

Auditorium Renovation Project

Submittal Location

Sparta Area School District

900 E. Montgomery Street

Sparta, WI 54656

Please direct inquiries to:

Leah Hauser Director of Business Services 900 E. Montgomery Street Sparta, WI 54656 <u>Ihauser@spartan.org</u>

Due Date: July 24st 2023 at 10:00AM

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Audio/Video Drawings and Specs

Request for Proposal Auditorium Renovation Project

July 10th 2023

Dear Proposer,

The Sparta Area School District ("District") is requesting proposals for Auditorium Renovation Project.

This Request for Proposal is intended to solicit offers for the Lighting, Curtains, and Audio/Video portions described and depicted in the attached Exhibit A-C

Companies are welcome to bid on multiple spec sections as singular complete package pricing. However, the District may request breakout pricing after bid.

If interested, we ask that you submit a proposal for our review. The requirements of the proposal are included in this document. **To confirm your interest**, a **representative from your company must attend the Proposer Conference and Tour of the Auditorium within the bid time**-frame. There will be a walkthrough with key players of the district on July 13th at 10:00am.

While this walkthrough time is not mandatory, a walkthrough by a representative from your company is required prior to bid submission.

To arrange a different time for a walkthrough please contact me directly and we will try to be flexible to your schedule.

Sincerely,

Leah Hauser Director of Business Services Ihauser@spartan.org

Auditorium Renovation Project Section 1 – General Information

1.1 Overview of the District

The Sparta Area School District ("District") is located in Monroe County, nestled in the beautiful rolling hills of western Wisconsin. The District serves the Townships of Melrose, Adrian, Angelo, Greenfield, La Fayette, Leon, Little Falls, New Lyme, Portland, Ridgeville, Sparta, Wells, and the City of Sparta.

According to the United States Census Bureau, the City of Sparta has a total area of 6.60 square miles, of which 6.54 square miles is land and 0.06 square miles is water. The entire District covers approximately 288 square miles. As of the census of 2010, there were 9,522 people (9.2% growth from 2000), and our District population only continues to grow.

The District is served by several major highways, including Interstate 90, Wisconsin State Highway 16, Wisconsin State Highway 21, Wisconsin State Highway 27, and Wisconsin State Highway 71.

The District is also home to Fort McCoy, the only U.S. Army installation in Wisconsin. Fort McCoy is 60,000 acres and is located approximately 6 miles east of the City of Sparta.



SPARTA AREA SCHOOL DISTRICT SCHOOL YEAR 2019-2020

Section 1 - General Information - continued

Auditorium Renovation Project

1.2 Overview of Auditorium

1.3 General

The purpose of this project is to provide the latest lighting and audio video upgrades to the auditorium ahead of a possible longer term renovation project. These upgrades were designed to better suite the school districts needs and to advance us into the 21st century. Proposals for this project should be made in such a way as supporting this vision. The Audio/Video and Lighting systems should work on the same network for ease of use and not having conflicting networks in the same space.

While a formal bid is required prospective bidders should view this as closer to a design/build project where the bill of materials may shift as lead-times are able to be locked in as same with materials. The district will need to be informed of any changes but after the bid date the contractor is welcome to make changes if the price doesn't shift.

Contractors should be prepared to coordinate all work with the school's contracted electrical contractor.

1.4 Lighting Scope

The current lighting system was installed in the 1990s and needs to be updated to LED. The main processor in the dimmer rack needs to be upgraded to better support LEDs and to bring it up to the 21st century. To support the LED stage lighting, a new control infrastructure needs to be put in. This along with a new architectural control system should support the project better in the long term and allow for a more user-friendly approach to auditorium in general.

Electrical Contractor will take care of all network wire runs.

Refer to Exhibit A Documents for more information.

1.5 Curtain Scope

The rigging system itself is in pretty good condition, some minor hardware and curtain track issues exist but nothing major. The major scope on the rigging side is to replace all the curtains with new IFR curtains to ensure long term flame retardancy and to add some fresh color and fabric to the space.

Refer to Exhibit B Documents for more information.

1.6 Audio/Video Scope

The auditorium currently does not have an audio/video system. The main scope is to install one that is for the 21st century can support the wide range of activities that the auditorium hosts each year. The focus is to get core infrastructure in place that can be supplemented in the future if needed. Plans for new speakers, wireless microphones and projectors should all be integrated together in a single user friendly system.

Contactor should be prepared to work with electrical contractor on conduit runs and box layouts.

Electrical Contractor will take care of all network wire runs.

Refer to Exhibit C Documents for more information.

Auditorium Renovation Project

Section 1 – General Information – continued

1.7 RFP Timeline

The following is a list of the important dates for activities related to the RFP process. The District reserves the right to change these dates and will post any changes to the timeline on its website <u>www.spartan.org</u> under District Tab "Requests for Proposals."

ACTIVITY	DATE
RFP Released	7/10/23
Proposer Conference / Tour	7/13/23 10:00AM
Proposals Due from Proposers	7/24/23 10:00AM
Proposals Opened	7/24/23 10:00AM
Evaluation of Proposals	7/24/23-7/27/23
Proposers Notified if Chosen for Interview	7/24/23-7/27/23
Proposer Interviews and Evaluations	7/26/23
Board of Education Proposal Selection	7/27/23

Please note that these are the scheduled dates as of the release of this RFP. While the dates and times are not expected to change, they may. It is the proposer's responsibility to be aware of meeting times and dates. All Board of Education meetings are posted on the District's website under District > Board of Education > Board of Education Meeting Agendas.

1.8 Proposer's Conference and Tour

The Mandatory Proposer's Conference and Tour will take place on July 13th 2023, 10:00AM at the High School. The District will provide oral clarifications, explanations, or responses to inquiries. The District is not bound by any oral representation. If any new and/or substantive information is provided in response to questions raised at the Proposer Conference or at any other meeting, it will be emailed to all interested proposers.

If this time does not work for your organization or if you have addition questions please contact Leah Hauser, Director of Business Services, Sparta Area School District, by emailing <u>lhauser@spartan.org</u>.

Auditorium Renovation Project Section 1 – General Information – continued

1.9 Submission of Proposals

All proposals under this RFP shall be submitted and marked as Auditorium Renovation Project. Proposals must be submitted in electronic form. Proposals are due no later than July 24st and 10:00AM to:

Sparta Area School District Attn: Leah Hauser 900 E. Montgomery Street Sparta, WI 54656 Ihauser@spartan.org

1.10 Opening of Proposals

The revised proposals will be opened/reviewed on July 24^{st} and 10:00AM in the following location:

Sparta Area School District Maplewood Building 900 E. Montgomery Street Sparta, WI 54656

At that time, the names of proposers who properly submitted proposals will be announced. Announcement of the names of the proposers who submitted proposals is not a guarantee that the proposals otherwise comply with the specifications of this RFP.

1.11 Ownership of Proposals

All proposals submitted on time become the property of the District upon submission, and the proposals will not be returned to the proposers. By submitting a proposal, the Responder agrees that the District may copy the proposal for purposes of facilitating the evaluation and a copy of the proposal may be subject to release based upon a public records request.

1.12 Other Information

Proposers may submit any other information that is not described in this RFP that would be beneficial to the District. If in the proposer's opinion the District has overlooked anything material or relevant, such item(s) may be brought to the District's attention and be included in the proposal.

Auditorium Renovation Project Section 1 – General Information – continued

1.13 Public Records Law

All proposals are subject to the Wisconsin Public Records Law.

1.14 Incurred Costs

The District is not responsible for any costs incurred by the proposer in the preparation of the proposal or for any other cost to the proposer associated with responding to the RFP.

Request for Proposal Auditorium Renovation Project Section 2 – Terms and Conditions

- **2.1.** The District reserves the right to accept or reject any or all proposals or portions thereof without stated cause. The Sparta Area School District reserves the right to reject any or all proposals, to waive formalities, to waive technical defects, to negotiate separately in any manner necessary, and to accept the proposal which appears to be in the best interest of the district. All proposals must arrive by the due date in order to be considered.
- **2.2.** The District reserves the right to re-issue any requests for proposals.
- **2.3.** Upon the selection of a finalist proposer, the District, by its proper officials, employees, or agents, shall attempt to negotiate and reach a final agreement with the proposer. If the District, for any reason, is unable to reach a final agreement with the proposer; the District reserves the right to reject such proposer and negotiate a final agreement with the proposer who has the next most viable proposal. The District may also elect to reject all proposals and re-issue a request for proposals.
- **2.4.** Clarification of proposals: The District reserves the right to obtain clarification of any point in a proposer's proposal or obtain additional information.
- **2.5.** The District is not bound to accept the proposal with the highest purchase price. The District has established multiple evaluation criteria to evaluate the proposals received (see Section 5.1).
- **2.6.** The District reserves the right to waive any formalities, defects, or irregularities in any proposal, response, and/or submittal where the acceptance, rejection, or waiving of such is in the best interest of the District.
- **2.7.** The District reserves the right to disqualify any proposal, before or after opening, upon evidence of collusion, intent to defraud, or any other illegal practice on the part of the proposer.
- **2.8.** The proposer agrees to the fullest extent permitted by law, to indemnify, defend and hold harmless, the District, and its agents, officers and employees, from and against all loss or expense including costs and attorney fees by reason of liability for damages including suits at law or in equity, caused by any wrongful, intentional, or negligent act or omission of the proposer, or its (their) agents and/or subcontractors which may arise out of or connected with activities covered by this project.
- **2.9.** The selected proposer shall not subcontract or assign any interest in the project and shall not transfer any interest in the same without prior written consent of the District.

