

**REQUEST FOR COMMENTS OF STAKEHOLDERS/OEM/FIRMS
ON QRS (QUALITY REQUIREMENT) & TDS (TRIAL DIRECTIVES)
OF STUDIO**

1. The proposed QRs/TDs of Studio is attached as **Appendix 'A & B'**. The OEMs/Vendors are requested to forward information of the product which they can offer and also forward correct specifications of their system against each parameter. Complied or not complied remarks will not be accepted.

2. The required information/details may please be forwarded at the following addresses by **11th Jan 2019**.

Directorate General CRPF

East Block-7, Sec-1, R.K. Puram, New Delhi-110066

Email: comncell@crpf.gov.in

3. An early response is requested.

QRs OF STUDIO

S.N	Parameters	Specifictations
1.	Broadcast Studio Camera	4K 3-CMOS 1/3" Sensor Broadcast Camera continues the fine tradition of the cameras. It captures 4K at up to 60p, relying on three 1/3" Exmor R sensors that provide improved low-light capability when compared to standard sensors. The camera integrates a 25x optical zoom lens and an electronic variable ND filter. The camera supports a variety of codecs out of the box, with an optional MPEG HD license enabling you to shoot HD video.
1.1	Image Sensor:	1/3 type back-illuminated Exmor R3CMOS sensor
1.2	Sensor Resolution:	3840 x 2160
1.3	Optical System:	F1.6 prism system
1.4	Built-in Optical Filters	ND filters OFF: CLEAR 1: 1/4ND 2: 1/16ND 3: 1/64ND Linear variable ND (Approx. 1/4ND to 1/128ND)
1.5	Shutter Speed:	1/24 sec to 1/8,000 sec
1.6	White Balance:	Preset (3200K), Memory A, Memory B/ATW
1.7	Recording Format (Video)	<XAVC Long> XAVC-L QFHD mode: VBR, maximum bit rate 150Mbps, MPEG-4 H.264/AVC XAVC-L HD 50 mode:VBR, maximum bit rate 50Mbps, MPEG-4 H.264/AVC XAVC-L HD 35 mode:VBR, maximum bit rate 35Mbps, MPEG-4 H.264/AVC XAVC-L HD 25 mode:VBR, maximum bit rate 25Mbps, MPEG-4 H.264/AVC <DVCAM> DVCAM mode:CBR, 25Mbps, DVCAM
1.8	Recording Format (Audio)	<XAVC Long> XAVC-L mode: LPCM 24-bit, 48kHz, 4 channels <DVCAM> DVCAM mode: LPCM 16-bit, 48kHz, 4 channels
1.9	Recording Frame Rate	<XAVC Long> XAVC-L QFHD 150 mode: 3840x2160/ 59.94P, 50P, 29.97P, 23.98P, 25P XAVC-L HD 50 mode: 1920x1080/ 59.94P, 50P, 59.94i, 50i, 29.97P, 23.98P, 25P1280x720/59.94P, 50P XAVC-L HD 35 mode: 1920x1080/59.94P, 50P, 59.94i, 50i, 29.97P, 23.98P, 25P XAVC-L HD 25 mode: 1920x1080/59.94i, 50i <DVCAM> DVCAM mode: 720x480/59.94i, 29.97PsF, 720x576/50i, 25PsF

S.N	Specifications	
1.10		Lens Mount: Fixed type
1.11		Zoom Ratio : 25x
1.12		Iris : Auto/manual switchable F1.6 to F11 and C(close)
1.13		Audio Input : XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable. LINE : +4, 0, -3dBu/10k Ω MIC : -80dBu to -30dBu /3k Ω (0 dBu=0.775 Vrms)
1.14		Audio Output : Integrated into Multi/Micro USB jack(x1)
1.15		SDI Output: BNC (x1), 3G/HD/SD selectable
1.16		Timecode Input: BNC (x1) (switchable to TC out) 0.5V-1.8Vp-p, 3.3k Ω
1.17		Timecode Output: BNC (x1) (switchable to TC in) 1.0Vp-p, 75 Ω
1.18		USB: USB device, Multi/Micro USB jack (x1) Host: USB 3.0/2.0 type A(x1), USB 2.0 type A(x1)
1.19		Headphone Output: Stereo mini jack (x1) -16dBu 16 Ω
1.20		Speaker Output : Monaural Output: 500mW
1.21		DC Input: DC jack
1.22		Remote: Stereo mini-minijack (Φ 2.5 mm)
1.23		HDMI Output : HDMI connector (Type A)
1.24		Wired LAN: RJ-45 (x1), 1000BASE-T, 100BASE-T, 10BASE-T
1.25		Viewfinder: 1.0 cm (0.39 type) Approx. 2.36M dots
1.26		LCD: 8.8cm (3.5 type) Approx. 1.56M dots
1.27		Supported Format IEEE 802.11 a/b/g/n/ac Frequency Band 2.4 GHz bandwidth 5.2/5.3/5.6 GHz bandwidth Security WEP/WPA-PSK/WPA2-PSK NFC NFC Forum Type 3 Tag compliant
2.		VISION MIXER 12 HD/SD SDI inputs, 8 HD/SD-SDI outputs and 1 HDMI output come as standard. Mixed HD/SD input is supported in the standard configuration. The 9 outputs can all be freely assigned with frame synchronizers that enable This achieves a fully mixed SD / HD environment with the switcher alone Further proof of the power of these new small mixers is that they come as standard with 2 keyers, 2 DSKs and 4 powerful 2.5D DVE engines. An advanced, high quality Chroma keyer can be assigned to any one of the two M/E Keyers or two Downstream Keyers.
2.1		VIDEO FORMATS: 1080/59.94L, 1080/50, 1080/29.97P, 1080/25P, 1080/24P, 1080/23.98p, 1080/24PsF, 1080/23.98PsF, 1080/ 25PsF, 1080/29.97PsF, 720/59.94p, 720/50p, 1080/59.94p and 1080/50p level A 525/60(NTSC), 625/50(PAL)
2.2		VIDEO INPUTS WITH PROCESSING AMPLIFIER: HD/SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 750, BNC x12 (FSs on 8inputs, resize engine on 4 inputs.
2.3		NUMBER OF VIDEO INPUTS: HD HDI-1.5 GB, OR SD SDI 270 MBPS X 12 (AUTO SELECT)

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2.4		NUMBER OF VIDEO OUTPUTS HD/SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75 Ω. BNC x 8, HDMI 1
2.5		EFFECT: WIPE:100 PATTERNS, BORDER AND SOFTNESS/2.50 DVE:56 PATTERNS OR MORE DVE WIPES
2.6		MICRO FUNCTION: 30 commands (Upto 230 series of operation can be registered for command)
2.7		STILL/CLIP STORE: 2 CHANNELS (WITH BACKUP FEATURE), EACH STORE CAN HOLD UPTO 227 FRAMES OF HD VIDEO
2.8		KEYER/DSK: 4 CHANNELS (KEYER X 2) + DSK x2) INCLUDES 2D DVE THAT CAN BE FREELY ASSIGNED. AN ADVANCED, HIGH QUALITY CHROMA KEYER CAN BE ASSIGNED TO ANY ONE OF THE TWO KEYERS OR TWO DSKs
2.9		MULTIVIEWER: 2/4/5/7/9/10/11/14/15/16-WAYSPLIT VIEWS WITH TITLE, TALLY AND AUDIO LEVEL METER DISPLAY AND 1 FRAME DELAY FOR PGM OUTPUT
2.10		GENLOCK INPUT: BB:NTSC:0.429 Vp-p/PAL: 0.45 Vp-p OR TRI-LEVEL SYNC:0.6 Vp-P,75Ω, BNC x 1, LOOP THROUGH (TO BE TERMINATED WITH 75Ω TERMINATED IF UNUSED)
3.	Tripod with Dolly Aluminum tripod system is a complete tripod. Have a good feel and reliable quality. The fluid head with 100mm ball provides smooth pans and tilts. Built-in bubble for horizontal leg, 3-section legs ensure the excellent loading capacity and stability, quick locking, Double handle, more convenient each head are equipped with fluid system	
3.1		Folded Height: 910mm
3.2		Max Operating Height: 1750mm
3.3		Min Height: 570mm
3.4		Tilt Range: -85o/+85o
3.5		Pan Range: 360o
3.6		BALL SIZE: 100MM
3.7		PAN ROD: 2
3.8		Max Load Capacity: 8kg
3.9		Net Weight: 8.5kg
3.10		DOLLY: Olded Length: 560mm Net Weight: 5 kg Load Capacity: 50kg
4.	Teleprompter System: Being used in Studio for Live as well as recording production.	
4.1		Support multiple languages
4.2		Dual monitor use
4.3		Mouse movement speed control
4.4		User control of scroll speed using the hand controller (optional)
4.5		Prompts in any window's compatible language
4.6		Import word file
5.	Monitor Speakers Unlike studio monitors with added bass or treble frequencies which may sound more flattering at first, this Series speakers were designed to give you the most honest, precise reference possible, providing an ideal sonic platform to build on throughout the mixing process	

