x 43 mm) | |
| Omni directional Lavalier Condenser Microphone (with Accessories, Black) | | |
| Transducer | Condenser | |
| Polar Pattern | Omnidirectional | |
| Frequency Response | 20 Hz to 20 kHz | |
| Sensitivity | 5 mV/Pa ± 2.5 dB (free field, no load, 1 kHz) | |
| Nominal Impedance | 1 kOhm | |
| Minimal Terminating Impedance | 4.7 kOhms | |
| Equivalent Noise Level | A-weighted (DIN IEC 651) 26 dB | |
| | CCIR-weighted (CCIR 468-3) 39 dB | |
| Maximum Sound Pressure Level (SPL) | 142 dB (1 kHz) (THD = 1 %) | |
| Power Supply | 18 kOhms/ 7.5 V | |
| Supply Current | Approximately 250 µA | |
| Connector | 1/8" (3.5 mm) locking | |
| Cable Length | 5.25' (1.6 m) | |
| Low Frequency Roll-Off | No | |

| | | | |
|----------|--|--|---|
| | Microphone Diameter | 0.19" (4.8 mm) | |
| | Weight | 0.04 oz (1 g) | |
| | Box Dimensions (LxWxH) | 8.75 x 5.35 x 0.95" | |
| | Total Harmonic Distortion (THD) | ≤ 0.9% | |
| | Maximum Input Voltage | Mic and Line: 3 V eff | |
| | Input Impedance | Microphone: 68 kOhms, unbalanced Line: 1 MOhms | |
| | Input Capacitance | Switchable | |
| | Input Sensitivity Range | 60 dB, adjustable in 3 dB steps | |
| | Temperature Range | 14 to 131°F (-10 to 55°C) | |
| | Power Supply | 2 x AA batteries, 1.5 V or BA 2015 accupack | |
| | Nominal Voltage | 3 V battery / 2.4 V rechargeable battery | |
| | Current Consumption | At Nominal Voltage: Typical 180 mA With Transmitter Switched Off: ≤ 25 μA | |
| | Operating Time | Typically 8 hours | |
| | Dimensions (L x W x H) | 3.2 x 2.5 x 0.9" (82 x 64 x 24 mm) | |
| b | Wireless Dynamic Cardioid Microphone System | | 1 |
| | Type of System | Camera-mount, lavalier and plug-on | |
| | | 20-channel banks, 1 user bank, 12 presets per bank | |

| | | | |
|--|----------------------------|--|--|
| | Approx. Working Range | Maximum 490' | |
| | Overall Frequency Response | 40 Hz to 18 kHz | |
| | Signal-to-Noise Ratio | ≥ 110 dB | |
| | # Of Channels | 1680 | |
| | RF Output Power | 30 mW | |
| | Squelch | Off / Low / Medium / High | |
| | Receiver | | |
| | Type of Receiver | bodypack/camera-mount receiver | |
| | Type of Outputs | 1/8" Mini-Jack | |
| | Headphone Monitoring | None (monitor audio via your camcorder's audio output) | |
| | Battery Type/Approx. Life | 2 x AA batteries, up to 10 hours | |
| | Display | Backlit LCD Display | |
| | Mounting Options | Camera and belt | |
| | Antenna Type | Single flexible antenna (<i>M3 type</i>) | |

| | | | |
|--|---|---|--|
| | Transmitter(Bodypack Transmitter) | | |
| | Type of Transmitter | SK 100 G4 bodypack transmitter | |
| | Type of Input Connector | Unbalanced locking 1/8" (3.5 mm), mic/line | |
| | Type of Microphone | ME 2-II lavalier microphone | |
| | Polar Pattern | Omnidirectional | |
| | Interchangeable Mic Heads | <i>Yes, User has the option of using other evolution series lavaliers</i> | |
| | Battery Type/Approx. Life | 2 x AA batteries Life: Up to 10 hours | |
| | Level Control | <i>Variable Microphone Input Level</i> | |
| | Antenna Type | M3 type | |
| | Display | High-contrast LCD display, blue sync LED | |
| | Transmitter(Plug On Transmitter) | | |
| | Type of Transmitter | plug-on transmitter | |
| | Type of Input Connector | XLR female | |
| | Interchangeable Mic Heads | Any dynamic microphone with 3-pin XLR male output | |
| | Battery Type/Approx. Life | 2 x AA batteries ,Life: Up to 10 hours | |