Auditorium Renovation Project Section 2 – Terms and Conditions – continued

- **2.10.** No reports, information, or data given to or prepared by the firm under contract shall be made available to any individual or organization by the firm without the prior written approval of the District.
- **2.11.** Should the selected proposer merge or be purchased by another individual or firm, project continuation would be at the District's option.
- **2.12.** The attached proposal is signed by the bidder with full knowledge of an agreement with the general specifications, conditions and requirements of this Bid. Bids received later than the date and time specified shall not be considered. Amendments to or withdrawals of Bids received later than the date and time set for Bid opening shall not be considered.
- **2.13.** The Sparta Area School District may make such investigations as deemed necessary to determine the ability of the bidder to fulfill the purchase requirements requested in this RFP. The bidder shall furnish the Sparta Area School District with all such information and data as may be required for this purpose.
- **2.14.** Specifications cannot be modified by anyone other than the assigned agent for the Sparta Area School District represented by the Superintendent of Schools.
- **2.15.** Non-Collusion: The bidder shall certify that its officers, partners, owners, providers, representatives, employees and parties in interest, including the affiant, has not in any way colluded, conspired, connived or agreed, directly or indirectly, with any other bidder, potential bidder, firm or person in connection with this solicitation, to submit a collusive or sham bid, to refrain from bidding, to manipulate or ascertain the price(s) of other bidders or potential bidders, or to secure through any unlawful act an advantage over other bidders or the District. The prices submitted herein have been arrived at in an entirely independent and lawful manner by the bidder without consultation with other bidders or potential bidders or potential bidders or potential bidders or the prices to be submitted in response to this solicitation by other bidders or potential bidders or potential bidders on the part of the bidder, its officers, partners, owners, providers, representatives, employees or parties in interest including the undersigned bidder.
- **2.16.** Conflict of Interest: The bidder, and each person signing on behalf of the bidder, certifies, and in the case of a sole proprietorship, partnership or corporation, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief, no member of the Sparta Area School District, has a direct or indirect financial interest in the award of this bid, or in the services to which the Bid, or in the services to which this Bid relates, or in any of the profits, real or potential thereof.

Request for Proposal Auditorium Renovation Project Section 3 – Preliminary BOM

Lighting BOM

This BOM is for reference only and should not be considered exact.

See Exhibit A information to create a more precise BOM.

Quantity	Part Number	Description
Architectural	Control	
2	2100A2008	Rack Mount 24-Port Cat5e Patch Panel
2	SGN1256-M	Rack Mount 24-Port POE 10/100 Switch
2	4268A1202	ETC Response Portable Gateway, 4-Terminal
2	35	Space Wall Rack, 26" Deep with Plexi Door
2	4268A1202	RM 2200VA/1650W UPS
10	7083A1185	ETC R20 Sensor/Unison Dual 2.4kW Relay module
1	7183A1705	DRd6 100-120V Enclosure
6	7083A1185	Dual 20A Relay module
1	7180A1029	Paradigm Architectural Control Processor
1	7182A1701	Paradigm Station Power Module
1	7180A1007	Paradigm DRd Termination Kit
1	7184A1532	P-TS7 PARADIGM 7" ETHERNET PORTABLE
1	7184A1521	P-TS7 PARADIGM 7"TOUCHSCREEN RACK MNT KIT
1	7184A1501-4	P-TS7 PARADIGM 7" WM TOUCHSCREEN-BLACK
8	7181A2203-5	UH10005-51 - White 1-gang faceplate assembly
8	7181B2006	UH10005 - 1-gang, 5-button electronics assembly
4	7181A2205-5	UH10010-51 - White 1-gang faceplate assembly
4	7181B2008	UH10010 - 1-gang, 10-button electronics assembly
1		CEM Upgrade
2		21" - 23" Touch Monitor
Fixtures and a	Accessories	
6	7423A1011	ETC Colorsource Spot V 19-Degree RGBL Mix LED Profile Spot with:
6	7423A1011	ETC Colorsource Spot V 26-Degree RGBL Mix LED Profile Spot with:
2	7423A1011	ETC Colorsource Spot V 36-Degree RGBL Mix LED Profile Spot with:
29	7416A1001	ETC ColorSource Spot Jr 25/50 Zoom with: Black 30-Inch Safety Cable
20	7412A1005	ETC ColorSource Par with: D40 WFL Lens, Black 30-Inch Safety Cable
5	7415A1000	ETC Colorsource Cyc with: Black 30-Inch Safety Cable
50		10' DMX Cable
50		10' PowerCON Extension Cable

Auditorium Renovation Project Section 3 – Preliminary BOM Continued

Curtains BOM

This BOM is for reference only and should not be considered exact.

See Exhibit B information to create a more precise BOM.

Quantity Description

- 1 Valance Curtain Panel Sized at 3 Feet High x 40 Feet Wide Manufactured From 24oz IFR Charisma Velour sewn with 50% fullness
- 2 Main Curtain Panels Sized at 13 Feet High x 22 Feet Wide Manufactured From 24oz IFR Charisma Velour sewn with 50% fullness
- 2 Leg 1 Curtain Panels Sized at 13 Feet High x 6 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 1 Border 2 Curtain Panel Sized at 3 Feet High x 40 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 2 Leg 2 Curtain Panels Sized at 13 Feet High x 6 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 1 Border 3 Curtain Panel Sized at 3 Feet High x 40 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 2 Mid Draw Curtain Panels Sized at 12 Feet High x 22 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 2 Legs 3 Curtain Panels Sized at 13 Feet High x 6 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 1 Border 4 Curtain Panel Sized at 2 Feet High x 40 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 2 Leg 4 Curtain Panels Sized at 13 Feet High x 6 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 2 Rear Draw Curtain Panels Sized at 12 Feet High x 22 Feet Wide Manufactured From 20oz IFR Crescent Velour sewn with 50% fullness
- 1 Cyclorama Sized 13 Feet High x 40 Feet Wide Manufactured From Trevira Polyester Muslin IFR White
- 3 40 Foot 1 1/2" Batten Borders
- 8 6 Foot 1 1/2" Batten Legs
- 4 10 Foot 1 1/2" Batten Electrics
- 1 Lot of 400 Series Curtain Track Equipment
- 1 Lot of Miscellaneous Hardware

Auditorium Renovation Project

Audio/Video BOM

This BOM is for reference only and should not be considered exact.

See Exhibit C information to create a more precise BOM.

Quar	ntity	Part Number Description
4	XTI6002	Crown XTi6002 2-Channel, 2100W at 4 Ohm Power Amplifier
16	QLXD14/83	Shure QLXD14/83 Digital Wireless System with WL183 Lavalier Mic
2	WL212-SW	QSC WL212-sw-BK 2x12" Compact Line Array Subwoofer, Black
6	WL3082	QSC WL3082 2x8" Compact Line Array, Black
4	QLXD24/B58	Shure QLXD24/B58 Single-Channel Wireless System with Beta 58A
3	D3-LK	D3-LK Middle Atlantic D3LK 3RU Rack Drawer with Lock
3	FI-3	FI-3 Middle Atlantic FI-3 Customizable Foam Insert for 3-Space Drawer
5	UA864US	Shure UA864 Wall-Mounted Wideband Antenna
6	PL-PLUS-DMC	PL-PLUS-DMC Furman PL-PLUS DMC 15A Power Conditioner
1	SQ-7	Allen & Heath SQ-7 Digital Mixer 48-Channel Digital Mixer with 33 Faders
2	DT168	Allen & Heath DT168 16x8 Dante Audio Expander
1	AH10885	AH10885 Allen & Heath AH10885 164' CAT6 Cable Drum
25	NC3FRX-B	NC3FRX-B Neutrik NC3FRX-B 3-pin RX Series Right Angle
25	NC3MRX-B	NC3MRX-B Neutrik NC3MRX-B 3-pin Right Angle XLRM Connector, Black
25	NC3FXX-B	NC3FXX-B Neutrik NC3FXX-B 3-pin XLRF Connector, Black
25	NC3MXX-B	NC3MXX-B Neutrik NC3MXX-B 3-pin XLRM Connector, Black
1	APMM9C3LLA	Apple 10.9" iPad Air with M1 Chip (5th Gen, 64GB, Wi-Fi Only, Space Gray)
1	OTDC4GIPAB	OtterBox Defender Series Case for iPad Air 4th & 5th Gen (Black)
6	MX202B/C	Shure MX202B/C Overhead Cardioid Microphone, Black
Vide	o and ClearCo	om
Quar	ntity	Part Number Description
1		Projector
1	MS-702	Encore Main Station: 2Ch, Power supply 1 .2 Amp, 1RU
9	CC-300-X4	Headset: Single Ear, Medium weight, XLR (F) 4pin
8	RS-701 Encore	Beltpack: 1Ch
1	CZ-BS410	DX410 System - BS410 Base Station: 2Ch, 2.4GHz
4	CZ11450	CC-15-MD4 headset
2	CZ11454	HS4-3 earpiece and lapel mic
4	BP410	DX410 System - BP410 Beltpack: 2Ch, 2.4GHz
8	CZ-BAT50	DX System - BAT50 Rechargeable Battery
1	CZ-AC50-US	DX System - AC50 Battery Charger: US
8	DMX-3P-10	3 Pin XLR 10'
2	DMX-3P-3	3 Pin XLR 3'
1	SC450RM1U	American Power Conversion (8-10 businesss days)
1	2-6M	6SP slanted studio rack
1	LT-GN-PNL	1RU Rackmount pannel with 2 gooseneck LED lights

Note: Equipment Racks and Network Switches provided by Lighting Contractor

Auditorium Renovation Project Section 4 – Qualifications and Proposal

4.1 Information to be clearly included in the Proposal

- A. Letter of introduction and organizational background including things such as name of contact person and contact information, office location(s), ownership and affiliation of proposer, organizational structure and hierarchy, responsibilities and relevant qualifications of key personnel regarding this project, etc.).
- B. Project proposal details including timeline for project completion.
- C. Proposer's history with projects similar to what is being proposed.
- D. References including agency name, contact name, title, address, and phone number of at least two similar projects completed within the last five years.

Auditorium Renovation Project Section 5 – Evaluation of Proposals

5.1 Evaluation Criteria

The District will evaluate the proposals based upon items listed below. The completeness of the proposal (all items in Section 4.1. A-I included). Evaluation criteria shall be weighted in the following order:

- 1. Proposer's successful history on similar projects.
- 2. Objectives, vision, and detailed project components.
- 3. Price.

5.2 Initial Evaluation

The proposer(s) with the response(s) deemed most qualified may be requested to meet with the RFP Committee for an interview. Proposers will be notified by July 25th if they are chosen to advance to the interview stage.

5.3 Proposer Interview

Proposer(s) participating in the interview process shall explain and support their written proposal through a presentation, and question/answer forum. The person(s) who will be the proposer's key liaison / contact for the District shall be present at the interview.