S.N	Specifications	
5.1	2-way bass-reflex bi-amplified nearfield studio monitor with 5" cone woofer and 1" dome tweeter	
5.2	54Hz - 30kHz frequency response	
5.3	45W LF plus 25W HF bi-amp system for high-performance 70W power amplification	
5.4	ROOM CONTROL and HIGH TRIM response controls	
5.5	XLR and TRS phone jack inputs accept balanced or unbalanced signals.	
6.	1 x 1 Panel LED Lights 900 LED 80w video panel should have high output, bi-color temperature, long service life and outstanding heat dissipation. Easy carrying and simple assembly, comprise a standalone cable dimmer to help easier dimming, suitable for lighting in Video and outdoor image capture	
6.1	Input Voltage (V): 12-24V DC(Decoder) DC Adopter	
6.2	Total Power (W): 80W	
6.3	LED: DIP	
6.4	No. of LED's: 1224PCS	
6.5	Power Factor(PF): 100%(DC Decoder)	
6.6	LED Lumen: 7200LM	
6.7	Related Color Temperature : (CCT) 5600K±355K	
6.8	LUX Define the Exact Range as: 1800LUX/2.5M	
6.9	Color Rendering Index: (CRI) ≥95+	
6.10	Average Beam Angle: 45°	
6.11	Distribution of Light: BI COLOR	
6.12	DMX: Optional	
6.13	Working Humidity: 90%	
6.14	Storage Temperature: 25°C	
6.15	Lifespan for LED Lighting Source: 50,000 Hours	
6.16	C Clamp with Safety Chain: Optional	
6.17	SIZE: 14"*14"	
7.	LED SPOT 100W Continuous Light which gives studio lighting required to get the professional shots. video requirement with 5600k. One should be able to adjust the black knob to change the angle of the light, either go spot or flood. Fixture available in manual and pole operation	
7.1	Voltage: AC100~240V , 50/60Hz	
7.2	Power: 135W	
7.3	Light Source: 100W LED	
7.4	Beam Angle: 18-58°	
7.5	Control Mode: DMX-512 ,Master/Slave	
7.6	Channel: 1 channels	
7.7	Pan: 540°/630° Tilt: 270°	
7.8	IP Rating: IP20	
7.9	Net Weight: 5kg	

S.N	Specifications	
8.	Lapel Mic Wireless A broadcast quality sound solution. Providing the highest flexibility for your video sound and field recording applications. A robust wireless lapel microphone that offers excellent sound quality, simple mounting and ease of use.	
8.1	All-in-one wireless Lapel mic with high flexibility for broadcast quality sound	
8.2	Excellent sound and construction quality	
8.3	Easy to use and fast setup time	
8.4	Powerful and reliable wireless transmission	
8.5	Range: up to 100 meters / 330 feet	
8.6	Up to 8 hours of operation time	
9.	Handheld Mic Wireless A broadcast quality sound solution. Providing the highest flexibility for your video sound and field recording applications. A robust wireless microphone system that offers excellent sound quality, simple mounting and ease of use. The easiest wireless solution for moderators or reporters. The rugged microphone resists any bad weather or field condition, while the versatile receiver is easily mounted to any camera.	
9.1	Rugged all-in-one wireless system with high flexibility for broadcast quality sound	
9.2	Excellent sound and construction quality	
9.3	Easy to use and fast setup time	
9.4	Powerful and reliable wireless transmission	
9.5	Range: up to 100 meters / 330 feet	
9.6	Up to 8 hours of operation time	
10.	Earset: This is a connector cable, swivel joint and earpiece kit, with a coiled earpiece cable, designed for use with Telex assistive listening and IFB products.	
11.	Intercom System One of the innovative features of the rack-mountable 8 User Wired Intercom System with 4 Belt packs & 4 Headsets	
11.1	Industry Standard 19" 1U rack design, for easy integration	
11.2	Supports 8-Way Intercom	
11.3	Additional external earphone and microphone interface	
11.4	Bi-color tally light indicator *	
11.5	Selectable channel talk, broadcast to all or mute.	
11.6	Half-Duplex design for eliminate the environmental noise	
11.7	Enables communication between the camera crew	
11.8	Communication distance up to 200 meters	
11.9	Supplied complete with Gooseneck Microphone and Light	

S.N	Specifications
12.	<p>Audio Mixer</p> <p>This Series embodies this pursuit of design excellence, and incorporates some of the same technologies developed for use in high-end professional consoles, including studio-quality preamps, powerful digital processing, and a rugged, reliable construction</p>
12.1	16-Channel Mixing Console
12.2	Max. 10 Mic / 16 Line Inputs (8 mono + 4 stereo)
12.3	GROUP Buses + 1 Stereo Bus
12.4	AUX (incl. FX)
12.5	“D-PRE” mic preamps with an inverted Darlington circuit
12.6	1-Knob compressors
12.7	High-grade effects: SPX with 24 programs
12.8	24-bit/192kHz 2in/2out USB Audio functions
12.9	Includes Cubase AI DAW software download version
12.10	PAD switch on mono inputs
12.11	+48V phantom power
12.12	XLR balanced outputs
12.13	Internal universal power supply for world-wide use
12.13	Rack Mount Kit Included
12.14	Metal chassis
13.	<p>Phone in Unit</p> <p>One-line POT telephone hybrids are the most advanced hybrids ever developed for use with analog phone lines. Hybrids contain advanced 3rd-generation hybrids for superior audio quality; universal POTS interface features disconnect-signal detection, which works with Telco providers worldwide. Hybrids include unique features to make operators’ lives easier, such as Auto-Answer with selectable ring count, a switchable mic/line input, call screening and line- hold features, and front-panel send and receive audio metering.</p>
13.1	Separate Send level and Receive level meters for each hybrid.
13.2	Place caller on-hold via front panel button.
13.3	Auto-Answer with selectable ring count.
13.4	Wide-range AGC and Dynamic EQ by Omnia, with adjustable gain settings.
13.5	Adjustable caller override improves performance and allows you to individualize the degree to which the announcer ducks the caller audio.
13.6	Digital Dynamic EQ and adjustable smart leveler keeps audio spectrally consistent from call to call.
13.7	New EQ High and EQ Low display meters for each hybrid.
13.8	Audio Interfaces- Analog
13.9	Ringing and On-Air status for each hybrid.
13.10	Input Range : Select between MIC and LINE levels
13.11	Input Level : Adjustable from -10 to +4 dBu (nominal)
13.12	Impedance : Bridging, > 50K Ohms
13.13	Analog Clip Point : +21 dBu
13.14	Analog-to-Digital Converter Resolution : 20 bits