| | | | |
|----------|--|---|---|
| | Antenna Type | Utilizes microphone body as antenna | |
| | Display | High-Contrast LCD Display: Channel, low-battery warning | |
| | Dimensions | 4.13 x 1.69 x 1.69" (105 x 43 x 43 mm) | |
| c | Lavalier Wireless Microphone (Bodypack Transmitter) | | 2 |
| | Modulation | Wideband FM stereo | |
| | Transmission Frequency | Maximum 3250 frequencies, adjustable in 25 kHz steps | |
| | | 20 frequency banks, each with up to 32 factory-preset channels, no intermodulation | |
| | | 6 frequency banks with up to 32 programmable channels | |
| | Switching Bandwidth | Up to 88 MHz | |
| | Nominal/Peak Deviation | ±24 kHz / ±48 kHz | |
| | Frequency Stability | ≤ ±15 ppm | |
| | RF Output Power | At 50 Ohms Switchable:Low: Typical 10 mW Standard: Typical 30 mW High: Typical 50 mW | |
| | Pilot Tone Squelch | Can be switched off | |
| | Compander | HDX | |
| | AF Frequency Response | Mic: 80 Hz to 18 kHz Line: 25 Hz to 18 kHz | |
| | Signal to Noise Ratio | Approximately ≥ 115 dBA (1 mV, peak deviation) | |
| | Total Harmonic Distortion (THD) | ≤ 0.9% | |
| | Maximum Input Voltage | Mic and Line: 3 V eff | |

| | | | |
|--|---------------------------------------|--|--|
| | Input Impedance | Microphone: 68 kOhms, unbalanced Line: 1 MOhms | |
| | Input Capacitance | Switchable | |
| | Input Sensitivity Range | 60 dB, adjustable in 3 dB steps | |
| | Temperature Range | 14 to 131°F (-10 to 55°C) | |
| | Power Supply | 2 x AA batteries, 1.5 V or BA 2015 accupack | |
| | Nominal Voltage | 3 V battery / 2.4 V rechargeable battery | |
| | Current Consumption | At Nominal Voltage: Typical 180 mA | |
| | | With Transmitter Switched Off: $\leq 25 \mu\text{A}$ | |
| | Operating Time | Typically 8 hours | |
| | Dimensions (L x W x H) | 3.2 x 2.5 x 0.9" (82 x 64 x 24 mm) | |
| | Weight | 5.6 oz (160 g) including batteries | |
| | Wireless Camera-Mount Receiver | | |
| | Modulation | Wideband FM | |
| | Frequency Band | AW+: (470 to 558 MHz) | |
| | Receiving Frequency | Maximum 3520 receiving frequencies, adjustable in 25 MHz steps | |
| | | 20 frequency banks, each with up to 32 factory-preset channels, no intermodulation | |
| | | 6 frequency bank with up to 32 programmable channels | |
| | Switching Bandwidth | Up to 88 MHz | |

| | |
|---------------------------------|--|
| Nominal/Peak Deviation | ± 24 kHz / ± 48 kHz |
| Principle of Operation | Adaptive diversity |
| Sensitivity | < 1.6 μ V for 52 dBA eff s/n (with HDX, peak deviation) |
| Adjacent Channel Selectivity | Typically ≥ 65 dB |
| Intermodulation Attenuation | Typically ≥ 65 dB |
| Blocking | ≥ 70 dB |
| Squelch | Low: 5 dB μ V |
| | Middle: 15 dB μ V |
| | High: 25 dB μ V |
| Pilot Tone Squelch | Can be switched off |
| Compander | HDX |
| Signal to Noise Ratio | (1 mV, peak deviation) Line: ≥ 110 dBA Phones: Approximately 90 dB |
| Total Harmonic Distortion (THD) | $\leq 0.9\%$ |
| Maximum AF Output Voltage | 1/8" (3.5 mm) Jack Socket: +17 dB (mono, unbalanced) (at peak deviation, 1 kHz AF) |
| Output Level Range | 42 dB, adjustable in steps of 6 dB |
| Temperature Range | 14 to 131°F (-10 to 55°C) |
| Power Supply | 2 x AA batteries, 1.5 V or BA2015 accupack |