Auditorium Renovation Project

Exhibit A

Section 26 55 61 – Theatrical Lighting System

PART 1 GENERAL

1.1 WORK INCLUDED

- A. The Contractor, as part of the work of this section, shall provide, install and test a complete lighting control system as specified herein for areas indicated on the drawings and circuit schedules.
- B. The Contractor shall furnish all conduit, wire, connectors, hardware and other incidental items necessary for the complete and proper operation of the lighting control system.
- C. The Contractor shall coordinate all work described in this section with all other applicable plans and specifications, including but not limited to:
 - 1. General Conditions
 - 2. Electrical Section General Provisions
 - 3. Conduit
 - 4. Wire and Cable
 - 5. Stage rigging

D. Shop Drawing Submittals:

- 1. Within sixty (60) days of contract award, the Contractor shall submit one (1) copy in PDF format of all shop drawings in PDF format to the respective parties for approval prior to fabrication:
 - a. Complete, fully dimensioned shop drawings of all major components.
 - b. Plans, sections and schematics indicating assembly and installation of components.
 - c. Load ratings of the major components within the system.
 - d. Any additional structural support supplied and installed by this contractor.
 - e. Specific listing of any and all variations from the Drawings and Specifications.
 - f. Power requirements for any electrical components.

1.2 SYSTEM DESCRIPTION

- A. The system shall be designed for the control of architectural and theatrical lighting and shall consist of factory pre-wired dimming and processing rack enclosures containing dimmers, power supplies, breakers, terminals and/or control electronics.
- B. System shall work in conjunction with specified low-voltage control stations.

1.3 SUBMITTALS

- A. Contractor shall provide 1 set of full system submittals in PDF format. Submittals shall include:
 - 1. Full system riser diagram(s) illustrating interconnection of system components, wiring requirements, back box sizes and any special installation considerations.
 - 2. Full set of printed technical data sheets.
 - 3. Detailed set of dimmer schedules.
 - 4. Detailed set of circuit and control schedules, including a complete list of all deviations from specifications.
- B. Contractor shall provide any additional information, including equipment demonstration, as required by the engineer or specifier to verify compliance with specifications.

Auditorium Renovation Project

Exhibit A

1.4 QUALITY ASSURANCE

- A. System Integrators
 - 1. All equipment and installation shall be the responsibility of a single system integrator, or subcontractor, who shall own and operate his own full time shop for the assembly and installation of stage equipment.
 - 2. Bid submissions must identify any such subcontractors.
 - 3. The contractor, or subcontractor, shall have at least 10 years experience in the installation of similar stage equipment and systems. If requested, the contractor or subcontractor shall submit a representative list of installations during the above period.
 - 4. Subject to the above requirements, work performed under this section may be by one of the following listed integrators.
 - a. Clear Wing Productions., Milwaukee, WI
 - b. Lighthouse Productions, Green Bay, WI
 - c. Mainstage Theatrical Supply, Inc., Milwaukee, WI
 - 5. Contractors meeting the above requirements will be considered with prior approval. Forward request to respective parties at least ten working days prior to bid date.
 - 6. The approved System Integrator will hereby be referred to as the Stage Lighting Contractor.
- B. Manufacturers
 - 1. See Individual Categories in Products for Acceptable Manufacturers
 - 2. Basis-of-Design Product: The design for each lighting is based on the product named.
 - 3. Alternatives
 - a. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.
 - b. Alternative manufacturers must submit a full pre-approval package ten days prior to bid date.
 - 4. The manufacturer shall be one who has been continuously engaged in the manufacturer of lighting control equipment for a minimum of ten years. All dimmer and cabinet fabrication must take place in a U.S. manufacturing plant.
 - 5. Proposed equipment shall be UL and C-UL listed, and/or CE marked (where applicable) and bear the appropriate labels.

PART 2 Products

2.1 ENTERTAINMENT LUMINAIRES

- A. General:
 - 1. Acceptable Manufacturers for this portion of the specification
 - a. Altman Stage Lighting
 - b. Electronic Theatre Controls
 - c. Mega-Lite Inc
 - d. Chauvet Lighting Inc.
 - e. Vari-Lite
 - 2. Refer to <u>Part 1, Quality Assurance</u> for recommended and approved dealers for this portion of this spec.
 - 3. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, see <u>Part 1, Quality Assurance</u> for how to seek compliance.
 - 4. Permission to bid does not imply acceptance of the manufacturer.

Auditorium Renovation Project

Exhibit A

- B. COLOR MIXING LIGHT EMITTING DIODE CYCLORAMA FIXTURE
 - 1. Basis of Design: ColorSource CYC as manufactured by ETC Inc
 - 2. Standards Compliance:
 - a. Listed: cETLus, UL 1573, and CSA C22.2 No. 166.
 - 3. Source:
 - a. LED Details: 42 Lumileds LUXEON C LEDs.
 - 4. Color:
 - a. Colors Used: Red, Green, Blue, Indigo, and Lime.
 - 5. Control:
 - a. Input Method: DMX-512 via 5-pin XLR connector. Protocols: DMX.
 - 6. Electrical:
 - a. Input Method: PowerCON in and thru.
 - b. Fixtures per Circuit:
 - 1) Nine
 - 2) Nine

C. COLOR MIXING LIGHT EMITTING DIODE WASH FIXTURE

- 1. Basis of Design: ColorSource PAR Deep Blue as manufactured by ETC Inc.
- 2. Standards Compliance:
 - a. Listed: cETLus, UL 1573, UL 924, CSA C22.2 No. 166 and 141.
- 3. Arrays:
 - a. Deep Blue RGI-L (Red/Green/Indigo/Lime).
- 4. Source:
 - a. LED Details: 40 Lumileds LUXEON Z LEDs
- 5. Color:
 - a. Colors Used: PAR Deep Blue: red, green, indigo, lime.
- 6. Control:
 - a. Input Method: DMX-512 via 5-pin XLR connector. Protocols: DMX512, RDM.
- 7. Electrical:
 - a. Voltage: 100 to 240 VAC, 50 to 60 Hz.
 - b. Input Method: PowerCON in and thru.
 - c. Fixtures per Circuit:
 - 1) Nine

D. COLOR MIXING LIGHT EMITTING DIODE PROFILE FIXTURE

- 1. Basis of Design: ColorSource Spot V with shutter barrel, as manufactured by ETC Inc.
- 2. Standards Compliance:
 - a. Listed: cETLus, UL 1598, UL 924, CSA C22.2 No. 250.0.
- 3. Array:
 - a. V RGBIL
- 4. Source:
 - a. LED Details: 60 Lumileds LUXEON Rebel and LUXEON C LEDs.
- 5. Colors:
 - a. Colors Used Spot: Red, green, blue, indigo, lime.
- 6. Control:
 - a. Input Method:
 - 1) DMX-512 via 5-pin XLR connector. Protocols: DMX512, RDM.
 - 2) City Theatrical Multiverse. Protocols: DMX512, RDM
- 7. Electrical:
 - a. Input Method: powerCON True1 TOP in and thru.
 - b. Fixtures per Circuit:
 - 1) Eight

Auditorium Renovation Project

Exhibit A

- E. COLOR MIXING EMITTING DIODE PROFILE FIXTURE
 - 1. Basis of Design: ColorSource Spot Jr. as manufactured by ETC Inc.
 - 2. Standards Compliance:
 - a. Listed: cETLus, UL 1598, CSA C22.2 No. 250.
 - 3. Array:
 - a. Deep Blue RGIL
 - 4. Source:
 - a. LED Details: 52 Lumileds LUXEON C LEDs.
 - 5. Color:
 - a. Colors Deep Blue: Red, green, indigo, lime.
 - 6. Optical:
 - a. Beam Angle Range: 25 to 50 degrees. Swappable lens tubes.
 - 7. Control:
 - a. Input Method: DMX-512 via 5-pin XLR connector. Protocols: DMX512, RDM.
 - 8. Electrical:
 - a. Fixtures per Circuit:
 - 1) Seven

2.2 ENTERTAINMENT LIGHTING CONTROLS

- A. General:
 - 1. Owner Existing Element to be Upgraded to below
- B. SOFTWARE FOR ENTERTAINMENT CONTROLS
 - 1. Basis of Design: EOS Family Software V3 or Better
 - 2. General Requirements
 - a. The following items may be contained in non-volatile electronic memory and stored to an onboard solid-state hard drive or to any USB storage device.
 - 1) Cues: 100,000.
 - 2) Groups: 10,000.
 - 3) Palettes: 4 x 10,000 (Intensity, Focus, Color and Beam).,
 - 4) Macros: 99,999.
 - 5) Effects: 10,000.
 - b. Recorded cue lists: May be played back simultaneously on up to 200 faders.
 - 1) HTP/LTP intensity flags, assert, proportional, intensity master or manual master fade control and priority status may be placed on each cue list.
 - 2) A cue list may contribute to playback background states or to withhold such contributions.
 - c. Channels: Are to, by default, respond to cue information by last instruction, with discrete rate control provided for all cues.
 - d. Fully integrated 3D visualization and programming environment included.
 - 1) The 3D environment displays a replica of live output to the lighting system, and displays recorded states in Blind.
 - e. Software Upgrades: By user via USB flash drive. Install software updates in all desks, processor units and video remotes from one device over the network.
 - f.
- C. Accessories to be provided for use with owner provided console.You
 - a. Include (2) 22-25" Touchscreens that are DisplayPort
 - b. Include (1) Console UPS

