Scope of Work

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I. SCOPE OF SOLICITATION

The purpose of this bid request is for a one-time purchase of video broadcast production equipment for a new facility being created to support pre-produced and live broadcast video productions. The system will be based on specific products based on manufacturers and models in order to duplicate an existing system currently in use by Clemson University Athletics Video. The purpose of the equipment will be for both professional productions for internal and external clients as well as for instructional us for Clemson University students.

The bid will be awarded based on ability of vendor to supply the entire lot of exact equipment specified and to integrate and install specified equipment within the defined construction timeline. Additionally, bid recipient will be required to integrate existing video and audio production equipment into the facility.

II. INSTRUCTIONS TO OFFERORS

1. INFORMATION FOR OFFERORS TO SUBMIT -

Regardless of specific requirements below or in this document, Offerors are required to submit their bid electronically through the Clemson University online bidding system. To do so you must login (registering first) at
https://sciquest.ionwave.net/prod/default.aspx?company=clemson, and follow specific instructions for this solicitation. You should register several days in advance of the bid closing date so you can be approved and login in time to submit a response.

Cost proposal must be submitted as a single price, which includes the full cost of equipment exactly as specified, delivery, installation, integration, on-site training and support.

2. Bid Attributes

Please follow submittal requirements outlined in the Bid Attributes in the online bidding system.

III. SCOPE OF WORK / SPECIFICATIONS

Overview

A brand new broadcast video production facility is being created within the Madren Conference center expanding upon an existing small-scale video production facility and equipment. The new facility will be built "from the ground up," removing all walls and existing infrastructure within an 1800 sq. ft. area of the Conference Center and will be reconstructed for the purpose of a broadcast video production facility.

Requirements

Specific equipment needs have been identified in order to replicate an existing system currently in use by Clemson University Athletics Video for redundancy, ease of engineering support and instructional requirements. Vendor will supply specific equipment as described with no substitutions accepted. Additionally, on-site installation and integration must occur between October 1 – October 30, 2013.

Integration/Installation

Due to the short window of time available to install and perform final integration and testing of equipment on-site, vendor must be able to perform initial build and integration of all new equipment off-site. Additionally, some on-site installation and integration of existing video and audio production equipment will be required.

Work under this contract includes all labor, lodging, meals, transportation services, materials, cabling, tools, supervision, coordination, testing, documentation, and instruction necessary to complete the installation of the high quality systems as described in these specifications

All finished systems shall be complete and in proper working order, including all necessary cables and appropriate blank panels as needed for all equipment racks as described in these Specifications and illustrated in the associated drawings.

It is the sole responsibility of the installer to ensure that all systems function as intended in this specification. The installer shall be responsible for determining and providing the means and methods of installation for all systems.

Project Timeline

Construction is scheduled to begin July 9 with an estimated completion date of September 30. At this time, the facility will become available to the vendor to begin on-site installation and integration, which must be completed by October 30.

Required Equipment
See Appendix A.

Clemson's Responsibilities
Provide approximate dimensions of the new broadcast video production facility where equipment is to be located. Grant access as available to existing Clemson University Athletics Video production facility so that a similar configuration and installation can be achieved.

Training
On-site training shall be provided for all employees of production facility as necessary for respective job functions.

Documentation
Submit two bound original sets of the following Project Record Manual information after substantial completion and prior to final inspection. Documents shall be segregated into three separate bindings containing data relevant to operational, service and maintenance, and warranty issues. Appropriately duplicate data within the separate bindings when it will reasonably clarify procedures, e.g., operational data in maintenance binding.

1. Operations Manual:

A.   Product Data: Product actually incorporated within the installation:

   1. Manufacturer's data for each type of product conforming to the scheme specified above. The list shall include manufacturer's serial numbers.

   2. Each product's Owner/Instruction Manual.

   3. For custom circuits or modifications, a description of the purpose, capabilities, and operation of each item.

   4. Manufacturer's wiring diagram for each type of product actually incorporated.

   5. Separately bound list alphabetically by manufacturer and model or part number of all products incorporated within the work, arranged in alphanumeric order.

      a. Record drawings: Final rendition of drawings depicting what is actually incorporated within the work.

      b. Test Reports: Recorded findings of tests.