| | | | |
|--|--|--|--|
| | Nominal Voltage | 3 V battery / 2.4 V rechargeable battery | |
| | Current Consumption | At Nominal Voltage: Typical 140 mA | |
| | | With Receiver Switched Off: $\leq 25 \mu\text{A}$ | |
| | Operating Time | Typically 8 hours | |
| | Dimensions (L x W x H) | 3.2 x 2.5 x 0.9" (82 x 64 x 24 mm) | |
| | Weight | 4.6 oz (130 g) including batteries | |
| | Box Dimensions (LxWxH) | 13.9 x 3.2 x 3.0" | |
| | Omnidirectional Lavalier Condenser Microphone (with Accessories, Black) | | |
| | Transducer | Condenser | |
| | Polar Pattern | Omnidirectional | |
| | Frequency Response | 20 Hz to 20 kHz | |
| | Sensitivity | 5 mV/Pa \pm 2.5 dB (free field, no load, 1 kHz) | |
| | Nominal Impedance | 1 kOhm | |
| | Minimal Terminating Impedance | 4.7 kOhms | |
| | Equivalent Noise Level | A-weighted (DIN IEC 651) 26 dB CCIR-weighted (CCIR 468-3) 39 dB | |
| | Maximum Sound Pressure Level (SPL) | 142 dB (1 kHz) (THD = 1 %) | |
| | Power Supply | 18 kOhms/ 7.5 V | |
| | Supply Current | Approximately 250 μA | |
| | Connector | 1/8" (3.5 mm) locking | |

| | | | |
|------------|------------------------------------|------------------------|----------|
| | Cable Length | 5.25' (1.6 m) | |
| | Microphone Diameter | 0.19" (4.8 mm) | |
| 7.2 | Professional Headphones | | 3 |
| | Driver Type | Dynamic | |
| | Design | Over-Ear (Circumaural) | |
| | Earcup Style | Closed-Back | |
| | Frequency Response | 8 Hz to 25 kHz | |
| | Impedance | 64 Ohms | |
| | Maximum Sound Pressure Level (SPL) | 102 dB | |
| | Maximum Power Handling | 500 mW | |
| | Total Harmonic Distortion (THD) | 0.10% | |
| | Contact Pressure | 6 N | |
| | Audio Connector | 1/8" (3.5 mm) TRS | |
| | Adapter (Included) | 1/4" (6.3 mm) | |

| | | | |
|------------|------------------------------------|---|----------|
| 7.3 | Audio Monitors (Speaker) | | 4 |
| | Low Frequency Driver | (127mm) Cone Woofer | |
| | High Frequency Driver | 1" (25mm) Titanium Dome Tweeter | |
| | LF Amplifier | 40W | |
| | HF Amplifier | 27W | |
| | Crossover | 2.5kHz LF: 24dB/Oct HF: 24dB/Oct | |
| | Frequency Range | 50Hz - 40kHz (-10dB) | |
| | Maximum Sound Pressure Level (SPL) | 101dB | |
| | Connectors | 1 x XLR Input, Balanced 1 x 1/4" Phone Input, Unbalanced 1 x Power Input | |
| | Input Impedance | 10 kOhms | |
| | Controls and Indicators | 1 x Level Control , 1 x High Trim Control, 1 x Low Trim Control 1 x Power Switch, 1 x Green/Red Power/Clip LED | |
| | Shielded | Yes | |
| | Dimensions (HxWxD) | 10.9 x 7 x 8.2" (279 x 179 x 209mm) | |
| | Weight | 17.4 lbs (7.9kg) | |

8. Software

| Sl.No | Description | Qty |
|-------|--|------------|
| 8. | Adobe Creative Cloud All Apps, All desktop apps and Creative Cloud services, | 2 licenses |
| 8.1 | Adobe Captivate 2018 | 2 licenses |
| 8.2 | Autodesk 3d Max, Maya | 1 license |