2.3 ENTERTAINMENT POWER CONTROLS

Auditorium Renovation Project

Exhibit A

- A. General:
 - 1. Acceptable Manufacturers for this portion of the specification
 - a. Electronic Theatre Controls
 - b. SSRC
 - c. Lex Products
 - d. Lyntec Inc.
 - e. Vari-Lite
 - 2. Refer to <u>Part 1, Quality Assurance</u> for recommended and approved dealers for this portion of this spec.
 - 3. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, see <u>Part 1, Quality Assurance</u> for how to seek compliance.
 - 4. Permission to bid does not imply acceptance of the manufacturer.
- B. POWER CONTROL ENCLOSURE PROCESSOR UPGRADE
 - 1. Basis of Design: Sensor3 CEM3
 - 2. Hardware Upgrade
 - a. The following new hardware will be provided for the existing Sensor rack(s):
 - 1) CEM3 control processor
 - 2) CEM3 backplane
 - 3) Sensor rack door filter
 - 4) Sensor rack fan
 - 3. Integration Services
 - a. The installing contractor shall provide the following rack upgrade services:
 - Installation of new backplane and CEM3 processor into existing Sensor dimmer rack(s), including system configuration as required to comprise a complete working system
 - 2) Replacement of Sensor rack fan(s) and door filter(s)
 - 3) General cleaning and rack maintenance
 - 4. Renewed Warranty
 - a. At the time the above services are completed, the manufacturer shall renew the original warranty for the Sensor rack for a period of two (2) years
 - b. Extended warranty coverage shall be available
- C. MAINS FED POWER CONTROL ENCLOSURE (DRd)
 - 1. Basis of Design: Unison DRd Series Power Control Enclosure
 - 2. Standards Compliance:
 - a. The relay shall be ETL Listed, and CE Compliant.
 - 3. Mechanical:
 - The power control enclosure shall be a surface mounted, deadfront switchboard, constructed of 18-guage formed steel panels with a hinged, lockable full-height door containing an integral electrostatic air filter. Enclosures shall be sized to accept one control processor, one station power module, and accessories.
 - 4. Control:
 - a. The fully digital enclosure shall be available with six or twelve dimmer module spaces, one processor and a single station power supply.
 - 1) Refer to Drawings for module counts and type.
 - Enclosures shall be designed to support the wire terminations for AC (single phase), Echelon link power, 24Vdc, configurable DMX512A (In or Out), DMX512A Output, RS232 Serial In/Out ,Unshielded Twisted Pair (UTP) Category 5/5e, 4x Contact Closure In, and 4x Contact Closure Out.
 - 5. Electrical:

Auditorium Renovation Project

Exhibit A

- a. A single low-noise fan shall be located at the top of each enclosure. The fan shall draw all intake air through the integral electrostatic air filter, over the surfaces of the module housing and out the top of the enclosure.
- b. The dimmer shall shut itself down electronically to prevent overload.
- c. Enclosures shall be available in three-phase, main lug configurations which support 100, 120, 230, 240, or 277 Volt mains feed input.
- 6. Enclosures shall be completely pre-wired by the manufacturer. The contractor shall provide input feed, load, and control wiring.
- D. POWER ENCLOSURE ACCESSORIES
 - 1. Basis of Design: R20 Modules by ETC
 - 2. Provide 16 Modules

2.4 ARCHITECTURAL LIGHTING CONTROLS

- A. General:
 - 1. Acceptable Manufacturers for this portion of the specification
 - a. Altman Stage Lighting
 - b. Electronic Theatre Controls
 - c. Mega-Lite Inc
 - d. Chauvet Lighting Inc.
 - e. Vari-Lite
 - 2. Refer to <u>Part 1, Quality Assurance</u> for recommended and approved dealers for this portion of this spec.
 - 3. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, see <u>Part 1, Quality Assurance</u> for how to seek compliance.
 - 4. Permission to bid does not imply acceptance of the manufacturer.
- B. Architectural Control Processor Module (DRd)
 - 1. General
 - a. The Architectural Control Processor shall be the Unison Paradigm Series, P-ACP Control Processor as manufactured by Electronic Theatre Controls, Inc., or equal.
 - b. The ACP shall be convection cooled.
 - c. The RJ-45 receptacle shall be secured behind the locking door.
 - 2. Capacity
 - a. Shall support 1024 channels of control
 - b. Shall support 2 physical DMX ports, each of which may be configured as an input or output
 - 3. System
 - a. Runtime application shall utilize support Net3 system interoperability
 - b. System shall support the use of Network Time Protocol for real time clock synchronization
 - c. System shall support remote firmware upload an over Ethernet connection from a connected PC running the Light Designer software or another connected processor.
 - d. System shall support local firmware upload from removable media (SD Card, USB Flash Drive)
 - 4. Diagnostics
 - a. Shall output an Event log
 - b. Standard log shall store a fixed-length history of recent activity
 - c. Separate critical log shall only store important messages (such as boot-up

Auditorium Renovation Project

Exhibit A

settings)

- 5. Mechanical
 - a. The Architectural Control Processor (ACP) assembly shall be designed for use in DRd Series Power Enclosures and ERn Series Control Enclosures.
 - b. The processor shall utilize microprocessor based, solid state technology to provide multi-scene lighting and building control.
 - c. ACP module electronics shall be contained in a plug-in assembly.
 - d. The module shall be housed in a formed steel body and contain no discrete wire connections.
 - e. No tools shall be required for module removal or insertion.
- C. Architectural Control Button Stations (Heritage)
 - a. General

b.

- 1) The Lighting Control Stations shall be the Hertiage Series Control
- Stations as manufactured by Electronic Theatre Controls, Inc., or equal. Functional
- The Unison Paradigm Control System shall be designed to allow control of lighting and associated systems via Button, Button/Fader, and Interface or Astronomical time clock controls. System shall allow the programming of presets, sequences, macros and time clock events.
- Station Button, Button/Fader, and Interface) control components shall be designed to operate standard default or custom system functions. Components shall operate default functions unless re-assigned via LightDesigner, the Windows-based configuration program.
- 3) Stations (Button and Button/Fader) shall allow programming of station and component electronic lockout levels via LightDesigner.
- D. Architectural Control Touchscreen
 - a. General
 - 1) The Touchscreen Control Stations shall be the Unison Paradigm Touchscreen P-TS7 Series Control Stations as manufactured by ETC, Inc., or equal.
 - b. Functional
 - 1) Touchscreen stations shall support default and fully graphical control pages.
 - 2) The Touchscreen station shall operate using graphic buttons, faders and other images on at least 30 separate programmable control pages.
 - 3) Touchscreen stations shall also allow programming of page pass-code, lock out and visibility levels.
 - c. Mechanical
 - 1) Touchscreen stations shall consist of a seven-inch, backlit liquid crystal display (LCD) with a minimum resolution of 800 by 400 pixels and 24-bit color depth with a capacitive touch interface.
 - 2) Touchscreen bezels shall be constructed of cast aluminum finished in a fine texture powder coat.
 - d. Electrical
 - 1) Touchscreens shall be powered entirely by the System network.
 - 2) Touchscreens shall connect to the System using an Ethernet network with Power over Ethernet (PoE).

PART 3 EXECUTION

3.1 Installation

Auditorium Renovation Project

Exhibit A

- A. It shall be the responsibility of the Contractor to receive and store the necessary materials and equipment for installation of the dimmer system. The contractor shall deliver on a timely basis to other trades any equipment that must be installed during construction.
- B. The contractor shall be responsible for field measurements and coordinating physical size of all equipment with the architectural requirements of the spaces into which they are to be installed.
- C. The contractor shall install all lighting control and dimming equipment in accordance with manufacturer's approved shop drawings.
- D. All branch load circuits shall be live tested before connecting the loads to the dimmer system load terminals.
- 3.2 Contractor Services
 - A. Upon completion of the installation, including testing of load circuits, the contractor shall notify the dimming system manufacturer that the system is available for formal checkout.
 - B. Notification shall be provided in writing, two weeks prior to the time factory-trained personnel are needed on the job site.
 - C. No power is to be applied to the dimming system unless specifically authorized by written instructions from the manufacturer.
 - D. The purchaser shall be liable for any return visits by the factory engineer because of incomplete or incorrect wiring.
 - E. Upon completion of the formal check-out, the factory engineer shall demonstrate operation and maintenance of the system to the owner's representatives. Training shall not exceed four working hours. Additional training shall be available upon request.

3.3 WARRANTY

- A. Contractor shall warrant products under normal use and service to be free from defects in materials and workmanship for a period of two years from date of delivery.
- B. Warranty shall cover repair or replacement of such parts determined defective upon inspection.
- C. Warranty does not cover any product or part of a product subject to accident, negligence, alteration, abuse or misuse. Warranty does not cover any accessories or parts not supplied by the manufacturer.
- D. Warranty shall not cover any labor expended or materials used to repair any equipment without manufacturer's prior written authorization.

END OF SECTION



В

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В

DEVICE NAME	LOCATION	STATION TYPE	MOUNTING	COLOR	NOTES
ES-01	HOUSE REAR	5 BUTTON	FLUSH, SWITCH HT.	BLACK	
ES-02	HOUSE REAR	5 BUTTON	FLUSH, SWITCH HT.	BLACK	
ES-03	HOUSE MID	5 BUTTON	FLUSH, SWITCH HT.	BLACK	
ES-04	HOUSE MID	5 BUTTON	FLUSH, SWITCH HT.	BLACK	
ES-05	HOUSE NEAR	5 BUTTON	FLUSH, SWITCH HT.	BLACK	
ES-06	HOUSE NEAR	5 BUTTON	FLUSH, SWITCH HT.	BLACK	
ES-07	DS	5 BUTTON	SURFACE, SWITCH HT.	BLACK	
ES-08	DS	5 BUTTON	SURFACE, SWITCH HT.	BLACK	
ES-09	US	10 BUTTON	SURFACE, SWITCH HT.	BLACK	
ES-10	US	5 BUTTON	SURFACE, SWITCH HT.	BLACK	
ES-11	BOOTH	10 BUTTON	SURFACE, SWITCH HT.	BLACK	

THEATRICAL CONTROL SCHEDULE

В

DEVICE NAME	LOCATION	MOUNTING	CONNECTOR	NOTES
CRP-01	FOH	PIPE	DMX OUT	
CRP-02	HOUSE LEFT TORM	PIPE	DMX OUT	
CRP-03	HOUSE RIGHT TORM	PIPE	DMX OUT	
CRP-04	ELEC 1	PIPE	DMX OUT	
CRP-05	ELEC 2	PIPE	DMX OUT	
CRP-06	ELEC 3	PIPE	DMX OUT	
CRP-07	ELEC 4	PIPE	DMX OUT	
PCRS-01	BOOTH UPPER	SURFACE, OUTLET HT.	NETWORK (3)	
PCRS-02	BOOTH LOWER - LX	FLUSH, OUTLET HT.	NETWORK (3)	
PCRS-03	BOOTH LOWER - AUDIO	FLUSH, OUTLET HT.	NETWORK (3)	
PCRS-04	HOUSE CENTER	FLUSH, OUTLET HT.	NETWORK (3)	
PCRS-05	USR	SURFACE, OUTLET HT.	NETWORK (3)	
PCRS-06	USL	SURFACE, OUTLET HT.	NETWORK (3)	
PNET-01	FOH HL NEAR	FLUSH, OUTLET HT.	NETWORK (2)	
PNET-02	FOH HR NEAR	FLUSH, OUTLET HT.	NETWORK (2)	
PNET-03	HL APRON	FLUSH, OUTLET HT.	NETWORK (2)	
PNET-04	HR APRON	FLUSH, OUTLET HT.	NETWORK (2)	
PNET-05	DOWN STAGE LEFT	SURFACE, OUTLET HT.	NETWORK (2)	
PNET-06	MID DOWN STAGE LEFT	SURFACE, OUTLET HT.	NETWORK (2)	
PNET-07	MID UP STAGE LEFT	SURFACE, OUTLET HT.	NETWORK (2)	
PNET-08	UP STAGE CENTER	SURFACE, OUTLET HT.	NETWORK (2)	