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13.15		Analog Outputs Connector : XLR Male, Pin 3 High
13.16		Output Level : Nominal at +4 dBu
13.17		Impedance : <50 ohms
13.18		Digital-to-Analog Converter Resolution : 24 bits
13.19		Headroom Before Clipping : 20 dB headroom from 4dBu nominal levels
13.20		Frequency Response : 200 to 3400 Hz, +/- 1 dB
13.21		THD+N/Input : < 0.5% THD+N using 1 KHz sinewave
13.22		Signal to Noise : >90 dB
13.23		General purpose Input/output : Single 9 pin D-Sub connector with 2 status outputs (Ringing and ON-AIR) and 2 control inputs (ON and OFF) per hybrid
13.24		Trans-hybrid Loss : > 55 dB
14.	Video In/Out Card	
	Advanced digital cinema capture card featuring full frame DCI 4K input and output via 12G-SDI! You get dual link multi rate 12G-SDI connections that work with SD, HD and Ultra HD even in Ultra HD 60p, as well as full frame DCI 4K at 4096 x 2160 resolution up to 25p! Capture 10-bit YUV or full color bandwidth 12-bit RGB. Includes AES/EBU audio, up, down and cross conversion, plus built in 3D stereoscopic output at full bandwidth 4:4:4:4 RGB! No other capture and playback card supports more video formats and video connections!	
14.1		SDI Video Inputs : 2 x 12Gb/s SD/HD/2K/4K. Supports single/dual link 4:2:2/4:4:4. 2D/3D switchable.
14.2		SDI Video Outputs: 2 x 12Gb/s SD/HD/2K/4K. Supports single/dual link 4:2:2/4:4:4. 2D/3D switchable.
14.3		Analog Video Inputs: 1 x Component YUV on 3 BNCs switchable to S-Video or Composite. Component supports HD and SD.
14.4		Analog Video Outputs: 1 x Component YUV on 3 BNCs switchable to S-Video and Composite. Component supports HD and SD.
14.5		Analog Audio Inputs: 2 Channels of professional balanced analog audio via XLR connectors.
14.6		Analog Audio Outputs: 2 Channels of professional balanced analog audio via XLR connectors.
14.7		AES/EBU Audio Inputs: 2 Channels unbalanced with sample rate converter.
14.8		AES/EBU Audio Outputs: 2 Channels unbalanced.
14.9		SDI Audio Inputs: 16 Channels embedded in SD/HD/2K/4K.
14.10		SDI Audio Outputs: 16 Channels embedded in SD/HD/2K/4K.
14.11		HDMI Video Inputs: HDMI type A connector with support for 2160p60.
14.12		HDMI Video Outputs: HDMI type A connector with support for 2160p60.
14.13		Sync Input: Tri-Sync or Black Burst.

S.N	Specifications	
15.	Ingest / Playout Server for 2 SD/HD Ports	
	Playout solution should provide stability and usability advantages. It allows for optimum CPU balancing using today's multi-core systems; the server controls the video output while the client manages the playlist. The media files are verified by the client application before being accepted for playout.	
	15.1	System should have intuitive user interface for easy ingest and play operation with easy controls.
	15.2	Operator to define source and destination for ingest.
	15.3	Operator also preview & browse the content without disrupting the recording process.
	15.4	Automated Play-out system with manual rider
	15.5	The system supported scaling for up to 6 HD ports in future
	15.6	The playback of scheduled clips from the play list without any delay
	15.7	Supported HD/SD
	15.8	Supported types of video files
	15.9	DV in .avi container (fourCCdvsd and dsvd
	15.10	LXF, MP4/MOV, MXF, ASF/WMV, MPEG-TS,
	15.11	Mpeg2, Mpeg4
	15.12	GXF, FLV, AVI, DV, MPEG-PS, MKV, WebM,
	15.13	DVCPRO, M-JPEG, MPEG-1, MPEG-2, VC-1
	15.14	Windows Media Video with extension .wmv
	15.15	Two simultaneous ingests
16.	CG System	
	Require a broadcast graphics playout. Powerful, multilayer, reliable and incredibly easy to use. Live titling the way you expect it. Instant operation. You click on it, it does its job	
	16.1	Full NDI® implementation in/out Broadcast Applications for both input and output support and Tricaster's macro automation. NDI® sources can be wrapped to 3D objects, moved and squeezed in real-time with the power of CG template editors.
	16.2	Brand new Media Render implementation Media Handling layer should be deeply re-designed and optimized. The result is simple: improved features, perfect backwards compatibility, increased support for media formats and capture devices
	16.3	Text handing improvements Both vector and bitmap text have gained additional flexibility with the support of floating point kerning and spacing. Users will be able to fine-tune their text layouts like never before.

S.N	Specifictations	
16.4		<p>Docking extended to all main apps</p> <p>We extended the modern idea of docking to all our Template Editors. The result is a more comfortable interface and a shared look and feel for the applications. Personalize your Editor-Workspace as you did with LB.</p>
16.5		<p>Group highlights and Drag&Drop on LB</p> <p>Groups of contents can now be created/assigned by Drag& Drop. Group IDs can also be unlimited and will be assigned automatically. Users can immediately visualize the contents inside a group. Simple, immediate, secure.</p>
16.6		<p>Gui improvements everywhere</p> <p>Applications will look fine and feel better, with tons of gui improvements. From the Template Preview player, to the Frame Markers editor, to the Media player and NDI previewer, cursor shape change on Drag & Drop, multi-screen ui improvements, more consistent gui across applications</p>
16.7		<p>New application: the Clip Player</p> <p>A simple yet powerful piece of software capable to play any media file (including MXF, MOV, MP4) to a vast number of supported video devices. Easy to operate and feature rich. HQ crop/scale, field-polarity-aware with support for mark-in/out, frame resynch, on-air scrub and more.</p>
16.8		<p>GPIO interface</p> <p>With the advent of CG Broadcast Applications 6.2, we introduced an optional GPIO feature which goes down to the hardware and gives control to the single bits of serial ports. The GPIO can be easily customized through the Preferences.</p>
16.9		<p>Scripting engine: a new world of possibilities</p> <p>Skilled programmer? Amateur coder? What about writing your very own code to control any aspect of your graphics, implement new functions and interactions securely and productively by means of Scripting Engine? This is pure value added to your creativity.</p>
16.10		<p>SocialServer: improvements at a glance</p> <p>New Facebook and Instagram API. Social media is so dynamic! We want our customers to always be up to date.</p>
16.11		<p>Page Recall</p> <p>A brand new application to no extra cost comes with Broadcast Applications v6.2: the PageRecall.</p>
17.		<p>Sync Generator: Includes 6 crystal stabilized video reference outputs for referencing all the video equipment in your studio in either high definition Tri-Sync or standard definition Blackburst television standards. Perfect for small studios and outside broadcasts!</p>
17.1		<p>Analog Video Outputs: 6 x common Blackburst or Tri Level reference outputs. SDI Rates: 270Mb, 1.5G. Multi Rate Support: Via mini switches Updates and Configuration: USB</p>
17.2		<p>Analog Format Support: 525i29.97 NTSC, 625i25 PAL, 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080PsF23.98, 1080PsF24, 1080i50, 1080i59.94, 1080i60</p>

S.N	Specifications
18.	<p>Embedder</p> <p>Embed audio into any SDI source in SD and HD formats up to 1080p60! Audio is input as balanced analog or AES/EBU using ¼ inch connectors from equipment such as mixers and analog decks.</p>
18.1	<p>SDI Video Inputs: 1 x SD, HD or 3G-SDI. 1 x ALT SDI Input for automatic switch over if main input fails.</p> <p>SDI Video Outputs: 1 x Embedded SDI Output.</p> <p>Analog Audio Inputs: 4 channels of balanced analog audio.</p> <p>Digital Audio Inputs: 8 channels of balanced AES/EBU audio.</p> <p>SDI Redundant Input: Automatically switches over if main SDI input is lost.</p> <p>Multi Rate Support: Auto detection of SD, HD or 3G-SDI.</p> <p>Updates and Configuration: Via USB 2.0 high speed. (480 Mb/s)</p> <p>Reclocking: Yes</p>
18.2	<p>SD Video Standards: 525i59.94 NTSC, 625i50 PAL</p> <p>HD Video Standards: 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60, 1080PsF23.98, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30, 1080i50, 1080i59.94, 1080i60</p> <p>2K Video Standards: 2K DCI 23.98p, 2K DCI 24p, 2K DCI 25p, 2K DCI 23.98PsF, 2K DCI 24PsF, 2K DCI 25PsF</p> <p>SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE 424M-B, SMPTE 425M, ITU-R BT.656, ITU-R BT.601, SMPTE ST-2036</p> <p>SDI Video Rates : SDI video connections are switchable between standard definition and high definition.</p> <p>SDI Video Sampling: 4:2:2, 4:4:4</p> <p>SDI Audio Sampling : Television standard sample rate of 48 kHz and 24 bit.</p> <p>SDI Color Precision : 4:2:2, 4:4:4</p> <p>SDI Color Space: YUV, RGB</p> <p>SDI Auto Switching: Automatically selects between SD, HD, and 3G-SDI.</p>
19.	<p>SDI to HDMI 6G</p> <p>Mini Converter SDI to HDMI 6G lets you convert from SDI to HDMI in SD, HD, and Ultra HD formats while de-embedding audio to HDMI, AES/EBU or balanced analog audio. Needs advanced features such as down conversion for monitoring Ultra HD on HD HDMI monitors as well as built in 3D LUTs plus HDMI instant lock for instant video display when an SDI input is connected.</p>
19.1	<p>SDI Video Inputs; 1 x SD, HD or 6G-SDI. 1 x ALT SDI Input for automatic switch over if main input fails.</p> <p>SDI Video Outputs: 1 x SDI Video Loop Output.</p> <p>HDMI Video Outputs: HDMI type A out.</p> <p>Analog Audio Outputs: 2 channels of balanced analog audio.</p> <p>Digital Audio Outputs: 4 channels of AES/EBU digital audio</p> <p>SDI Redundant Input: Automatically switches over if main SDI input is lost.</p> <p>Multi Rate Support: Auto detection of SD, HD or 6G-SDI.</p> <p>Updates and Configuration :USB</p> <p>Reclocking: Yes</p>