9. Cables and connector for Installation, Integration & Commission

| Sl.No | Description | Qty |
|-------|---|--------|
| 9. | HDMI to HDMI 20 meters | 2 |
| 9.1 | BNC video cable Beldon (1 coil) | 1 Coil |
| 9.2 | XLR Audio cable (1 coil) | 1 Coil |
| 9.3 | 1 HDMI INPUT- 2 HDMI OUTPUT Splitter Box | 1 |
| 9.4 | <p>HDMI TO HD / SDI Convertor <u>TECHNICAL SPECIFICATIONS</u> Connections Video Inputs : HDMI. Video Outputs : SD, HD , 3G-SDI Multi Rate Support: Auto detection of SD or HD. Updates, Configurations and Power: Micro USB. Reclocking: Yes Standards SDI Video Standards :525i59.94 NTSC, 625i50 PAL HD Video Standards: 720p50, 720p59.94, 720p60 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30,</p> | 2 |

| | | |
|-----|--|---|
| | <p>1080p50, 1080p59.94, 1080p60 1080i50, 1080i59.94, 1080i60 SDI Compliance :SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE 424M, SMPTE 425M SDI Video Rates: SDI video connections are switchable between standard definition and high definition, and user selectable level A and B via setup utility. SDI Color Precision: 4:2:2 SDI Color Space: YUV SDI Auto Switching :Automatically detects SD, HD and 3G-SDI HDMI Video Standards: 525i29.97 NTSC, 625i25 PAL 720p50, 720p59.94, 720p60 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60 1080i50, 1080i59.94, 1080i60 HDMI Color Precision :4:2:2 HDMI Color Space :YUV</p> | |
| 9.5 | <p><u>SDI TO HDMI Convertor</u> Conversion:3G/HD/SD-SDI To HDMI Video Input:1×3G/HD/SD-SDI Loop Through:1 Video Outputs:1×HDMI with Embedded Audio Audio Inputs: 2×RCA (Stereo Pair)2×SDI Audio Embedded Audio Outputs: 2×HDMI Audio Embedded Supported Video Input Formats :480i(NTSC)576i(PAL),720p(50/59.94/60Hz),1080i(50/59.94/60Hz),1080p(23.98/24/24/25/29.97/30/50/59.94/60Hz) Output Resolutions: Automatically matches the SD, HD AND 3G SDI video input Equalizer: Yes Reclock :Yes SDI Cable Drive :Yes Power : DC 12 V,4 Watt</p> | 1 |

| | | |
|-----|---|---|
| 9.6 | <p><u>Up Down Cross Converter.</u></p> <p><u>Technical Specification for Up Down Cross Converter.</u></p> <p>Conversion : VGA/HDMI/SDI To HDMI /SDI Multi – Format Up/Down/Cross</p> <p>Video Inputs : Sel:1×VGA, 1×HDMI,1×3G/HD/SD-SDI</p> <p>Loop Through : Yes</p> <p>Video Output : 2×3G/HD/SD- SDI with Embedded Audio 1×HDMI</p> <p>Audio Input : 2×RCA(Stereo Pair), 2×SDI/HDMI Audio Embedded</p> <p>Audio Output : SDI embedded audio up to 8CH, 48KHz, PCM Audio HDMI embedded audio up to 8CH,48KHz,PCM Audio.</p> <p>Supported Video Input Formats: 800×600 (60Hz), 1024×768 (60Hz), 1280×1024 (60Hz),1366×768(60Hz),1400×1050(60Hz),1600×1200(60Hz),1280×720(60Hz),1920×1080(60Hz),480i,480p,525i,576i,576p,625i,720p(50/59.94/60Hz),1080i(50/59.94/60Hz),1080psf(23.98/24/25/29.97/30Hz),1080p(23.98/24/25/29.97/ 30/50/59.94/60Hz)</p> <p>OutputResolutions:Sel:525i,625i,720p(50/59.94/60Hz)1080i(50/59.94/60Hz)1080p(23.98/24/25/29.97/30/50/59.94/60Hz)</p> <p>Equalizer : Yes</p> <p>Reclock : Yes</p> <p>SDI Cable Drive: Yes</p> <p>Power : DC 12V,6 watt</p> | 1 |
|-----|---|---|

10. Digital UPS

| Sl.No | Description | Qty |
|-------|---|-----|
| 10 | 15kVA (3Ph-1Ph) MAX IGBT based double conversion True Online UPS system with Sine wave output with 12V 42Ah-24 nos SMF Batteries for 30 minutes backup and with battery rack With a minimum 2 years of warranty | 1 |

11. External Hard Disks

| Sl.No | Description | Qty |
|-------|---|-----|
| 11 | External hardisk 8TB Storage Capacity 8 TB Connection Interface 2 x USB 3.1 Gen 1 (USB Type-A) Maximum Read Speed 160 MB/s Maximum Write Speed 160 MB/s | 2 |