   6. System Operation and Instructions: Prepare a complete and typical procedure for the operation of the equipment as a system, organized by subsystem or activity.

      a. This procedure shall describe the operation of all the system capabilities.

b. Assume the intended reader of the manual to be technically experienced but unfamiliar with the components and the facility.

B.   Service & Maintenance Manual:

1. Provide an original copy of the service manual on every piece of equipment for which the manufacturer offers a service manual. Arrange manuals in the same order as the Operations Manual.

2. Manufacturer's maintenance and care instructions.

3. Maintenance Instructions, including maintenance phone number(s) and hours, maintenance schedule, description of products recommended or provided for maintenance purposes, and instructions for the proper use of these products.

C.   Warranty Statement:

1. Manufacturer's warranty statements on each product.

2.   Date of substantial completion and ending dates for warranties for   each group of products.

Warranty
A.   Installer shall warrant equipment to be free of defects in materials and workmanship for not less than one year after date of Substantial Completion. Defects occurring in labor or materials within one-year warranty shall be rectified by replacement or repair. Within the warranty period, provide answer to service calls and requests for information within a 24-hour period, and repair or replace any faulty item within a 24-hour period without charge, including parts and labor.

B.   This warranty shall not void additional warranty periods provided by manufacturers for greater periods of time. Nor shall it void any rights guaranteed to the Owner by law.

C.   Contractor to provide Owner with exact beginning and ending dates of the warranty period. Include the name and telephone number of the person to call for service. This information shall be part of the Project Record Documents.

D.   Warranty replacement and service does not apply to Owner's furnished equipment.

IV. TERMS AND CONDITIONS – SPECIAL

Minimal Required Qualifications: - Vendor must be an established organization experienced in installing, integrating and supporting broadcast production facilities of this scale

1. **<u>AWARD CRITERIA:</u>** Offers will be evaluated using only the factors stated below. Evaluation factors are stated in the relative order of importance, with the first factor being the most important. Once evaluation is complete, all responsive Offertory will be ranked from most advantageous to least advantageous.

    A. Price

V. APPENDICES TO SCOPE OF WORK
    A – Required equipment list
    B – List of additional existing equipment to integrate into new facility
    C – Pertinent information regarding layout and specifications of planned facility

VI. BIDDING SCHEDULE

Regardless of specific requirements below or in this document, Offerors are required to submit their bid electronically through the Clemson University online bidding system. To do so you must login (registering first) at https://sciquest.ionwave.net/prod/default.aspx?company=clemson, and follow specific instructions for this solicitation. You should register several days in advance of the bid closing date so you can be approved and login in time to submit a response.

As a bidder, it is your duty to read and understand this solicitation. You are expected to inquire if you require any clarification or have any questions. If you have any questions or concerns, they must be submitted to JodyB@clemson.edu before the deadline for questions.

APPENDIX A
(LIST ALSO INCLUDED IN SPREADSHEET FORMAT)