S.N	Specifications
19.2	<p>SD Video Standards : 625i50 PAL, 525i59.94 NTSC</p> <p>HD Video Standards: 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60 1080PsF23.98, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30 1080i50, 1080i59.94, 1080i60</p> <p>2K Video Standards: 2K DCI 23.98p, 2K DCI 24p, 2K DCI 25p, 2K DCI 23.98PsF, 2K DCI 24PsF, 2K DCI 25PsF</p> <p>Ultra HD Video Standards: 2160p23.98, 2160p24, 2160p25, 2160p29.97, 2160p30</p> <p>4K Video Standards: 4K DCI 23.98p, 4K DCI 24p, 4K DCI 25p</p> <p>SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE424M, SMPTE 425M, SMPTE ST-2081</p> <p>SDI Video Rates: SDI video connections are switchable between standard definition, highdefinition, Level A or Level B 3G-SDI and 6G-SDI.</p> <p>SDI Video Sampling: 4:2:2 and 4:4:4</p> <p>SDI Audio Sampling: Television standard sample rate of 48 kHz and 24 bit.</p> <p>SDI Color Precision: 4:2:2 and 4:4:4</p> <p>SDI Color Space: YUV and RGB</p> <p>SDI Auto Switching: Automatically detects SD, HD or 6G-SDI.</p> <p>HDMI Video Standards: 625i50 PAL, 525i59.94 NTSC, 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60, 1080i50, 1080i59.94, 1080i60, 2160p23.98, 2160p24, 2160p25, 2160p29.97, 2160p30</p> <p>HDMI Color Space: YUV and RGB</p> <p>HDMI Color Precision: 4:2:2 and 4:4:4</p>
20.	<p>SDI Distribution</p> <p>We require a single SD or HD-SDI connection to up to 8 different SDI outputs at the same time! It should have 3G-SDI design with fully re-clocked outputs and automatic switching between all SD and HD formats up to 1080p60. Should support for all ASI, ancillary and embedded audio formats. Mini Converter SDI Distribution is the perfect SD/HD SDI distribution converter for when you don't need the cost of the Ultra HD model.</p>
20.1	<p>SDI Video Inputs: 1 x SDI Video Input. Switchable between SD, HD and 3G- SDI.</p> <p>SDI Video Outputs: 8 outputs automatically match the SDI video input. Multi Rate Support Auto detection of SD, HD or 3G-SDI.</p> <p>Re clocking : Yes</p>

S.N	Specifications	
20.2		<p>SD Video Standards: 525i59.94 NTSC, 625i50 PAL</p> <p>HD Video Standards: 720p50, 720p59.94, 720p60, 1080i50, 1080i59.94, 1080i60, 80p23.98, 1080PsF23.98, 1080p24, 1080PsF24, 1080p25, 1080PsF25, 1080p29.97, 1080PsF29.97, 1080p30, 1080PsF30, 1080p50, 1080p59.94, 1080p60.</p> <p>2K Video Standards: 2K DCI 23.98p, 2K DCI 24p, 2K DCI 25p, 2K DCI 23.98PsF, 2K DCI 24PsF, 2K DCI 25PsF</p> <p>SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE 424M- B and SMPTE 425M</p> <p>SDI Video Rates: SDI video connections are switchable between SD, HD, and DCI 2K.</p> <p>SDI Video Sampling: 4:2:2 and 4:4:4</p> <p>SDI Audio Sampling: Television standard sample rate of 48 Hz and 24 bit.</p> <p>SDI Color Precision: 4:2:2 and 4:4:4</p> <p>SDI Color Space: YUV and RGB</p> <p>SDI Auto Switching: Automatically detects SD, HD or 3G-SDI.</p>
21.	IT Workstations	
2.1		<p>Playout & Ingest Workstation</p> <p>Intel Xeon Processor 1 X 1TB HDD for OS 2 X 4TB HDD 32GB Ram 1 X 4GB GFX CARD WIN 10 PRO</p>
2.2		<p>CG Workstation</p> <p>Intel Xeon Processor 1 X 1TB HDD for OS 1 X 1TB HDD 16GB Ram 1 X 4GB GFX CARD 17' Monitor, keyboard, mouse WIN 10 PRO</p>

TDs OF STUDIO

S.N	Parameters	Specifictations	Trial Directves
1.	Broadcast Studio Camera 4K 3-CMOS 1/3" Sensor Broadcast Camera continues the fine tradition of the cameras. It captures 4K at up to 60p, relying on three 1/3" Exmor R sensors that provide improved low-light capability when compared to standard sensors. The camera integrates a 25x optical zoom lens and an electronic variable ND filter. The camera supports a variety of codecs out of the box, with an optional MPEG HD license enabling you to shoot HD video.		BOO will check practically.
1.1	Image Sensor: 1/3 type back-illuminated Exmor R3CMOS sensor		Firm will submit OEM certificate.
1.2	Sensor Resolution: 3840 x 2160		BOO will check physically.
1.3	Optical System: F1.6 prism system		Firm will submit OEM certificate.
1.4	Built-in Optical Filters ND filters OFF: CLEAR 1: 1/4ND 2: 1/16ND 3: 1/64ND Linear variable ND (Approx. 1/4ND to 1/128ND)		BOO will check physically.
1.5	Shutter Speed: 1/24 sec to 1/8,000 sec		Firm will submit OEM certificate.
1.6	White Balance: Preset (3200K), Memory A, Memory B/ATW		Firm will submit OEM certificate.
1.7	Recording Format (Video) <XAVC Long> XAVC-L QFHD mode: VBR, maximum bit rate 150Mbps, MPEG-4 H.264/AVC XAVC-L HD 50 mode:VBR, maximum bit rate 50Mbps, MPEG-4 H.264/AVC XAVC-L HD 35 mode:VBR, maximum bit rate 35Mbps, MPEG-4 H.264/AVC XAVC-L HD 25 mode:VBR, maximum bit rate 25Mbps, MPEG-4 H.264/AVC <DVCAM> DVCAM mode:CBR, 25Mbps, DVCAM		BOO will check physically

S.N	Specifications	Trial Directives
1.8	Recording Format (Audio) <XAVC Long> XAVC-L mode: LPCM 24-bit, 48kHz, 4 channels <DVCAM> DVCAM mode: LPCM 16-bit, 48kHz, 4 channels	BOO will check physically
1.9	Recording Frame Rate <XAVC Long> XAVC-L QFHD 150 mode: 3840x2160/ 59.94P, 50P, 29.97P, 23.98P, 25P XAVC-L HD 50 mode: 1920x1080/ 59.94P, 50P, 59.94i, 50i, 29.97P, 23.98P, 25P 1280x720/59.94P, 50P XAVC-L HD 35 mode: 1920x1080/59.94P, 50P, 59.94i, 50i, 29.97P, 23.98P, 25P XAVC-L HD 25 mode: 1920x1080/59.94i, 50i <DVCAM> DVCAM mode: 720x480/59.94i, 29.97PsF, 720x576/50i, 25PsF	BOO will check physically
1.10	Lens Mount: Fixed type	BOO will check practically.
1.11	Zoom Ratio : 25x	BOO will check practically.
1.12	Iris : Auto/manual switchable F1.6 to F11 and C(close)	BOO will check practically.
1.13	Audio Input : XLR-type 3-pin (female) (x2), line/mic/mic +48 V selectable. LINE : +4, 0, - 3dBu/10k Ω MIC : -80dBu to -30dBu /3k Ω (0 dBu=0.775 Vrms)	BOO will check physically
1.14	Audio Output : Integrated into Multi/Micro USB jack(x1)	BOO will check practically.
1.15	SDI Output: BNC (x1), 3G/HD/SD selectable	BOO will check practically.
1.16	Timecode Input: BNC (x1) (switchable to TC out) 0.5V-1.8Vp-p, 3.3k Ω	BOO will check practically.
1.17	Timecode Output: BNC (x1) (switchable to TC in) 1.0Vp-p, 75 Ω	BOO will check practically.