12. Laptop

| Sl.No | Description | Qty |
|-------|--|-----|
| 12 | <p>Operating system: Windows 10 Home Single Language 64</p> <p>Processor : Intel® Core™ i7-8550U (1.8 GHz base frequency, up to 4 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores)</p> <p>Processor family : 8th Generation Intel® Core™ i7 processor</p> <p>Form factor: Convertible</p> <p>Memory : 8 GB DDR4-2400 SDRAM (1 x 8 GB), 2 SODIMM Slots (upgradeable to 12 GB)</p> <p>Memory Note: Transfer rates up to 2400 MT/s.</p> <p>Hard drive description :1TB 5400 RPM SATA+ 16 GB SSD Intel Optane</p> <p>Storage type: HDD</p> <p>Cloud service :Dropbox</p> <p>Display :35.56 cm (14) diagonal FHD IPS micro-edge LED-backlit multitouch-enabled edge-to-edge glass (1920 x 1080)</p> <p>Graphics :4 GB NVIDIA GeForce MX 130 Graphics</p> <p>Ports: 1 HDMI; 1 headphone/microphone combo; 1 USB 3.1 Type-C™ Gen 1 (Data Transfer up to 5 Gb/s); 2 USB 3.1 Gen 1 (Data transfer only)</p> <p>Expansion slots :1 multi-format SD media card reader</p> <p>Audio features :B&O PLAY, dual speakers, Audio Boost</p> <p>Webcam: Wide Vision HD Camera with integrated dual array digital microphone</p> <p>Sensors: Accelerometer; Gyroscope; eCompass</p> <p>Pointing device: Imagepad with multi-touch gesture support</p> <p>Keyboard :Full-size island-style backlit keyboard</p> <p>Keyboard:Full-size island-style backlit keyboard</p> <p>Wireless :Intel® 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 4.2 Combo</p> <p>Wireless note :Miracast compatible</p> <p>Power supply type: 65 W EM AC power adapter</p> <p>Battery type: 3-cell, 41 Wh Li-ion prismatic ,Battery weight: 186 g</p> <p>Dimensions without stand (W x D x H): 32.35 x 22.42 x 1.97 cm</p> <p>Dimension note (metric) :Dimensions vary by configuration, Weight :1.68 kg</p> | 1 |

13. Edit Suit workstation

| Sl.No | Description | Qty |
|-------|--|-----|
| 13 | <p><u>Operating system</u> Windows 10 Pro 64 bit for Workstations</p> <p><u>Processor</u> Intel® Xeon® W2135 (3.7 GHz base frequency, up to 4.5 GHz with Intel® Turbo Boost Technology, 8.25 MB cache, 6 cores)</p> <p><u>Number of processors :1</u></p> <p><u>Graphics</u> Discrete: NVIDIA® Quadro® P4000 (8 GB GDDR5 dedicated)</p> <p><u>Memory:</u>32 GB DDR4-2666 ECC SDRAM (2 x16 GB)</p> <p><u>Memory slots :</u>8 DIMM</p> <p><u>Hard drive :</u>2 TB 7200 rpm SATA</p> <p><u>Optical drive :</u> Slim DVD-Writer</p> <p><u>External I/O Ports</u> Front:1 headset connector; 4 USB 3.1 (1 charging) Front (Premium version):1 headset connector; 2 USB 3.1 Gen 2 Type-C™; 2 USB 3.1 Gen1 (1 charging) Rear:1 audio-in; 1 audio-out; 1 PS/2 keyboard port; 1 PS/2 mouse port; 1 serial; 2 RJ-45 (1 GbE); 6 USB 3.1 Gen 1</p> <p><u>Expansion slots</u> 2 PCIe 3 x4; 2 PCIe 3 x4, 1 M.2 PCIe 3 x4, 1 PCIe x8, 2 PCIe x16 (for Intel® Core™ i9-X configurations); 2 PCIe 3 x4, 1 M.2 PCIe 3 x4, 1 PCIe x8 (mechanical only), 1 PCIe x16 (x8 electrical), 1 PCIe x16 (for Intel® Core™ i7-X configurations) Slots 2 and 4: PCH with open-ended connector. Slot 5: CPU with open-ended connector. M.2 Slots: CPU up to 80 mm storage devices.</p> <p><u>Energy efficiency :</u>ENERGY STAR® qualified configurations available.</p> <p><u>Audio:</u> Realtek HD ALC221</p> <p><u>Pointing device:</u> USB Optical Mouse</p> <p><u>Keyboard:</u> USB Business Slim Keyboard</p> <p><u>Dimensions (W X D X H) :</u> 15.2 x 6.65 x 17.5 in</p> | 2 |