PORTABLE EQUIPMENT SCH	IEDU	LI	E	
TEM	QTY		ITEM	QTY
ETC ColorSource Spot V LED Light Engine w/ safety cable, & and 10' TRUE1 power cable	23		Cable, DMX 5' (Proplex)	45
ETC ColorSource Spot Junior, Deep Blue, w/c-clamp, safety cable, & and 10' PowerCON power cable	30		Cable, DMX 10' (Proplex)	35
ETC ColorSource PAR Deep Blue, w/c-clamp, safety cable, C-Clamp & and 5' PowerCON power cable	20		Cable, DMX 25' (Proplex)	5
ETC ColorSource CYC Light w/ c-clamp, safety cable, & factory provided 5' PowerCon	5			
19 degree 400 Series Standard Lens Tube	9		Cable, PowerCon to PowerCon 10'	10
26 degree 400 Series Standard Lens Tube	7		Cable, PowerCon to PowerCon 25'	5
36 degree 400 Series Standard Lens Tube	2		23-25" Touch Screen Monitors	2
ColorSource PAR Medium Round Lens	20		Console UPS	1
Wireless Access Point	1		Cable, Ethercon/RJ45, 15'	1
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ELEC. & THTR. LIGHTING CONTRACTOR RELATIONSHIP							
	Electrical Contractor Provides	Electrical Contractor Installs	Electrical Contractor Terminates	Theatrical Lighting Contractor Provides	Theatrical Lighting Contractor Installs	Theatrical Lighting Contractor Terminates	
Theatrical Lighting Power & Control Equipment	x	x	x				
Theatrical Lighting Rack Power Disconnects	х	х	х				
Theatrical Lighting Load Centers & Branch Breakers	x	x	x				
Theatrical Lighting Equipment Racks		x	х	x			
Theatrical Lighting Equipment Rack Feeder Conduit & Wiring	х	х	х				
Theatrical Lighting Equipment Control Stations & Faceplates				х	х	х	
Theatrical Lighting Equipment Control Station Back	х	х	х				
Theatrical Lighting Power & Control Pull Boxes	х	х	х				
Portable Theatre Lighting Equipment & Accessories				х	x		
Theatrical Lighting Control System Data Terminations						Х	
House Light Fixtures, Conduit, & Wiring		X	X	X			





CONTROL WIRE LEGEND				
SYMBOL	WIRE TYPES	SIGNAL		
D*	(1) BELDEN #1583A	DMX IN		
U*	(1) BELDEN #8471 + (1) #14AWG	UNISON		
N*	(1) BELDEN #1583A	NETWORK		
M*	#22 AWG TWISTED PAIR TINNED COPPER, SHIELDED	MIC		
L*	#22 AWG TWISTED PAIR TINNED COPPER, SHIELDED	LINE		
S*	#12 AWG 2 CONDUCTOR BARE COPPER NON-SHIELDED, JACKET	SPEAKER		
C*	#22 AWG TWISTED PAIR TINNED COPPER, SHIELDED	CONTROL		
H*	HIGH SPEED HMDI CABLE	HMDI		

В



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SHEET NUMBER:

QT205

Section 11 61 23 – Theatrical Stage Rigging and Curtains

PART 1 General

1.1 SCOPE

- A. All materials, components, and services necessary to provide a complete system indicated in this Section, as specified herein and shown on related Drawings including, but not limited to:
 - 1. Preparation and submission of complete shop drawings and samples for approval prior to fabrication.
 - 2. Verification of dimensions and conditions at the job site.
 - 3. Shipment of equipment to job site.
 - 4. Installation and completion, in accordance with these Specifications, related Drawings, the Equipment Manufacturers recommendations, established trade criteria, and all applicable code requirements. The inspections, demonstration, and necessary adjustment of the completed installation by the Contractors engineering personnel.
 - 5. Preparation and submission of complete record drawings and operational and maintenance data and certificates.

1.2 WORK INCLUDED

- A. Base Bid:
 - 1. Dead Hung Rigging System
 - 2. Theatre Curtains
 - 3. Theatre Curtain Tracks
- B. The above list is for reference only and is not intended to define limits of the work for a complete installation. Carefully follow all written specifications and drawings and provide such work for a complete and operating system.
- 1.3 WORK NOT INCLUDED
 - 1. Principal structural steel work, except as herein indicated.
- 1.4 RELATED WORK IN OTHER SECTIONS
 - 1. Structural steel
 - 2. Concrete and masonry
 - 3. Smoke vents and roof hatches
 - 4. HVAC
 - 5. Plumbing and sprinklers
 - 6. General electrical work
 - 7. Theatrical lighting system (Section 26 51 61)
 - 8. Sound and communications equipment
- 1.5 Quality Assurance
 - A. All equipment and installation shall be the responsibility of a single contractor, or subcontractor, who shall own and operate his own full-time shop for the assembly and installation of stage equipment.
 - B. Bid submissions must identify any such subcontractors.
 - C. The contractor, or subcontractor, shall have at least 10 years' experience in the installation of similar stage equipment and systems. If requested, the contractor or subcontractor shall submit a representative list of installations during the above period.
 - D. Subject to the above requirements, work performed under this section may be by one of the

following listed Contractors.

- 1. Clear Wing Productions, Milwaukee WI
- 2. Gopher Stage Company, Minneapolis MN
- 3. Mainstage Theatrical Supply, Inc., Milwaukee, WI
- 4. Peter Albrecht Company, Greenfield, WI
- E. Other contractors meeting the above requirements will be considered with prior approval. Forward request to architect at least ten working days prior to bid date.

1.6 SUBMITTALS

- A. Shop Drawings.
 - 1. Within sixty (60) days of contract award, the Contractor shall submit six copies of all shop drawings in AutoCAD format to respective parties for approval prior to fabrication:
 - a. Complete, fully dimensioned shop drawings of all major components.
 - b. Plans, sections, and schematics indicating assembly and installation of components.
 - c. Load ratings of the major components within the system.
 - d. Any additional structural support supplied and installed by this contractor.
 - e. Specific listing of all variations from the Drawings and Specifications.
 - f. Power requirements for any electrical components.
- B. Samples: Within sixty (60) days of contract award, the Contractor shall submit to the Respective Parties for approval prior to fabrication:
 - 1. Samples and color lines for all curtain fabrics.
 - 2. Samples of any equipment component requested by the Architect.
 - 3. Final Submittal: Within thirty (30) days of final tests, and as a condition for final approval, the Contractor shall submit to the Architect:
 - 4. Receipts for delivery of all non-installed items, designated as "deliver to Owner".
 - 5. Certificates of warranty, as shown below.
- C. Three (3) sets to the Respective Parties:
 - 1. "As built and approved" CAD drawings and wiring diagrams showing all systems and components as installed, including all field modifications.
 - 2. Operation and service manuals, schematics, and parts list for each unit of equipment installed or provided.
 - 3. Flameproofing certificates for fabrics.
- 1.7 TESTING AND INSTRUCTION
 - A. Upon completion of all installation work, the Contractor shall certify in writing that the work is complete and ready for final inspection. Final inspection shall be scheduled by the Owner, the Architect and Engineer within fourteen days following the Contractor's notice of completion. Final inspection shall be conducted by a knowledgeable representative of the Contractor and shall include the following:
 - B. Operation of all components.
 - C. Visual examination of all components.
 - D. Necessary adjustments and/or modifications shall be made as required.
 - E. Contractor's representative shall instruct Owner 's designated staff or representatives in the safe operation and maintenance of all items, including the storage and cleaning of all fabrics.
- 1.8 GENERAL REQUIREMENTS

- A. General Conditions of the project contract, work schedules, and site regulations apply to this work.
- B. This work shall comply with all applicable local and national codes. All equipment shall be fully insured against loss or damage during shipment, installation and testing. Certification of such coverage shall be furnished to the Architect.
- C. The Contractor shall warrant all equipment provided under this section to be free from defects in materials and workmanship for a period of at least twelve (12) months from a date of final acceptance of all work of this section.
- D. All repairs and service during the warranty period shall be at the job site and include all necessary labor, materials and transportation of replacement material and parts.
- E. This warranty shall cover any manufacturer defects of equipment and unusual wear and tear caused by improper installation. Normal wear and tear and abuse of equipment are exempted.