S.N	Specifications	Trial Directves
1.18	USB: USB device, Multi/Micro USB jack (x1) Host: USB 3.0/2.0 type A(x1), USB 2.0 type A(x1)	BOO will check practically.
1.19	Headphone Output: Stereo mini jack (x1) -16dBu 16Ω	BOO will check practically.
1.20	Speaker Output : Monaural Output: 500mW	BOO will check practically.
1.21	DC Input: DC jack	BOO will check practically.
1.22	Remote: Stereo mini-minijack (Φ2.5 mm)	BOO will check practically.
1.23	HDMI Output : HDMI connector (Type A)	BOO will check practically.
1.24	Wired LAN: RJ-45 (x1), 1000BASE-T, 100BASE-T, 10BASE-T	BOO will check practically.
1.25	Viewfinder: 1.0 cm (0.39 type) Approx. 2.36M dots	BOO will check physically
1.26	LCD: 8.8cm (3.5 type) Approx. 1.56M dots	BOO will check physically
1.27	Supported Format IEEE 802.11 a/b/g/n/ac Frequency Band 2.4 GHz bandwidth 5.2/5.3/5.6 GHz bandwidth Security WEP/WPA-PSK/WPA2-PSK NFC NFC Forum Type 3 Tag compliant	BOO will check practically and Firm will submit OEM certificate.
2.	VISION MIXER 12 HD/SD SDI inputs, 8 HD/SD-SDI outputs and 1 HDMI output come as standard. Mixed HD/SD input is supported in the standard configuration.The 9 outputs can all be freely assignedwith frame synchronizers that enable This achieves a fully mixed SD / HD environment with the switcher alone Further proof of the power of these new small mixers is that they come as standard with 2 keyers, 2 DSKs and 4 powerful 2.5D DVE engines. An advanced, high quality Chroma keyer can be assigned to any one of the two M/E Keyers or two Downstream Keyers.	BOO will check physically

S.N	Specifications	Trial Directves
2.1	VIDEO FORMATS: 1080/59.94L, 1080/50, 1080/29.97P, 1080/25P, 1080/24P, 1080/23.98p, 1080/24PsF, 1080/23.98PsF, 1080/ 25PsF, 1080/29.97PsF, 720/59.94p, 720/50p, 1080/59.94p and 1080/50p level A 525/60(NTSC), 625/50(PAL)	BOO will check physically
2.2	VIDEO INPUTS WITH PROCESSING AMPLIFIER: HD/SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 750, BNC x12 (FSs on 8inputs, resize engine on 4 inputs.	BOO will check physically
2.3	NUMBER OF VIDEO INPUTS: HD HDI-1.5 GB, OR SD SDI 270 MBPS X 12 (AUTO SELECT)	BOO will check practically.
2.4	NUMBER OF VIDEO OUTPUTS HD/SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75 Ω. BNC x 8, HDMI 1	BOO will check practically.
2.5	EFFECT: WIPE:100 PATTERNS, BORDER AND SOFTNESS/2.50 DVE:56 PATTERNS OR MORE DVE WIPES	BOO will check physically
2.6	MICRO FUNCTION: 30 commands (Upto 230 series of operation can be registered for command	BOO will check physically
2.7	STILL/CLIP STORE: 2 CHANNELS (WITH BACKUP FEATURE), EACH STORE CAN HOLD CAN HOLD UPTO 227 FRAMES OF HD VIDEO	BOO will check practically.
2.8	KEYER/DSK: 4 CHANNELS (KEYER X 2) + DSK x2) INCLUDES 2D DVE THAT CAN BE FREELY ASSIGNED. AN ADVANCED, HIGH QUALITY CHROMA KEYER CAN BE ASSIGNED TO ANY ONE OF THE TWO KEYERS OR TWO DSKs	BOO will check practically.
2.9	MULTIVIEWER: 2/4/5/7/9/10/11/14/15/16-WAYSPLIT VIEWS WITH TITLE, TALLY AND AUDIO LEVEL METER DISPLAY AND 1 FRAME DELAY FOR PGM OUTPUT	BOO will check practically.
2.10	GENLOCK INPUT: BB:NTSC:0.429 Vp-p/PAL: 0.45 Vp-p OR TRI-LEVEL SYNC:0.6 Vp-P,75Ω, BNC x 1, LOOP THROUGH (TO BE TERMINATED WITH 75Ω TERMINATED IF UNUSED)	BOO will check practically.
3.	Tripod with Dolly Aluminum tripod system is a complete tripod. Have a good feel and reliable quality. The fluid head with 100mm ball provides smooth pans and tilts. Built-in bubble for horizontal leg, 3-section legs ensure the excellent loading capacity and stability, quick locking, Double handle, more convenient each head are equipped with fluid system	BOO will check physically.

S.N	Specifications		Trial Directives
3.1	Folded Height:	910mm	BOO will check practically.
3.2	Max Operating Height:	1750mm	BOO will check practically.
3.3	Min Height:	570mm	BOO will check practically.
3.4	Tilt Range:	-85o/+85o	BOO will check practically.
3.5	Pan Range:	360o	BOO will check practically.
3.6	BALL SIZE:	100MM	BOO will check practically.
3.7	PAN ROD:	2	BOO will check practically.
3.8	Max Load Capacity:	8kg	BOO will check practically.
3.9	Net Weight:	8.5kg	BOO will check practically.
3.10	DOLLY:	Olded Length: 560mm Net Weight: 5 kg Load Capacity: 50kg	BOO will check practically.
4.	Teleprompter System: Being used in Studio for Live as well as recording production.		BOO will check physically.
4.1	Support multiple languages		BOO will check practically.
4.2	Dual monitor use		BOO will check practically..
4.3	Mouse movement speed control		BOO will check practically.
4.4	User control of scroll speed using the hand controller (optional)		BOO will check practically.
4.5	Prompts in any window's compatible language		BOO will check practically.
4.6	Import word file		BOO will check practically.
5.	Monitor Speakers		
	Unlike studio monitors with added bass or treble frequencies which may sound more flattering at first, this Series speakers were designed to give you the most honest, precise reference possible, providing an ideal sonic platform to build on throughout the mixing process		BOO will check physically.
5.1	2-way bass-reflex bi-amplified nearfield studio monitor with 5" cone woofer and 1" dome tweeter		BOO will check physically.
5.2	54Hz - 30kHz frequency response		BOO will check physically.
5.3	45W LF plus 25W HF bi-amp system for high-performance 70W power amplification		BOO will check practically.
5.4	ROOM CONTROL and HIGH TRIM response controls		BOO will check practically.
5.5	XLR and TRS phone jack inputs accept balanced or unbalanced signals		BOO will check physically.

S.N	Specifictations	Trial Directves
6.	1 x 1 Panel LED Lights 900 LED 80w video panel should have high output, bi-color temperature, long service life and outstanding heat dissipation. Easy carrying and simple assembly, comprise a standalone cable dimmer to help easier dimming, suitable for lighting in Video and outdoor image capture	BOO will check practically.
6.1	Input Voltage (V): 12-24V DC(Decoder) DC Adopter	BOO will check practically.
6.2	Total Power (W): 80W	BOO will check practically.
6.3	LED: DIP	BOO will check practically.
6.4	No. of LED's: 1224PCS	BOO will check practically.
6.5	Power Factor(PF): 100%(DC Decoder)	Firm will submit OEM certificate.
6.6	LED Lumen: 7200LM	Firm will submit OEM certificate.
6.7	Related Color Temperature : (CCT) 5600K±355K	Firm will submit OEM certificate.
6.8	LUX Define the Exact Range as: 1800LUX/2.5M	Firm will submit OEM certificate.
6.9	Color Rendering Index: (CRI) ≥95+	Firm will submit OEM certificate.
6.10	Average Beam Angle: 45°	BOO will check practically.
6.11	Distribution of Light: BI COLOR	Firm will submit OEM certificate.
6.12	DMX: Optional	Firm will submit OEM certificate.
6.13	Working Humidity: 90%	Firm will submit OEM certificate.
6.14	Storage Temperature: 25°C	Firm will submit OEM certificate.
6.15	Lifespan for LED Lighting Source: 50,000 Hours	Firm will submit OEM certificate.
6.16	C Clamp with Safety Chain: Optional	Firm will submit OEM certificate.
6.17	SIZE: 14"*14"	BOO will check practically.