| | | |
|-------------|--|----------|
| 13.1 | Additional 2TB SATA HDD Internal HDD | 4 |
| 13.2 | Decklink Mini Monitor | 2 |
| 13.3 | 27" LED IPS DISPLAY (Dell/Samsung/LG LED Color Monitor) | 2 |
| 13.4 | Adobe Creative Cloud All Apps All desktop apps and Creative Cloud services | 2 |
| 13.5 | Additional -Logic Keyboard for Adobe Premiere Pro CC USB Wired Keyboard | 2 |
| 13.6 | Professional Headphone | 2 |

14. Graphics Work Station

| Sl.No | Description | Qty |
|-------|--|-----|
| 14 | <p><u>System features:</u></p> <p>Processor: Intel® Xeon® W2133 (3.6 GHz base frequency, up to 3.9 GHz with Intel® Turbo Boost Technology, 8.25 MB cache, 6 cores) Processor family: Intel® Xeon® W processor Number of processors:1 Chipset: Intel® C422; Intel® X299 Operating System: Windows 10(64) <u>MEMORY:</u> Memory:32 GB DDR4-2666 ECC SDRAM (2 x 16 GB) Memory slots:8 DIMM <u>STORAGE:</u> Hard drive description: 2 TB,Two 13.33 cm(5.25) Storage type: HDD Optical drive: Slim DVD-Writer External drive bays: Two 5.25" Internal drive bays: Two 6.35 cm(2.5) or 8.89 cm(3.5) <u>DISPLAY AND GRAPHICS</u> Graphics: NVIDIA® Quadro® P4000 (8 GB GDDR5 dedicated) <u>EXPANSION FEATURES:</u> I/O Port location :Front Ports :1 headset connector; 4 USB 3.1 (1 charging) I/O Port location Front (Premium version) Ports:1 headset connector; 2 USB 3.1 Gen 2 Type-C™; 2 USB 3.1 Gen1 (1 charging) I/O Port location: Rear Ports:1 audio-in; 1 audio-out; 1 PS/2 keyboard port; 1 PS/2 mouse port; 1 serial; 2 RJ-45 (1 GbE); 6 USB 3.1 Gen 1 Expansion slots:2 PCIe 3 x4; 2 PCIe 3 x4, 1 M.2 PCIe 3 x4, 1 PCIe x8, 2 PCIe x16 (for Intel® Core™ i9-X configurations); 2 PCIe 3 x4, 1 M.2 PCIe 3 x4, 1 PCIe x8 (mechanical only), 1 PCIe</p> | 1 |

| | | |
|-------------|---|----------|
| | <p>x16 (x8 electrical), 1 PCIe x16 (for Intel® Core™ i7-X configurations)</p> <p><u>MEDIA DEVICES:</u> Audio Realtek HD ALC221</p> <p><u>INPUT DEVICES:</u> Pointing device: USB Hardened Mouse Keyboard: USB Business Slim Keyboard</p> <p><u>POWER AND OPERATING REQUIREMENTS:</u> Power 1000 W internal power supply, up to 90% efficiency, active PFC Environmental Low halogen</p> <p><u>DIMENSIONS AND WEIGHT:</u> Dimensions without stand (W x D x H) 38.6 x 16.9 x 44.5 cm Weight Starting at 10.2 kg</p> <p><u>SECURITY MANAGEMENT:</u> Security management Sure Start Gen3; Secure authentication; Kensington lock slot; Full volume encryption; Keyed Cable Lock Kit; TPM 2.0 certified; Secure Erase</p> | |
| 14.1 | 27" LED Color Monitor (Dual Monitor purpose) | 1 |
| 14.2 | Additional 2 TB External Hard Disc | 1 |