PART 2 Products

- 2.1 Theatrical Stage Drapes
 - A. General:
 - 1. Acceptable Manufacturers for Theatrical Stage Drapes
 - a. Rose Brand
 - b. KM Fabrics
 - c. Texas Scenic
 - d. Automated Device Company
 - 2. Refer to <u>Part 1, Quality Assurance</u> for recommended and approved dealers for the Theatrical Stage Drapes portion of this spec.
 - 3. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, see <u>Part 1, Quality Assurance</u> for how to seek compliance.
 - B. General Fabrication:
 - 1. All pile fabrics shall be constructed with pile running down.
 - 2. All seams shall be vertical with each width running the full height no horizontal splices.
 - 3. Thread colors shall match face fabric.
 - 4. A label shall be sewn to every curtain showing height, width, and date of flameproofing. Label shall be located on offstage lower hem.
 - 5. Sizes and quantities per Rigging Drawings and Schedules.
 - C. Valance
 - 1. Material
 - a. 100% IFR Polyester Charisma velour, 54" wide, as by KM Fabrics.
 - 2. Color
 - a. TBD by Respective Owner Parities
 - 3. Fabrication
 - a. Top hem shall be turned and reinforced with continuous 3" polypro webbing. Curtains shall be sewn with 50% Fullness.
 - b. A #3 brass grommet shall be inserted every 12" and at ends and contain a 30" dark heavy grade 3/4" twill tape for tying curtain to pipe.
 - c. Bottom hem shall be 5 inches. Side hems shall be a minimum of 3".
 - d. Snip vertical seams every 36" for proper hanging of seams.
 - D. Main Curtain

- 1. Material
 - a. 100% IFR Polyester Charisma velour, 54" wide, as by KM Fabrics.
- 2. Color
 - a. TBD by Respective Owner Parities
- 3. Fabrication
 - a. Top hem shall be turned and reinforced with continuous 3" polypro webbing. 50% fullness shall be sewn in with box pleats approximately 12" on center.
 - b. A grommet and heavy grade bit snap hook shall be provided for attachment to carriers at each pleat and ends of curtain.
 - c. Bottom hem shall be 5 inch and contain a continuous No. 8 jack chain held in a muslin pocket, secure jack chain to pocket every 36".
 - d. Side hems shall be a minimum of 12" on the leading edge and 3" on the offstage edge.
 - e. Snip vertical seams every 36" for proper hanging of seams.
- 4. Hang Method
 - a. Use Existing Track
- E. Borders
 - 1. Material
 - a. 100% IFR Polyester Crescent velour, 54" wide, as by KM fabrics.
 - 2. Color
 - a. Black unless noted otherwise
 - 3. Fabrication
 - a. Top hem shall be turned and reinforced with continuous 3" polypro webbing. Curtains shall be sewn flat with fullness.
 - b. A #3 brass grommet shall be inserted every 12" and at ends and contain a 30" dark heavy grade 3/4" twill tape for tying curtain to pipe.
 - c. Bottom hem shall be 5 inches. Side hems shall be a minimum of 3".
 - d. Snip vertical seams every 36" for proper hanging of seams.
 - 4. Hang Method
 - a. Use Existing Batten
- F. Legs
 - 1. Material
 - a. 100% IFR Polyester Crescent velour, 54" wide, as by KM fabrics.
 - 2. Color
 - a. Black unless noted otherwise
 - 3. Fabrication
 - a. Top hem shall be turned and reinforced with continuous 3" polypro webbing. 50% fullness shall be sewn in with box pleats approximately 12" on center.
 - b. A #3 brass grommet shall be inserted every 12" and 16" for tie-in fullness, and at ends and contain a 30" dark heavy grade 3/4" twill tape for tying curtain to pipe.
 - c. Bottom hem shall be 5 inches. Side hems shall be a minimum of 3".
 - d. Side hems shall be a minimum of 3".
 - e. Snip vertical seams every 36" for proper hanging of seams.
 - 4. Hang Method
 - a. Provide 10' of 400s Track
 - b. Provide Roto-Device
 - c. Provide Pipe for Roto-Device
- G. Mid and Rear Draws
 - 1. Material
 - a. 100% IFR Polyester Crescent velour, 54" wide, as by KM fabrics
 - 2. Color
 - a. Black unless noted otherwise

- 3. Fabrication
 - a. Top hem shall be turned and reinforced with continuous 3" polypro webbing. 50% fullness shall be sewn in with box pleats approximately 12" on center.
 - b. A grommet and heavy grade bit snap hook shall be provided for attachment to carriers at each pleat and ends of curtain.
 - c. Bottom hem shall be 5 inch and contain a continuous No. 8 jack chain held in a muslin pocket, secure jack chain to pocket every 36".
 - d. Side hems shall be a minimum of 12" on the leading edge and 3" on the offstage edge.
 - e. Snip vertical seams every 36" for proper hanging of seams.
- 4. Hang Method
 - a. Use Existing Track
- H. Cyclorama
 - 1. Material
 - a. 100% IFR Trevira Extra Wide Muslin
 - 2. Color
 - a. Natural
 - 3. Fabrication
 - a. Top hem shall be turned and reinforced with continuous 3 ½" heavy jute or polyester webbing BFM grade, flat construction.
 - b. A #3 brass grommet shall be inserted every 12", and at ends and contain a 30" dark heavy grade 3/4" twill tape for tying curtain to pipe.
 - c. Bottom hems shall be 5" with separate muslin pipe pocket.
 - d. Side hems shall be a minimum of 3"
 - e. Bottom hem shall be 5 inches. Side hems shall be a minimum of 3".
 - 4. Hang Method
 - a. Use Existing Track

PART 3 EXECUTION

- 3.1 Field Quality Control
 - A. All equipment shall be installed under the direct supervision of an ETCP certified theatrical rigger. All work shall be performed in strict accordance with approved shop and installation drawings. Inspection Prior to fabrication and installation, stage equipment contractor shall verify field dimensions and structural capabilities.

3.2 INSPECTIONS

- A. Prerequisites: Minimum inspection and testing requirements are established by the following prerequisites.
 - 1. Line set components are manufactured under controlled process environments, and to engineered designs
 - 2. Line set components are installed under conditions where a qualified person evaluates system design
 - 3. Line set component manufacturers provide detailed recommendations for the application and installation of their respective products
 - 4. The line set installation consists of standardized components and equipment layouts.

3.3 GENERAL REQUIREMENTS

- A. All installations shall be visually inspected after installation and shall be tested for operation in a non-destructive manner.
- B. All systems shall be inspected after installation, and prior to user operation. Inspections shall meet requirements of this section, but additional requirements shall be permitted.

- C. Qualified persons shall oversee the inspection and testing process and shall certify that all inspection requirements have been met.
- D. Inspection procedures and results shall be fully documented. The testing supervisor, the installer and the system owner shall retain complete copies of the test documentation.

3.4 RIGGING

A. Hardware (bolts, nuts, washers, etc.) shall be Grade 5 or greater or similarly specified unless otherwise noted. Compressible swage fittings shall be crimped exactly according to manufacturer's recommendations as to quantity and spacing of crimps. Swage tools must be calibrated prior to beginning work. Trim dead end of cable to within 3/8" of swage. The entire swage shall be taped including the short dead end of the cable. Only copper sleeves shall be used. Aluminum is not acceptable. Wire ropes shall be taped with good quality friction tape prior to cutting.

3.5 TESTS AND INSPECTIONS

A. The complete job shall be subject to reasonable tests and inspections during construction and at final acceptance. Upon notice, the contractor shall furnish not to exceed two men (one to be the installation supervisor), and tools as required to conduct tests and inspections for the architect.

3.6 SYSTEM DEMONSTRATION

A. After the installation is complete and all adjustments have been made, a representative of the contractor shall demonstrate the systems and instruct the Owner's personnel, using the written instruction books and maintenance manuals as a guide.

3.7 WARRANTY

- A. Manufacturer shall warrant products under normal use and service to be free from defects in materials and workmanship for a period of two years from date of delivery.
- B. Warranty shall cover repair or replacement of such parts determined defective upon inspection.
- C. Warranty does not cover any product or part of a product subject to accident, negligence, alteration, abuse or misuse. Warranty does not cover any accessories or parts not supplied by the manufacturer.
- D. Warranty shall not cover any labor expended or materials used to repair any equipment without manufacturer's prior written authorization.

END OF SECTION



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RIGO	RIGGING LINESET SCHEDULE									TRACK SCHEDULE				1		
Lineset	# Name	Dist.	From Proc.	Type	•		Bat	en Lenath	Notes	Lineset #	Name	Туре		QTY	Track Length	Notes
										2	MAIN DRAW	400 SERIE	ES TRACK	2	22'0"	
-3	FOH 1		-22'7"	1.5" \$	Sched 40	Pipe.		60'	APPROX. LENGTH (EXISITING	4	LEG 1A	400 SERIE	ES TRACK	1	10'0"	w/ROTO & PIPE
-2			-22'7"	1.5" 3	Sched 40	Pipe.		0"		4	LEG 1B	400 SERIE	S TRACK	1	10'0"	w/ROTO & PIPE
-1			-22'7"	1.5" 3		Pipe.		<u> </u>		6	LEG 2A	400 SERIE	S TRACK	1	10'0"	w/ROTO & PIPE
			0			/		0		6	LEG 2B	400 SERIE	S TRACK	1	10'0"	w/ROTO & PIPE
			V 1'2" D		1 5" Sched 40 Pipe			40		9		400 SERIE	S TRACK	2	22'0"	
			3'10"				10'		10	LEG 3A	400 SERIE	S TRACK	1	10.0"	W/ROTO & PIPE	
4	LEG 1R		3'10"	SINGLE TRACK			10'		12			S TRACK	1	10'0"		
5	BORDER	22	9'8 1/2"	1 5" Sched 40 Pine			40'		13		400 SERIE	S TRACK	1	10'0"		
6	LEG 2A	1	0'7 1/2"	SINGLE TRACK			40'		15			S TRACK	2	22'0"	W/ROTO & FIFE	
6	LEG 2B	1	10'7 1/2"	SING	GLE TRAC	CK		40'		16			S TRACK	2	220	
7	ELEC 2		11'6"	1.5" \$	Sched 40	Pipe.		10'						2	22.0	
8	BORDEF	२३ 1	14'8 1/2"	1.5" \$	Sched 40	Pipe.		10'								
9	MID DRA	AW 1	15'9 1/2"	DRA	W TRACI	< .		40'	40' <u>GENERAL NOTE</u> :							
10	LEG 3A		19'3"	SING	GLE TRAG	ĸ		10' ALL TRACKS ARE EXISITING BUT ROTOS A			ROTOS ARE	ENEW.				
10	LEG 3B		19'3"	SING	GLE TRAC	Ж		10'	10'							
11	ELEC 3		20'6"	1.5" \$	Sched 40	Pipe.		40'								
12	BORDEF	R 4 2	23'4 1/2"	1.5" \$	Sched 40	Pipe.		40'		_						
13	13 LEG 4A 25'3 1/2"		25'3 1/2"	SING	GLE TRAC	K		10'								
13	13 LEG 4B 2'1 1/4"		2'1 1/4"	SING	GLE TRAG	K		10'		_						
14	14 ELEC CYC		30'6"	1.5" \$	Sched 40	Pipe.		40'		_						
15	15 REAR DRAW		31'9 1/2"	DRA	W TRACI	<		40'		_						
16	CYCLOR	RAMA	33'6"	SCE	NERY TR	ACK		40'								
RIGGI	RIGGING CURTAIN SCHEDULE															
SET #	NAME	MATERIAL			COLOR	QTY	FINISH HEIGH	T FINISH WI	DTH SEWING INSTRUCTIONS		то	P FINISH		вот	TOM FINISH	
1	VALANCE	23.5 - 24.5oz CH/	ARISMA IFR VELO	OUR	TBD	1	3'0"	40'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WE	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
2	MAIN DRAW	23.5 - 24.5oz CH/	4.5oz CHARISMA IFR VELOUR		TBD	2	13'0"	22'0" SEWN WITH 3" TURNBACKS / GROM		MMETS FOR 50% FULLNESS GROMMETS, WEBBING & TIES		5-INC	5-INCH HEM WITH INTERNAL CHAIN WEIGHT			
4	LEG 1A	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	13'0"	6'0"	" SEWN WITH 3" TURNBACKS / GROMMETS FOR 50% FULLNESS GROMMETS, WEB		BBING & TIES	5-INCH HEM WITH INTERNAL CHAIN WEIGH				
4	LEG 1B	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	CKS / GROMMETS FOR 50% FULLNESS GROMMETS, WEBBING & TIES		5-INC	5-INCH HEM WITH INTERNAL CHAIN WEIGHT			
5	BORDER 2	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	3'0"	40'0"	SEWN WITH 3" TURNBACKS / GR	COMMETS FOR 50% FULLNESS GROMMETS, WEBBING & TIES		5-INC	5-INCH HEM WITH INTERNAL CHAIN WEIGHT			
6	LEG 2	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	COMMETS FOR 50% FULLNESS GROMMETS, WEBBING & TIES		6 5-INC	5-INCH HEM WITH INTERNAL CHAIN WEIGHT			
6	LEG 2B	18 - 20 oz. CRES) oz. CRESCENT IFR VELOUR		BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	<pre></pre> <		BBING & TIES	S 5-INCH HEM WITH INTERNAL CHAIN WEIGH			
8	BORDER 3	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	3'0"	40'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
9	MID DRAW	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	2	12'0"	22'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
10	LEG 3A	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
10	LEG 3B	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
12	BORDER 4	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	3'0"	40'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
13	LEG 4A	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
13	LEG 4B	18 - 20 oz. CRES	oz. CRESCENT IFR VELOUR		BLACK	1	13'0"	6'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
15	REAR DRAW	18 - 20 oz. CRES	CENT IFR VELOU	JR	BLACK	2	12'0"	22'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
16	CYCLORAMA	SEAMED MUSLI	N TREVIRA IFR		WHITE	1	13'0"	40'0"	SEWN WITH 3" TURNBACKS / GR	OMMETS FOR 50%	FULLNESS GF	ROMMETS, WEI	BBING & TIES	5-INC	CH HEM WITH INTE	RNAL CHAIN WEIGHT
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Auditorium Renovation Project