S.N	Specifications	Trial Directves
7.	<p>LED SPOT 100W</p> <p>Continuous Light which gives studio lighting required to get the professional shots. video requirement with 5600k. One should be able to adjust the black knob to change the angle of the light, either go spot or flood. Fixture available in manual and pole operation</p>	BOO will check physically.
7.1	Voltage: AC100~240V , 50/60Hz	BOO will check practically.
7.2	Power: 135W	BOO will check practically.
7.3	Light Source: 100W LED	BOO will check practically.
7.4	Beam Angle: 18-58°	BOO will check practically.
7.5	Control Mode: DMX-512 ,Master/Slave	BOO will check practically.
7.6	Channel: 1 channels	BOO will check practically.
7.7	Pan: 540°/630° Tilt: 270°	BOO will check physically.
7.8	IP Rating: IP20	Firm will submit OEM certificate.
7.9	Net Weight: 5kg	BOO will check practically.
8.	<p>Lapel Mic Wireless</p> <p>A broadcast quality sound solution. Providing the highest flexibility for your video sound and field recording applications. A robust wireless lapel microphone that offers excellent sound quality, simple mounting and ease of use.</p>	BOO will check physically.
8.1	All-in-one wireless Lapel mic with high flexibility for broadcast quality sound	BOO will check practically.
8.2	Excellent sound and construction quality	BOO will check practically.
8.3	Easy to use and fast setup time	BOO will check practically.
8.4	Powerful and reliable wireless transmission	BOO will check physically.
8.5	Range: up to 100 meters / 330 feet	BOO will check practically.
8.6	Up to 8 hours of operation time	BOO will check practically.

S.N	Specifications	Trial Directves														
9.	<p>Handheld Mic Wireless</p> <p>A broadcast quality sound solution. Providing the highest flexibility for your video sound and field recording applications. A robust wireless microphone system that offers excellent sound quality, simple mounting and ease of use.</p> <p>The easiest wireless solution for moderators or reporters. The rugged microphone resists any bad weather or field condition, while the versatile receiver is easily mounted to any camera.</p>	BOO will check physically.														
	<table border="1"> <tr> <td data-bbox="261 730 360 831">9.1</td> <td data-bbox="360 730 954 831">Rugged all-in-one wireless system with high flexibility for broadcast quality sound</td> </tr> <tr> <td data-bbox="261 831 360 898">9.2</td> <td data-bbox="360 831 954 898">Excellent sound and construction quality</td> </tr> <tr> <td data-bbox="261 898 360 936">9.3</td> <td data-bbox="360 898 954 936">Easy to use and fast setup time</td> </tr> <tr> <td data-bbox="261 936 360 1003">9.4</td> <td data-bbox="360 936 954 1003">Powerful and reliable wireless transmission</td> </tr> <tr> <td data-bbox="261 1003 360 1041">9.5</td> <td data-bbox="360 1003 954 1041">Range: up to 100 meters / 330 feet</td> </tr> <tr> <td data-bbox="261 1041 360 1081">9.6</td> <td data-bbox="360 1041 954 1081">Up to 8 hours of operation time</td> </tr> </table>	9.1	Rugged all-in-one wireless system with high flexibility for broadcast quality sound	9.2	Excellent sound and construction quality	9.3	Easy to use and fast setup time	9.4	Powerful and reliable wireless transmission	9.5	Range: up to 100 meters / 330 feet	9.6	Up to 8 hours of operation time	BOO will check practically.		
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9.6	Up to 8 hours of operation time															
10.	<p>Earset:</p> <p>This is a connector cable, swivel joint and earpiece kit, with a coiled earpiece cable, designed for use with Telex assistive listening and IFB products.</p>	BOO will check practically.														
11.	<p>Intercom System</p> <p>One of the innovative features of the rack-mountable 8 User Wired Intercom System with 4 Belt packs & 4 Headsets</p>	BOO will check practically.														
	<table border="1"> <tr> <td data-bbox="261 1413 360 1480">11.1</td> <td data-bbox="360 1413 954 1480">Industry Standard 19" 1U rack design, for easyintegration</td> </tr> <tr> <td data-bbox="261 1480 360 1518">11.2</td> <td data-bbox="360 1480 954 1518">Supports 8-Way Intercom</td> </tr> <tr> <td data-bbox="261 1518 360 1585">11.3</td> <td data-bbox="360 1518 954 1585">Additional external earphone and microphone interface</td> </tr> <tr> <td data-bbox="261 1585 360 1653">11.4</td> <td data-bbox="360 1585 954 1653">Bi-color tally light indicator *</td> </tr> <tr> <td data-bbox="261 1653 360 1720">11.5</td> <td data-bbox="360 1653 954 1720">Selectable channel talk, broadcast to all or mute.</td> </tr> <tr> <td data-bbox="261 1720 360 1787">11.6</td> <td data-bbox="360 1720 954 1787">Half-Duplex design for eliminate the environmental noise</td> </tr> <tr> <td data-bbox="261 1787 360 1850">11.7</td> <td data-bbox="360 1787 954 1850">Enables communication between the camera crew</td> </tr> </table>	11.1	Industry Standard 19" 1U rack design, for easyintegration	11.2	Supports 8-Way Intercom	11.3	Additional external earphone and microphone interface	11.4	Bi-color tally light indicator *	11.5	Selectable channel talk, broadcast to all or mute.	11.6	Half-Duplex design for eliminate the environmental noise	11.7	Enables communication between the camera crew	BOO will check practically.
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S.N	Specifictations		Trial Directves
11.8	Communication distance up to 200 meters		BOO will check practically.
11.9	Supplied complete with Gooseneck Microphone and Light		BOO will check practically.
12.	Audio Mixer This Series embodies this pursuit of design excellence, and incorporates some of the same technologies developed for use in high-end professional consoles, including studio-quality preamps, powerful digital processing, and a rugged, reliable construction		BOO will check practically.
12.1	16-Channel Mixing Console		BOO will check practically.
12.2	Max. 10 Mic / 16 Line Inputs (8 mono + 4 stereo)		BOO will check practically.
12.3	GROUP Buses + 1 Stereo Bus		BOO will check physically.
12.4	AUX (incl. FX)		BOO will check physically.
12.5	“D-PRE” mic preamps with an inverted Darlington circuit		BOO will check physically.
12.6	1-Knob compressors		BOO will check practically.
12.7	High-grade effects: SPX with 24 programs		BOO will check physically.
12.8	24-bit/192kHz 2in/2out USB Audio functions		BOO will check physically.
12.9	Includes Cubase AI DAW software download version		BOO will check physically.
12.10	PAD switch on mono inputs		BOO will check physically.
12.11	+48V phantom power		BOO will check practically.
12.12	XLR balanced outputs		BOO will check practically.
12.13	Internal universal power supply for world-wide use		BOO will check physically.
12.13	Rack Mount Kit Included		BOO will check practically.
12.14	Metal chassis		BOO will check practically.

S.N	Specifictations	Trial Directves
13.	<p>Phone in Unit</p> <p>One-line POT telephone hybrids are the most advanced hybrids ever developed for use with analog phone lines. Hybrids contain advanced 3rd-generation hybrids for superior audio quality; universal POTS interface features disconnect-signal detection, which works with Telco providers worldwide. Hybrids include unique features to make operators' lives easier, such as Auto-Answer with selectable ring count, a switchable mic/line input, call screening and line- hold features, and front-panel send and receive audio metering.</p>	BOO will check practically.
13.1	Separate Send level and Receive level meters for each hybrid.	BOO will check practically.
13.2	Place caller on-hold via front panel button.	BOO will check practically.
13.3	Auto-Answer with selectable ring count.	BOO will check practically.
13.4	Wide-range AGC and Dynamic EQ by Omnia, with adjustable gain settings.	BOO will check practically.
13.5	Adjustable caller override improves performance and allows you to individualize the degree to which the announcer ducks the caller audio.	BOO will check practically.
13.6	Digital Dynamic EQ and adjustable smart leveler keeps audio spectrally consistent from call to call.	BOO will check practically.
13.7	New EQ High and EQ Low display meters for each hybrid.	BOO will check practically.
13.8	Audio Interfaces- Analog	BOO will check practically.
13.9	Ringing and On-Air status for each hybrid.	BOO will check practically.
13.10	Input Range : Select between MIC and LINE levels	BOO will check practically.
13.11	Input Level : Adjustable from -10 to +4 dBu (nominal)	BOO will check practically.
13.12	Impedance : Bridging, > 50K Ohms	BOO will check physically.
13.13	Analog Clip Point : +21 dBu	Firm will submit OEM certificate.
13.14	Analog-to-Digital Converter Resolution : 20 bits	Firm will submit OEM certificate.