1	**Studio Cameras**	**Studio Cameras and Accessories for TV Studio**	
3	AG-HPX255PJ	P2 HD handheld camcorder with AG-EC4 Remote / Paint Box Connectivity (AG-EC4 sold separately).10-bit, 4:2:2 intra-frame, 1920 x 1080 AVC-Intra 100 recording. This camcorder uses 1/3 inch, full-HD 2.2 M 3-MOS imagers.	Panasonic
3	AG-EC4GPJ	Camera Remote Control Unit.	Panasonic
1	EC4 RACK	Rack Mount for AGEC4.	Panasonic
3	BE-FOXI-DVXL	KIT: Zoe-DVXL Zoom Control & Foxi Focus and Iris Control.	16x9
3	Camera CCU Extensions	Camera CCU Extensions.	CAE
4	IA-200A	Power Supply for cable extensions and cameras.	IDX
4	RD1-PWR18-10	4 Pin XLR Power Cables.	TecNec
3	LC150MP	15" LCD Teleprompter Package. Includes PC Script 3.3 Teleprompting Software. One unit with PC software, One with MAC Software and One with VGA Splitter.	Mirror Image
1	Build up materials for Three Teleprompters	Cabling, build up materials for 3ea teleprompters.	System Integrator
3	114MV	Studio Dolly for Tripods.	Manfrotto
3	V-LCD70XHB-3GSDI-AB	7" on Camera High Brightness Monitor with Composite, Component, 3GHD/SDI Inputs and Anton Bauer Battery Mount	Marshall
3	V-DG1108-CA	Articulating Monitor Mount for Camera monitor mounting.	Marshall
3	V-LCD-TB	Tally Option for Marshall Monitors	Marshall
1	AW-HE2	Multi Function All Digital High Definition PTZ Camera with HDMI output.	Panasonic
1	AWRM50G	Wireless Remote Controller for AW HE 2.	Panasonic
1	HA5	HDMI to HD SDI Converter for HE2 Camera.	AJA
1	**Master Control 1 Equipment**	**Master Control Equipment includes the following:**	
1	C2M-216-001	Carbonite MultiMedia 2M 2 MLE with 16 HDSDI Live Broadcast Production Switcher.	Ross Video
1	C2M-REDPSU-EXT	Redundant Power for Carbonite 2M Frame and Panel.	Ross Video

8	SHC-9642	HD SDI to HDMI Converter for Flat Screen Display of PVW, PGM, MV's .	Ross Video
1	XST1-0101-M3	Xpression Studio - Single Channel 3D Graphics/CG System.	Ross Video
1	XST-DLQ	Datalinq Server Option for Xpression Graphics.	Ross Video
1	BMD-VHUB/BR	Broadcast Videohub™* 72x144 3G HD SDI Video Router.	Black Magic Design
8	BMD-VHUB/WMSTRCRL	Master Control Router Controller for MC 1, MC 2, MC 1 Audio, MC 2 Audio, Enigineering, NLE 1, NLE 2, NLE 3.	Black Magic Design
2	BMD-HyperDeck Studio Pro	HD SDI SS Recording/Playback Unit.	Black Magic
2	VTX3-25SAT3-240G	Vertex 3 240GB SSD Drive for Hyperdeck Studio Pro.	OCZ Technology
4	MSP-7	Powered Audio Monitor for Audio in MC 1 and Return Audio in Studio 1	Yamaha
1	**Master Control 2 Equipment**	**Master Control 2 Equipment includes the following:**	
1	CPSSOLO-1012-001	CrossOver Solo 1M/E Live Production Switcher 12 HD/SD Inputs, Internal MultiViewer, 2 Channels of 2D DVE, Synchronization and Up/Down Conversion, and 4 Internal Channels of Media Store for instant stills, keys and media wipes.	Ross Video
2	SHC-9642	HD SDI to HDMI Converter for Flat Screen Display of PVW, PGM, MV's .	Ross Video
4	VTX3-25SAT3-240G	Vertex 3 240GB SSD Drive for Hyperdeck Studio Pro.	OCZ Technology
2	BMD-HyperDeck Studio Pro	HD SDI SS Recording/Playback Unit.	Black Magic
2	VTX3-25SAT3-240G	Vertex 3 240GB SSD Drive for Hyperdeck Studio Pro.	OCZ Technology
4	MSP-7	Powered Audio Monitor for Audio in MC 2 and Return Audio in Studio 2	Yamaha
1	**Monitors for Control Room and Engineering**	**Monitors for Master Control and Engineering includes the following:**	
8	TH42LF5U	42" Professional LCD Monitor for Master Control Monitoring.	Panasonic
8	Wall Mounts	42" Tilt Wall Mounts	
3	VS278Q-P	27" LED LCD Computer Monitors --1ea. Monitors for Xpression Graphics System, 1ea. Yamaha Audio Mixing Console MC 1, 1 for Yamaha Mixing Console MC 2.	ASUS
1	VH232H	23" LCD Monitor for HD Streaming System.	ASUS
3	BTLH1850	18" Production Grade HD Monitor for Editing Suites.	Panasonic
1	V-R185-DLW	18.5" Rack Mount Monitor with Waveform Vectorscope CC plus other advanced features for Engineering.	Marshall
1	HDL-SMTVHD	Large 17 inch full HD 6RU SDI/HD-SDI/3G SDI monitoring with central software control for camera shade position	BlackMagicDesigns