15. FCP with Apple/Mac Pro Latest Version (Cylinder type)

| Sl.No | Description | Qty |
|--------------|--|------------|
| 15 | Mac Pro 8-core Xeon E5 3.0GHz/16GB/256GB/Dual FirePro D700 6GB each | 1 |
| 15.1 | Apple Magic Keyboard - US English | 1 |
| 15.2 | Apple Magic Mouse 2 | 1 |
| 15.3 | Apple Care Protection Plan for Mac Pro | 1 |
| 15.4 | Mini Display Port to HDMI Adapter | 1 |
| 15.5 | Apple Thunderbolt Cable 2.0Mtrs | 1 |
| 15.6 | Lacie 4TB External HDD | 1 |
| 15.7 | Additional 16GB RAM | |
| 15.8 | Ultra Studio Mini Monitor | 1 |
| 15.9 | 27" Color Monitor | 1 |
| 15.10 | <u>Audio monitor (one Pair)</u> Speaker type, , 2-way bi-amp powered studio monitor, Frequency range (-10dB), , 38Hz - 30kHz, Components, LF, 8 cone, HF, 1 dome, Crossover, , 2kHz, Output power, , 120W (LF:75W,HF:45W), I/O connectors, , XLR3-31 type (balanced),PHONE (balanced), Power consumption, , 60W, Shape, , Bass-reflex type, Cabinet material, , MDF | 2 |
| 15.11 | Final Cut Pro x Single License | 1 |

16. Studio Lights

| Sl.No | Description | Qty |
|-------|---|-----|
| 16 | <p>250w LED Panel light. Integrated dimmer enabled instant dimming from 0 to 100%. LED lamp life 50,000 hours</p> <p><u>Specification</u></p> <ul style="list-style-type: none"> • Lamp power:250W LED • Power supply: AC 100-240 V, 50-60 Hz • Beam angle: 30 Deg • Control:DMX512/Manual • CRI:> 95 • Color Temperature:5600K • Protection Rating: IP 20 • Dimensions: W 360 x L 665 x H 125 mm • Weight:10.80 Kg • Certifications: CE <p><u>Accessories:</u> 1Diffuser, 4 leaf Barn door, Safety Bond, Stand, C-Clamp, Gel Frame.</p> <p><u>NOTE:</u> Light Floor stand STD3 or STD4 Preferred.</p> | 4 |

| | | |
|------|---|---|
| 16.1 | <p>180w LED Panel light. Integrated dimmer enables instant dimming from 0 to 100%. -LED lamp life 50,000 hours</p> <p><u>Specification</u></p> <ul style="list-style-type: none"> • Lamp power: 180W LED • Power supply: AC 100-240 V, 50-60 Hz • Beam angle: 30 Deg • Control: DMX512/Manual • CRI:> 95 • Color Temperature: 5600K • Protection Rating: IP 20 • Dimensions: W 320 x L 550 x H 120 mm • Weight: 7.56 Kg • Certifications: CE <p><u>Accessories:</u> 1Diffuser, 4 leaf Barn door, Safety Bond, Stand, C-Clamp, Gel Frame.</p> <p><u>NOTE:</u> Light Floor stand STD3 or STD4 Preferred.</p> | 2 |
|------|---|---|

| | | |
|------|---|----------------|
| 16.2 | <p>150w LED Panel light</p> <p><u>Specification</u></p> <ul style="list-style-type: none"> • Lamp power:180W LED • Power supply: AC 100-240 V, 50-60 Hz • Beam angle:30 Deg • Control:DMX512/Manual • CRI:> 95 • Color Temperature:5600K • Protection Rating: IP 20 • Dimensions: W 320 x L 550 x H 120 mm • Weight:7.56 Kg • Certifications: CE <p><u>Accessories:</u> 1Diffuser, 4 leaf Barn door, Safety Bond, Stand, C-Clamp, Gel Frame.</p> <p><u>NOTE:</u> Light Floor stand STD3 or STD4 Preferred.</p> | 2 |
| 16.3 | <p>200w LED Fresnel spot light.</p> <p><u>Specification</u></p> <ul style="list-style-type: none"> • Lamp power:200W • Power supply : AC 100-240 V, 50-60 Hz • Beam angle:10 - 50 Deg • Control: DMX 512 / Manual • CRI:> 95 • Color Temperature:5600K • Protection Rating: IP 20 <p><u>Accessories:</u> 1Diffuser, 4 leaf Barn door, Safety Bond, Stand, C-Clamp, Gel Frame.</p> <p><u>NOTE:</u> Light Floor stand STD3 or STD4 Preferred.</p> | 2 |
| 16.4 | Accessories ‘Flag’ | 1set (4Pcs) |
| 16.5 | Accessories Flag clamp (with stand) | 3 |