S.N	Specifications		Trial Directives
13.15	13.15	Analog Outputs Connector : XLR Male, Pin 3 High	BOO will check practically.
13.16	13.16	Output Level : Nominal at +4 dBu	Firm will submit OEM certificate.
13.17	13.17	Impedance : <50 ohms	Firm will submit OEM certificate.
13.18	13.18	Digital-to-Analog Converter Resolution : 24 bits	Firm will submit OEM certificate.
13.19	13.19	Headroom Before Clipping : 20 dB headroom from 4dBu nominal levels	Firm will submit OEM certificate.
13.20	13.20	Frequency Response : 200 to 3400 Hz, +/- 1 dB	Firm will submit OEM certificate.
13.21	13.21	THD+N/Input : < 0.5% THD+N using 1 KHz sine wave	Firm will submit OEM certificate.
13.22	13.22	Signal to Noise : >90 dB	Firm will submit OEM certificate.
13.23	13.23	General purpose Input/output : Single 9 pin D-Sub connector with 2 status outputs (Ringing and ON-AIR) and 2 control inputs (ON and OFF) per hybrid	BOO will check practically.
13.24	13.24	Trans-hybrid Loss : > 55 dB	Firm will submit OEM certificate.
14.	Video In/Out Card Advanced digital cinema capture card featuring full frame DCI 4K input and output via 12G-SDI! You get dual link multi rate 12G-SDI connections that work with SD, HD and Ultra HD even in Ultra HD 60p, as well as full frame DCI 4K at 4096 x 2160 resolution up to 25p! Capture 10-bit YUV or full color bandwidth 12-bit RGB. Includes AES/EBU audio, up, down and cross conversion, plus built in 3D stereoscopic output at full bandwidth 4:4:4:4 RGB! No other capture and playback card supports more video formats and video connections!		BOO will check practically.
14.1	14.1	SDI Video Inputs : 2 x 12Gb/s SD/HD/2K/4K. Supports single/dual link 4:2:2/4:4:4. 2D/3D switchable.	BOO will check physically.
14.2	14.2	SDI Video Outputs: 2 x 12Gb/s SD/HD/2K/4K. Supports single/dual link 4:2:2/4:4:4. 2D/3D switchable.	BOO will check physically.

S.N	Specifications	Trial Directves
14.3	Analog Video Inputs: 1 x Component YUV on 3 BNCs switchable to S-Video or Composite. Component supports HD and SD.	BOO will check practically.
14.4	Analog Video Outputs: 1 x Component YUV on 3 BNCs switchable to S-Video and Composite. Component supports HD and SD.	BOO will check practically.
14.5	Analog Audio Inputs: 2 Channels of professional balanced analog audio via XLR connectors.	BOO will check practically.
14.6	Analog Audio Outputs: 2 Channels of professional balanced analog audio via XLR connectors.	BOO will check practically.
14.7	AES/EBU Audio Inputs: 2 Channels unbalanced with sample rate converter.	BOO will check practically.
14.8	AES/EBU Audio Outputs: 2 Channels unbalanced.	BOO will check practically.
14.9	SDI Audio Inputs: 16 Channels embedded in SD/HD/2K/4K.	BOO will check practically.
14.10	SDI Audio Outputs: 16 Channels embedded in SD/HD/2K/4K.	BOO will check practically.
14.11	HDMI Video Inputs: HDMI type A connector with support for 2160p60.	BOO will check practically.
14.12	HDMI Video Outputs: HDMI type A connector with support for 2160p60.	BOO will check practically.
14.13	Sync Input: Tri-Sync or Black Burst.	BOO will check practically.
15.	<p>Ingest / Playout Server for 2 SD/HD Ports</p> <p>Playout solution should provide stability and usability advantages. It allows for optimum CPU balancing using today's multi-core systems; the server controls the video output while the client manages the playlist. The media files are verified by the client application before being accepted for playout.</p>	BOO will check practically.
15.1	System should have intuitive user interface for easy ingest and play operation with easy controls.	BOO will check practically.
15.2	Operator to define source and destination for ingest.	BOO will check practically.

S.N	Specifictations	Trial Directves
15.3	Operator also preview & browse the content without disrupting the recording process.	BOO will check practically.
15.4	Automated Play-out system with manual rider	BOO will check practically.
15.5	The system supported scaling for up to 6 HD ports in future	BOO will check practically.
15.6	The playback of scheduled clips from the play list without any delay	BOO will check practically.
15.7	Supported HD/SD	BOO will check practically.
15.8	Supported types of video files	BOO will check physically.
15.9	DV in .avi container (fourCCdvsd and dsvd	BOO will check physically.
15.10	LXF, MP4/MOV, MXF, ASF/WMV, MPEG-TS,	BOO will check physically.
15.11	Mpeg2, Mpeg4	BOO will check physically.
15.12	GXF, FLV, AVI, DV, MPEG-PS, MKV, WebM,	BOO will check physically.
15.13	DVCPRO, M-JPEG, MPEG-1, MPEG-2, VC-1	BOO will check physically.
15.14	Windows Media Video with extension .wmv	BOO will check practically
15.15	Two simultaneous ingests	BOO will check physically.
16.	CG System Require a broadcast graphics playout. Powerful, multilayer, reliable and incredibly easy to use. Live titling the way you expect it. Instant operation. You click on it, it does its job	BOO will check practically
16.1	Full NDI® implementation in/out Broadcast Applications for both input and output support and Tricaster's macro automation. NDI® sources can be wrapped to 3D objects, moved and squeezed in real-time with the power of CG template editors.	BOO will check physically.

S.N	Specifications		Trial Directives
16.2	<p>Brand new Media Render implementation Media Handling layer should be deeply re-designed and optimized. The result is simple: improved features, perfect backwards compatibility, increased support for media formats and capture devices</p>		BOO will check physically.
16.3	<p>Text handing improvements Both vector and bitmap text have gained additional flexibility with the support of floating point kerning and spacing. Users will be able to fine-tune their text layouts like never before.</p>		BOO will check practically
16.4	<p>Docking extended to all main apps We extended the modern idea of docking to all our Template Editors. The result is a more comfortable interface and a shared look and feel for the applications. Personalize your Editor-Workspace as you did with LB.</p>		BOO will check practically
16.5	<p>Group highlights and Drag&Drop on LB Groups of contents can now be created/assigned by Drag& Drop. Group IDs can also be unlimited and will be assigned automatically. Users can immediately visualize the contents inside a group. Simple, immediate, secure.</p>		BOO will check practically
16.6	<p>Gui improvements everywhere Applications will look fine and feel better, with tons of gui improvements. From the Template Preview player, to the Frame Markers editor, to the Media player and NDI previewer, cursor shape change on Drag & Drop, multi-screen ui improvements, more consistent gui across applications</p>		BOO will check physically.
16.7	<p>New application: the Clip Player A simple yet powerful piece of software capable to play any media file (including MXF, MOV, MP4) to a vast number of supported video devices. Easy to operate and feature rich. HQ crop/scale, field-polarity-aware with support for mark-in/out, frame resynch, on-air scrub and more.</p>		BOO will check physically.
16.8	<p>GPIO interface With the advent of CG Broadcast Applications 6.2, we introduced an optional GPIO feature which goes down to the hardware and gives control to the single bits of serial ports. The GPIO can be easily customized through the Preferences.</p>		BOO will check physically.