Exhibit C

Section 27 40 00 - Theatrical Audio-Video Systems

PART 1 GENERAL

1.1 WORK INCLUDED

- A. The Contractor, as part of the work of this section, shall provide, install and test a complete audio-video control system as specified herein for areas indicated on the drawings and circuit schedules.
- B. The Contractor shall furnish, wire, connectors, hardware and other incidental items necessary for the complete and proper operation of the audio-video control system.
 - 1. Contractor is responsible for coordinating with District Electrician on all conduit runs.
- C. The Contractor shall coordinate all work described in this section with all other applicable plans and specifications, including but not limited to:
 - 1. General Conditions
 - 2. Electrical Section General Provisions
 - 3. Conduit
 - 4. Wire and Cable
 - 5. Stage rigging
 - 6. Stage Lighting
- D. Shop Drawing Submittals:
 - 1. Within sixty (60) days of contract award, the Contractor shall submit one (1) copy in PDF format of all shop drawings in PDF format to the respective parties for approval prior to fabrication:
 - a. Complete, fully dimensioned shop drawings of all major components.
 - b. Plans, sections and schematics indicating assembly and installation of components.
 - c. Load ratings of the major components within the system.
 - d. Any additional structural support supplied and installed by this contractor.
 - e. Specific listing of any and all variations from the Drawings and Specifications.
 - f. Power requirements for any electrical components.

1.2 SYSTEM DESCRIPTION

- A. The system shall be designed for the control of architectural and theatrical audio-video.
- B. System shall work in conjunction with specified low-voltage control stations.

1.3 SUBMITTALS

- A. Contractor shall provide 1 set of full system submittals in PDF format. Submittals shall include:
 - 1. Equipment list
 - 2. Equipment rack(s) elevation layout
 - 3. Conduit riser and box schedule with floor plan
 - 4. Block diagram(s) including wire types and labels Contractor shall provide any additional information, including equipment demonstration, as required by the engineer or specifier to verify compliance with specifications.
- 1.4 QUALITY ASSURANCE

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Exhibit C

A. System Integrators

- 1. All equipment and installation shall be the responsibility of a single system integrator, or subcontractor, who shall own and operate his own full time shop for the assembly and installation of stage equipment.
- 2. Bid submissions must identify any such subcontractors.
- 3. The contractor, or subcontractor, shall have at least 10 years experience in the installation of similar stage equipment and systems. If requested, the contractor or subcontractor shall submit a representative list of installations during the above period.
- 4. Subject to the above requirements, work performed under this section may be by one of the following listed integrators.
 - a. Arrow Audio, Appleton WI
 - b. Clear Wing Productions., Milwaukee, WI
 - c. Peak Systems Group, Reedsburg.
- 5. Contractors meeting the above requirements will be considered with prior approval. Forward request to respective parties at least ten working days prior to bid date.
- 6. The approved System Integrator will hereby be referred to as the Stage Audio-Video Contractor.
- B. Manufacturers
 - 1. See Individual Categories in Products for Acceptable Manufacturers
 - 2. Basis-of-Design Product: The design for each audio-video is based on the product named.
 - 3. Alternatives
 - a. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.
 - b. Alternative manufacturers must submit a full pre-approval package ten days prior to bid date.
 - 4. The manufacturer shall be one who has been continuously engaged in the manufacturer of audio-video control equipment for a minimum of ten years. All dimmer and cabinet fabrication must take place in a U.S. manufacturing plant.
 - 5. Proposed equipment shall be UL and C-UL listed, and/or CE marked (where applicable) and bear the appropriate labels

PART 2 Products

2.1 AUDIO-VISUAL SYSTEMS

- A. General:
 - 1. Acceptable Manufacturers for this specification
 - a. QSC
 - b. Crestron
 - c. Crown
 - d. Shure
 - e. Sennheiser
 - f. Danley
 - 2. Refer to <u>Part 1, Quality Assurance</u> for recommended and approved dealers for this portion of this spec.
 - 3. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, see <u>Part 1, Quality Assurance</u> for how to seek compliance.
 - 4. Permission to bid does not imply acceptance of the manufacturer.

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- B. Audio Digital Signal Processor
 - Basis of Design:
 - a. QSC Core 110fV2 (include scripting license, UCI license, and 16x16 Dante license)
 - 2. General

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- a. Eight (8) mic/line inputs
- b. Eight (8) mic/line outputs
- c. Eight (8) flex I/O (can be configured as inputs or outputs)
- d. Audio routing via LAN (AES67/Dante and proprietary network protocol)
- e. RS-232 or LAN control
- 3. Interface
 - a. Open Architecture
- C. DSP Network Expansion
 - Basis of Design:
 - a. QSC QIO-GP8x8, or equal (not required if Audio DSP furnished has the necessary DSP on board)
 - 2. General
 - a. Audio DSP Network Expansion
 - b. GPIO input 8x8
 - c. Powered via PoE or local power supply
 - 3. Interface
 - a. Open Architecture
- D. 10" Touch Screen
 - 1. Basis of Design: QSC TSC-70-G3, Powered via PoE/PoE+
 - a. Coordinate color with owner / architect approval
- E. Media Player
 - 1. Basis of Design: Denon DN-500CB
 - a. Media player that plays multiple media types
 - b. CD Player
 - c. Bluetooth Interface
 - d. Aux Input, 3.5mm stereo input jack
 - e. USB-A input for media on USB stick
- F. Wireless Microphone Systems
 - 1. Basis of Design: Shure QLXD4
 - a. Wireless Receiver
 - b. Single channel diversity wireless receiver
 - c. Digital wireless reception system
 - d. Remotable 1/2-wave antennas
 - e. XLR output
 - f. UHF
 - g. IP control, configuration (no network audio output)
 - h. 1/2-RU
 - i. Audio meter, RF meter, and battery fuel gauge
 - j. Allows for use with rechargeable batteries
 - k. Switchable between 1mW and 10mW RF output power
- G. Wireless Battery
 - 1. Basis of Design : Shure SB900A
 - a. Lithium-Ion Rechargeable Battery

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Exhibit C

- b. Include one battery pack for each transmitter
- H. Charging Station
 - 1. Basis of Design: Shure SBC200-US
 - a. Dual Docking Charger with PSU
- I. Mixing Console

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- Basis of Design: Allen & Heath SQ-7, include lamp accessory
 - a. 32-input entry level digital mixing console
 - b. 32 physical inputs and 10 physical mix outputs
 - c. Expansion via digital stage box
 - d. Network connection with ability to remotely mix from an iPad app
- J. Digital Stage Box
 - 1. Basis of Design: Allen & Heath DT168
 - a. Compatible with Mixing Console
 - b. 16 physical inputs and 8 physical mix outputs
- K. Audio Amplifiers
 - 1. Basis of Design: Crown XTi6002
 - a. 2-Channel Audio Power Amplifier
 - b. 200W per channel into an $8\Omega / 4\Omega / 70V / 100V$ load
 - c. Capable of a single constant voltage output when the outputs are bridged together
 - d. Rack mountable
- L. Loudspeakers
 - 1. Main Loudspeaker
 - a. Basis of Design: Danley SH60 with associated flyware, or equal
 - 1) Full range horn loaded loudspeaker
 - 2) Dual 12" low frequency drivers
 - 3) Six 4" midrange drivers
 - 4) Single 1" high frequency drivers
 - 5) 48Hz 18kHz (+/- 3dB)
 - 6) 60-degree x 60-degree coverage pattern
 - 7) 1000W continuous, 4000W peak
 - 8) Nominal impedance of 4-Ohms
 - 9) Coordinate color with owner respective parties
 - 2. Subwoofer
 - a. Basis of Design: QSC WL212-SW-BK with associated flyware, or equal
 - 1) Dual 12" woofer
 - 2) 1100W Continuous power handling, 2000W peak
 - 3) 32 Hz 107 Hz
 - 4) Nominal impedance of 4-Ohms
 - 3. Delay Loudspeaker
 - a. Basis of Design: Danley SM96 with associated flyware, or equal
 - 1) Full range horn loaded loudspeaker
 - 2) Dual 8" low frequency drivers
 - 3) Single 5" mid-high drivers
 - 4) 55Hz 24kHz (+/- 3dB)
 - 5) 90-degree x 60-degree coverage pattern
 - 6) 800W continuous, 1600W peak
 - 7) Nominal impedance of 4-Ohms