3	HDL-SMTWSCOPEDUO	Dual 8" 3 RU SDI/HD-SDI/3G SDI monitoring with built in scopes for technical waveform monitoring at Camera Shade Position.	BlackMagicDesigns
1	**Conversion, Timing, Engineering Equipment**	**Conversion, Timing, and Engineering Equipment includes the following:**	
3	FBK-8321-CN	openGear Modular Frame for Video/Audio Processing Cards.	Ross Video
3	PS8300	Redundant Power for openear Frame.	Ross Video
2	FS1	Universal 3G/HD/SD Audio/Video Frame Sync/Converter, 1RU	AJA
4	HD10AMA	Audio Embedder/Disembedder.	AJA
1	MDK-111A-K-R2	Quad Logo Inserter Card.	Ross Video
4	UDA-8705A-R2L	Analog Video Dist Amplifier, 1x8.	Ross Video
4	SEA-8203A	HDSDI Video Dist Amp.	Ross Video
4	SEA-8203A-R2S	HDSDI Video Dist Amp.	Ross Video
8	ADA-8405-C-R2C	Analog Audio and Timecode DA , 2 in 8 out.	Ross Video
1	BE56	Timing Generator for House Sync, Word Clock, Time Code.	Ensemble Designs
1	BERKMT	Rack Mount Kit for BE56.	Ensemble Designs
4	TCDS26	Clock, 2.3" high red text with HH:MM:SS, LTC time code, either wall or rack mountable. One for Each Master Control, one for Each Studio.	Master Clock
1	VMDA-4	Audio Monitor System for Engineering	Wohler
1	**Non Linear Editing**	**Adobe Non Linear Editing Suites includes the following:**	
1	FiberChannel RAID/SAN	Integration and connections of SAN (Storage Area Network) System into System (BID OUT SEPERATELY) to include Fiber Optic integration from Engineering Equipment room to Edit Rooms.	System Integrator
1	TC-P65ST50U	65" Full HD 3D Plasma for Client Viewing in Edit Suite 3/MC #2.	Panasonic
1	Tilting Wall Mount	Tilting Wall Mount for 65" Plasma.	System Integrator
1	7.1 Surround Sound System	7.1 Surround Sound System for Client Viewing Area includes Speakers, Surround Processor, and Amplifier.	System Integrator
1	**Studio Monitors and Stands**	**Studio Monitors and Stands include the following:**	
2	UN50ES6100	60" Large Screen TV for Set Monitor and Confidence Return.	Samsug
2	Hi 5	HD SDI to HDMI Converter for Monitors.	AJA
2	PFC2000B	Large Flat Panel lightweight mobile cart with a collapsible design, including telescoping height-adjustment and integrated cable management.	Chief