S.N	Specifications		Trial Directives
16.9	Scripting engine: a new world of possibilities Skilled programmer? Amateur coder? What about writing your very own code to control any aspect of your graphics, implement new functions and interactions securely and productively by means of Scripting Engine? This is pure value added to your creativity.		BOO will check physically.
16.10	SocialServer: improvements at a glance New Facebook and Instagram API. Social media is so dynamic! We want our customers to always be up to date.		BOO will check physically.
16.11	Page Recall A brand new application to no extra cost comes with Broadcast Applications v6.2: the PageRecall.		BOO will check physically.
17.	Sync Generator: Includes 6 crystal stabilized video reference outputs for referencing all the video equipment in your studio in either high definition Tri-Sync or standard definition Blackburst television standards. Perfect for small studios and outside broadcasts!		BOO will check practically
17.1	Analog Video Outputs: 6 x common Blackburst or Tri Level reference outputs. SDI Rates: 270Mb, 1.5G. Multi Rate Support: Via mini switches Updates and Configuration: USB		BOO will check practically.
17.2	Analog Format Support: 525i29.97 NTSC, 625i25 PAL, 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080PsF23.98, 1080PsF24, 1080i50, 1080i59.94, 1080i60		BOO will check physically.
18.	Embedder Embed audio into any SDI source in SD and HD formats up to 1080p60! Audio is input as balanced analog or AES/EBU using ¼ inch connectors from equipment such as mixers and analog decks.		BOO will check practically.
18.1	SDI Video Inputs: 1 x SD, HD or 3G-SDI. 1 x ALT SDI Input for automatic switch over if main input fails. SDI Video Outputs: 1 x Embedded SDI Output. Analog Audio Inputs: 4 channels of balanced analog audio. Digital Audio Inputs: 8 channels of balanced AES/EBU audio. SDI Redundant Input: Automatically switches over if main SDI input is lost. Multi Rate Support: Auto detection of SD, HD or 3G-SDI. Updates and Configuration: Via USB 2.0 high speed. (480 Mb/s) Reclocking: Yes		BOO will check practically.

S.N	Specifictations	Trial Directves
18.2	<p>SD Video Standards: 525i59.94 NTSC, 625i50 PAL</p> <p>HD Video Standards: 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60 1080PsF23.98, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30, 1080i50, 1080i59.94, 1080i60</p> <p>2K Video Standards: 2K DCI 23.98p, 2K DCI 24p, 2K DCI 25p, 2K DCI 23.98PsF, 2K DCI 24PsF, 2K DCI 25PsF</p> <p>SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE 424M-B, SMPTE 425M, ITU-R BT.656, ITU-R BT.601, SMPTE ST-2036</p> <p>SDI Video Rates : SDI video connections are switchable between standard definition and high definition.</p> <p>SDI Video Sampling: 4:2:2, 4:4:4</p> <p>SDI Audio Sampling : Television standard sample rate of 48 kHz and 24 bit.</p> <p>SDI Color Precision : 4:2:2, 4:4:4</p> <p>SDI Color Space: YUV, RGB</p> <p>SDI Auto Switching: Automatically selects between SD, HD, and 3G-SDI.</p>	BOO will check practically.
19.	<p>SDI to HDMI 6G</p> <p>Mini Converter SDI to HDMI 6G lets you convert from SDI to HDMI in SD, HD, and Ultra HD formats while de-embedding audio to HDMI, AES/EBU or balanced analog audio. Needs advanced features such as down conversion for monitoring Ultra HD on HD HDMI monitors as well as built in 3D LUTs plus HDMI instant lock for instant video display when an SDI input is connected.</p>	BOO will check practically.
19.1	<p>SDI Video Inputs; 1 x SD, HD or 6G-SDI. 1 x ALT SDI Input for automatic switch over if main input fails.</p> <p>SDI Video Outputs: 1 x SDI Video Loop Output.</p> <p>HDMI Video Outputs: HDMI type A out.</p> <p>Analog Audio Outputs: 2 channels of balanced analog audio.</p> <p>Digital Audio Outputs: 4 channels of AES/EBU digital audio</p> <p>SDI Redundant Input: Automatically switches over if main SDI input is lost.</p> <p>Multi Rate Support: Auto detection of SD, HD or 6G-SDI.</p> <p>Updates and Configuration :USB</p> <p>Reclocking: Yes</p>	BOO will check practically.

S.N	Specifications	Trial Directives
19.2	<p>SD Video Standards : 625i50 PAL, 525i59.94 NTSC</p> <p>HD Video Standards: 720p50, 720p59.94, 720p60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60 1080PsF23.98, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30 1080i50, 1080i59.94, 1080i60</p> <p>2K Video Standards: 2K DCI 23.98p, 2K DCI 24p, 2K DCI 25p, 2K DCI 23.98PsF, 2K DCI 24PsF, 2K DCI 25PsF</p> <p>Ultra HD Video Standards: 2160p23.98, 2160p24, 2160p25, 2160p29.97, 2160p30</p> <p>4K Video Standards: 4K DCI 23.98p, 4K DCI 24p, 4K DCI 25p</p> <p>SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE424M, SMPTE 425M, SMPTE ST-2081</p> <p>SDI Video Rates: SDI video connections are switchable between standard definition, highdefinition, Level A or Level B 3G-SDI and 6G-SDI.</p> <p>SDI Video Sampling: 4:2:2 and 4:4:4</p> <p>SDI Audio Sampling: Television standard sample rate of 48 kHz and 24 bit.</p> <p>SDI Color Precision: 4:2:2 and 4:4:4</p> <p>SDI Color Space: YUV and RGB</p> <p>SDI Auto Switching: Automatically detects SD, HD or 6G-SDI.</p> <p>HDMI Video Standards: 625i50 PAL, 525i59.94 NTSC,720p50, 720p59.94, 720p60,1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50,1080p59.94, 1080p60, 1080i50, 1080i59.94, 1080i60, 2160p23.98, 2160p24, 2160p25, 2160p29.97, 2160p30</p> <p>HDMI Color Space: YUV and RGB</p> <p>HDMI Color Precision: 4:2:2 and 4:4:4</p>	BOO will check practically.
20.	<p>SDI Distribution</p> <p>We require a single SD or HD-SDI connection to up to 8 different SDI outputs at the same time! It should have 3G-SDI design with fully re-clocked outputs and automatic switching between all SD and HD formats up to 1080p60. Should support for all ASI, ancillary and embedded audio formats. Mini Converter SDI Distribution is the perfect SD/HD SDI distribution converter for when you don't need the cost of the Ultra HD model.</p>	BOO will check practically.

S.N	Specifictations		Trial Directves
20.1	<p>SDI Video Inputs: 1 x SDI Video Input. Switchable between SD, HD and 3G- SDI.</p> <p>SDI Video Outputs: 8 outputs automatically match the SDI video input.Multi Rate Support Auto detection of SD, HD or 3G-SDI.</p> <p>Re clocking : Yes</p>		BOO will check practically.
20.2	<p>SD Video Standards:525i59.94 NTSC, 625i50 PAL</p> <p>HD Video Standards: 720p50, 720p59.94, 720p60, 1080i50, 1080i59.94,1080i60, 80p23.98, 1080PsF23.98, 1080p24, 1080PsF24, 1080p25, 1080PsF25, 1080p29.97,1080PsF29.97, 1080p30, 1080PsF30, 1080p50, 1080p59.94, 1080p60.</p> <p>2K Video Standards: 2K DCI 23.98p, 2K DCI 24p, 2K DCI 25p 2K DCI 23.98PsF, 2K DCI 24PsF, 2K DCI 25PsF</p> <p>SDI Compliance: SMPTE 259M, SMPTE 292M, SMPTE 296M, SMPTE 372M, SMPTE 424M- B and SMPTE 425M</p> <p>SDI Video Rates: SDI video connections are switchable between SD, HD, and DCI 2K.</p> <p>SDI Video Sampling: 4:2:2 and 4:4:4</p> <p>SDI Audio Sampling: Television standard sample rate of 48 Hz and 24 bit.</p> <p>SDI Color Precision: 4:2:2 and 4:4:4</p> <p>SDI Color Space: YUV and RGB</p> <p>SDI Auto Switching: Automatically detects SD, HD or 3G-SDI.</p>		BOO will check physically.
21. IT Workstations			
2.1	<p>Playout & Ingest Workstation</p> <p>Intel Xeon Processor 1 X 1TB HDD for OS 2 X 4TB HDD 32GB Ram 1 X 4GB GFX CARD WIN 10 PRO</p>		BOO will check practically.
2.2	<p>CG Workstation</p> <p>Intel Xeon Processor 1 X 1TB HDD for OS 1 X 1TB HDD 16GB Ram 1 X 4GB GFX CARD 17' Monitor, keyboard, mouse WIN 10 PRO</p>		BOO will check practically.