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- 8) Coordinate color with owner respective parties
- 4. FF Loudspeaker
 - a. Basis of Design: Danley Cube, or equal
 - 1) Full range loudspeaker (front fill)
 - 2) Single 6" drivers
 - 3) 95Hz 23kHz (+/- 6dB)
 - 4) 100-degree conical coverage pattern
 - 5) 200W continuous, 800W peak
 - 6) Nominal impedance of 8-Ohms
 - 7) Coordinate color with owner respective parties
- 5. MON Loudspeaker
 - a. Basis of Design: QSC K10.2 (furnish QUANTITY (4) each with 25' mic cable and 25' black AC power extension cord)a.
 - 1) Full range powered loudspeaker
 - 2) 10" LF Driver
 - 3) 1.4" HF Driver
 - 4) 56Hz 20kHz (+/- 6dB)
 - 5) 90-degree x 90-degree coverage pattern
 - 6) May be deployed in floor monitor position
- 6. Projector 12K
 - a. Basis of Design: Panasonic PT-RZ120
 - 1) Laser diode light source
 - 2) 1920x1200 native resolution, capable of 1920x1080
 - 3) 12,000 Lumens
 - 4) HDMI input
 - 5) RS-232 Control
- 7. Interchangeable lenses
 - a. Basis of Design: Panasonic ET-DLE085
 - 1) 4. Projector 12K Lens
 - 2) a. Zoom Lens for Projector 12K
 - 3) b. 0.782-0.977:1 throw ratio
 - 4) c. Compatible with projector furnished
 - 5) d. Verify throw distance based on field conditions prior to ordering
- 8. Video Mounts
 - a. Basis of Design: Chief VCMU, or equal
 - 1) Heavy duty universal projector mount
 - 2) 5-degrees roll, 20-degrees pitch, 360-degrees yaw
 - 3) Weight capacity of 250 lbs.
 - 4) Coordinate color with projector
- 9. Motorized Front Projection Screen
 - a. Basis of Design: Da-Lite Cosmopolitan, or equal
 - 1) Screen case has mounting brackets for wall or ceiling mounting
 - 2) 16:9 Aspect Ratio
 - 3) 159" Diagonal (78"x139")
 - 4) Standard Black Drop
 - 5) Matte White screen surface
 - 6) Integrated Low Voltage Control

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PART 3 EXECUTION

- 3.1 Installation
 - A. It shall be the responsibility of the Contractor to receive and store the necessary

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Exhibit C

materials and equipment for installation of the dimmer system. It is the intent of these specifications and plans to include everything required for proper and complete installation and operation of the dimming system, even though every item may not be specifically mentioned. The contractor shall deliver on a timely basis to other trades any equipment that must be installed during construction.

- Β. The contractor shall be responsible for field measurements and coordinating physical size of all equipment with the architectural requirements of the spaces into which they are to be installed.
- The contractor shall install all audio-video control and dimming equipment in C. accordance with manufacturer's approved shop drawings.
- D. All branch load circuits shall be live tested before connecting the loads to the dimmer system load terminals.
- 3.02 **Contractor Services**
 - Upon completion of the installation, including testing of load circuits, the contractor Α. shall notify the dimming system manufacturer that the system is available for formal checkout.
 - Β. Notification shall be provided in writing, two weeks prior to the time factory-trained personnel are needed on the job site.
 - C. No power is to be applied to the dimming system unless specifically authorized by written instructions from the manufacturer.
 - D. The purchaser shall be liable for any return visits by the factory engineer because of incomplete or incorrect wiring.
 - E. Upon completion of the formal check-out, the factory engineer shall demonstrate operation and maintenance of the system to the owner's representatives. Training shall not exceed four working hours. Additional training shall be available upon request.

3.03 WARRANTY

- Contractor shall warrant products under normal use and service to be free from Α. defects in materials and workmanship for a period of two years from date of delivery.
- Β. Warranty shall cover repair or replacement of such parts determined defective upon inspection.
- C. Warranty does not cover any product or part of a product subject to accident, negligence, alteration, abuse or misuse. Warranty does not cover any accessories or parts not supplied by the manufacturer.
- D. Warranty shall not cover any labor expended or materials used to repair any equipment without manufacturer's prior written authorization.

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AUDIO CONTROL SCHEDULE					
DEVICE NAME	LOCATION	MOUNTING	CONNECTOR	NOTES	
HDMI-01	FOH REAR	FLUSH, OUTLET HT.	HDMI		
HDMI-02	HL APRON	FLUSH, OUTLET HT.	HDMI		
HDMI-03	DOWN STAGE LEFT	SURFACE, OUTLET HT.	HDMI		
PCRS-01	BOOTH UPPER	SURFACE, OUTLET HT.	NETWORK (3)		
PCRS-02	BOOTH LOWER - LX	FLUSH, OUTLET HT.	NETWORK (3)		
PCRS-03	BOOTH LOWER - AUDIO	FLUSH, OUTLET HT.	NETWORK (3)		
PCRS-04	HOUSE CENTER	FLUSH, OUTLET HT.	NETWORK (3)		
PCRS-05	USR	SURFACE, OUTLET HT.	NETWORK (3)		
PCRS-06	USL	SURFACE, OUTLET HT.	NETWORK (3)		
PNET-01	FOH HL NEAR	FLUSH, OUTLET HT.	NETWORK (2)		
PNET-02	FOH HR NEAR	FLUSH, OUTLET HT.	NETWORK (2)		
PNET-03	HL APRON	FLUSH, OUTLET HT.	NETWORK (2)		
PNET-04	HR APRON	FLUSH, OUTLET HT.	NETWORK (2)		
PNET-05	DOWN STAGE LEFT	SURFACE, OUTLET HT.	NETWORK (2)		
PNET-06	MID DOWN STAGE LEFT	SURFACE, OUTLET HT.	NETWORK (2)		
PNET-07	MID UP STAGE LEFT	SURFACE, OUTLET HT.	NETWORK (2)		
PNET-08	UP STAGE CENTER	SURFACE, OUTLET HT.	NETWORK (2)		
PTIE-01	UP STAGE RIGHT	SURFACE, OUTLET HT.	XLR IN (2)		
PTIE-02	UP STAGE LEFT	SURFACE, OUTLET HT.	XLR IN (2)		
TIE-01	HL APRON	FLUSH, OUTLET HT.	XLR OUT (2)		
TIE-02	HR APRON	FLUSH, OUTLET HT.	XLR OUT (2)		
TIE-03	DOWN STAGE RIGHT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-04	DOWN STAGE LEFT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-05	DOWN STAGE RIGHT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-06	MID DOWN STAGE RIGHT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-07	MID UP STAGE RIGHT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-08	DOWN STAGE LEFT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-09	MID DOWN STAGE LEFT	SURFACE, OUTLET HT.	XLR OUT (2)		
TIE-10	MID UP STAGE LEFT	SURFACE, OUTLET HT.	XLR OUT (2)		

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ITEM	QTY
Crown XTi6002 2-Channel, 2100W at 4 Ohm Power Amplifier	4
Shure QLXD14/83 Digital Wireless System with WL183 Lavalier Mic	16
QSC WL212-sw-BK 2x12" Compact Line Array Subwoofer, Black	2
QSC WL3082 2x8" Compact Line Array, Black	6
Shure QLXD24/B58 Single-Channel Wireless System with Beta 58A Handheld Transmitter	4
D3-LK Middle Atlantic D3LK 3RU Rack Drawer with Lock	3
FI-3 Middle Atlantic FI-3 Customizable Foam Insert for 3-Space Drawer	3
APMM9C3LLA Apple 10.9" iPad Air with M1 Chip (5th Gen, 64GB, Wi-Fi Only, Space Gray)	1
OTDC4GIPAB OtterBox Defender Series Case for iPad Air 4th & 5th Gen (Black	1
Shure MX202B/C Overhead Cardioid Microphone, Black	6
Shure UA864 Wall-Mounted Wideband Antenna	5
PL-PLUS-DMC Furman PL-PLUS DMC 15A Power Conditioner with Digital Voltmeter	6
Allen & Heath SQ-7 Digital Mixer 48-Channel Digital Mixer with 33 Faders	1
Allen & Heath DT168 16x8 Dante Audio Expander	2
AH10885 Allen & Heath AH10885 164' CAT6 Cable Drum with Locking Connectors (11-20 BD)	1
NC3FRX-B Neutrik NC3FRX-B 3-pin RX Series Right Angle XLRF Connector, Black	25
NC3MRX-B Neutrik NC3MRX-B 3-pin Right Angle XLRM Connector, Black	25
NC3FXX-B Neutrik NC3FXX-B 3-pin XLRF Connector, Black	25
NC3MXX-B Neutrik NC3MXX-B 3-pin XLRM Connector, Black	25

PORTABLE EQUIPMENT SCHEDU

MS-702 Encore Main Station: 2Ch, Power supply 1 .2 Amp, 1RU					
CC-300-X4 Headset: Single Ear, Medium weight, XLR (F) 4pin					
RS-701 Encore Beltpack: 1Ch					
CZ-BS410 DX410 System - BS410 Base Station: 2Ch, 2.4GHz					
CZ11450 CC-15-MD4 headset					
CZ11454 HS4-3 earpiece and lapel mic					
BP410 DX410 System - BP410 Beltpack: 2Ch, 2.4GHz					
CZ-BAT50 DX System - BAT50 Rechargeable Battery					
CZ-AC50-US DX System - AC50 Battery Charger: US					
DMX-3P-10 3 Pin XLR 10'					
DMX-3P-3 3 Pin XLR 3'					
SC450RM1U American Power Conversion (8-10 businesss days)					
2-6M 6SP slanted studio rack					
LT-GN-PNL 1RU Rackmount pannel with 2 gooseneck LED lights					

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