1	**Audio Mixing System**	**Audio Mixing System includes the following:**	
1	M7CL-48	Digital Mixing Console for MC 1	Yamaha
4	MSP-7	Powered Audio Monitor for Mixing in MC 1 and Mixing in MC 2	Yamaha
1	**Lighting for Studio**	**Lighting for Studio includes the following:**	
8	553503C (Plus accessories)	Arri L7-C Color LED Focusable Fresnel fixture with 7-inch lens, Hanging Model, Black Housing, (Also includes **551110** Barn Door Assemby, 28 mm Spigot (Junior Pin), 1.5 m (5 ft) Cable with Bare Ends, Integrated 5-Pin DMX In and Thruput connections)	Arri
5	ZIP-400-120 (Plus accessories)	ParaZip 400 Yoke-Mount DMX Fluorescent Fixture - - 220 Total Watts (120V AC) with Gel Frame and Louver and Yoke assembly (Also includes **BRD-Z42** Barn Door assembly and MTP-I80, Junior Pin Assembly)	Kino-Flo
15	C01000	"Junior" Pipe Clamp, C-Clamp that will fit a pipe 2-1/2 inches diameter. Terminates in a 1-1/8 inch stud receptacle (Junior Pin Socket.)	Arri
24	55C-K32	True Match 21" 55C-K32 Compact Lamp at 3200K	Kino-Flo
15	DMX510	DMX 5-Pin XLR Male to 5-Pin XLR Female Extension Cable - 10'	Hosa
1	SF1248	Smartfade 1248 Lighting Control System for Studio 1 and 2.	ETC
2	9017	8 Port Repeater Rear RJ45 Ethercon	Pathway Connectivity
1	**Intercom System for MC and Surrounding AV Environments**	**Intercom System for MC and Surrounding AV Environments includes the following:**	
1	ECLIPSE-PICO	Eclipse 36-port 1RU digital matrix: 1RU PiCo 36-port matrix frame. 1RU frame with user menu and 32 RJ-45 programmable panel/4-wire ports and four 4-wire in/out ports. Has dual-redundant PSUs. Requires ECS configuration software.	Clear Com
1	ECS 5.2	Eclipse Configuration Software DVD v5.2: Eclipse configuration system programming software DVD v5.2 with manuals. Provides IP manager, panel key, PL, IFB, ISO fixed group and GPI control configuration and assignment. Can use the ECS client software on any PC within a single networked matrix system. If using software on more than one matrix network, user must contact Clear-Com and if required purchase further licenses.	Clear Com
1	IMF-3	3RU interface module frame excluding PSU: IMF-3 interface module frame 3RU, holds 11 interface modules. Requires a 1RU external power supply, PSU-101.	Clear Com

1	PSU-101	1RU PSU for IMF-3 interface frame: PSU-101 power supply for the IMF-3. Note: Does not power the partylines attached to CCI-22 modules. These require Encore master station PSUs such as the PK-7, PS-702 or MS-702.	Clear Com
1	FOR-22	2 Ch. 4-wire/2-way transmitter balanced module: Four-wire/two-way radio dual interface module. Dual channel four-wire interface with transformer balancing and level control. Including a software controlled relay changeover per channel. Now includes DB-9 mating connectors.	Clear Com
1	TEL-14	2 Ch. telephone hybrid module: Two-line auto-nulling dual digital telephone interface module. Provides telephone line balancing for two separate POTS lines. Intercom panels can dial out and the lines dial into ports under software control. See 710755Z new CPU.	Clear Com
2	CCI-22	2 Ch. partyline module: Two-wire Clear-Com/RTS dual partyline interface for Matrix Systems interface to 2 wire Intercom at Remote site.	Clear Com
1	PS704	System Power Supply.	Clear Com
4	V12RDX4	V-Series panel 1RU 12 rotary XLR4: IP enabled V-Series 1RU 12 rotary and pushbutton yellow display panel with XLR-4 male headset connector and user menu. The panel has 12 rotary buttons for listen and crosspoint control and 12 pushbuttons as talk keys including one reply/answer-back key and eight shift pages. Requires version ECS 5.2 or higher.	Clear Com
4	110/340	340mm standard length GN mic: Standard length microphone - gooseneck 34cm/12", for use with 4000, V-Series and HelixNet panels.	Clear Com
13	CC-300-X4	Single-ear standard HS XLR-4F: Single enclosed ear headset with superior audio quality and on/off switch in goose-neck microphone boom. Includes ear sock, headset bag, and four-pin female XLR for standard Clear-Com connection.	Clear Com
6	CC-26K-X4	Single-ear light headset XLR-4F: Single open ear lightweight headset - four-pin female XLR for standard Clear-Com connection.	Clear Com
5	RS-601	Single-channel standard beltpack: Encore single-channel standard beltpack. Four-pin male headset connector and three-pin female/male loop through intercom line connectors.	Clear Com
10	RS-602	2 Ch. dual listen monaural beltpack: Encore two-channel standard dual listen monaural beltpack four-pin male headset connector. Six-pin female/male loop through intercom line connectors. Requires YC-36 adapter to connect with standard three-pin cabling.	Clear Com

4	TR-50	Monaural IFB talent receiver: Wired monaural IFB talent receiver 3.5mm/1/8" mini jack includes TS-1. Requires a Clear-Com PSU. See also CC-010 earpiece.	Clear Com
1	**Furniture and Racks**	**Furniture and Racks for Master Control, Editing and Engineering includes the following:**	
1	Custom Furniture for Master Control 1	Custom Consoles as Required for layout in Master Control 1	System Integrator
1	Engineering Racks	Racks as Required for Engineering Equipment as well as future expansion to house Harris Fiber Card Frames and Encoders and Decoders.	System Integrator
1	Custom Furniture for NLE Systems and Master Control 2	Custom Consoles as Required for layout in Master Control 2.	System Integrator
1	**Video Broadcast System Engineering, Project Management, Product and System Integration, System Installation, System Commissioning, Training and Misc. Hardware, Cable and Connectors required for Installation**	**Video Broadcast System Engineering, Project Management, Product and System Integration, System Installation, System Commissioning, Training and Misc. Hardware, Cable and Connectors required for installation:**	
1	PHASE 1 - Broadcast Integration and Installation	PHASE 1: The Integrator will prepare CAD Pre Build Drawings for the Broadcast design of the system, product will be ordered and delivered to an off-site location so that the system can be constructed, wired, tested, and commissioned. All system components will be fully installed and wired in Racks(where appropriate) and tested(with the exception of Master Control and Non Linear Furniture, which will be installed in Phase 2). All Manufacturer's Commissioning and Training will be conducted at this time. Clemson Personnel will visit the off site location for Inspection of system and Training on Operation as well as for Scheduled Manufacturer Commissioning and Training. This Phase will be completed prior to the completion of Construction at the Madren Center.	System Integrator
1	PHASE 2 - Broadcast Integration and Installation	PHASE 2: The System will be moved from the off site location to the Madren Center after Construction is completed. The system will be integrated and installed as required. This includes all Wiring Interconnects, Racks, Custom Furniture, as well as System Components. As Built Drawings will be provided after system completion.	System Integrator
1	Misc. Hardware, Connectors and Cable	Misc. Hardware, Connectors and Cable required for installation and integration of all systems.	System Integrator
1	Ross Video Factory Commissioning and Training	Ross Video Factory Commissioning and Training….1 day of Switcher Factory Commissioning, 1 Days of Switcher Factory Training, 1 day of Xpression CG Factory Commissioning, 1 Days of Xpression CG Factory Training.	Ross Video

APPENDIX B

Studio Equipment for integration

3 – Mac Pro – Dual 2.4 GHz 6-Core Intel Xeon Processor, 64 GB RAM, 1 TB Hard Drive, ATI Radeon HD 5870 1 GB, Dual-channel 4Gb Fibre Channel PCI Express Card

2 – Mac Mini computers

APPENDIX C

Unless otherwise specified, all custom integrated wiring of video and audio signal wiring must utilize the following brand and model cables and connectors:

All Coaxial Video Cables must be Belden 1694A RG-6 Low Loss Serial Digital Coax

All BNC Video Connectors must be Bomar SBC1694A, True 75 Ohm, 3-Piece Crimp BNC connectors

All Audio Cables shall be of appropriate, high quality Belden, Canare, or Clark-Wire brand, and the appropriate type of shielded wire for the application.

All Audio Connectors shall be Neutrik brand, "X-Series" XLR Cable Connectors, "D-Series" XLR Chassis Connectors, or "C-Series" Professional ¼" Plugs