



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
**LOT493**

PAGE  
**1**

ADDRESS CORRESPONDENCE TO ATTENTION OF:  
**SHELLY MURRAY**  
**304-558-8801**

VENDOR

RFQ COPY  
 TYPE NAME/ADDRESS HERE

SHIP TO

**WEST VIRGINIA LOTTERY**  
  
**900 PENNSYLVANIA AVE**  
**CHARLESTON, WV**  
**25302 304-558-0500**

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
04/30/2012				

BID OPENING DATE: **06/06/2012** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		840-99		
<p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA LOTTERY, IS SOLICITING BIDS FOR AUDIO-VISUAL EQUIPMENT TO INCLUDE ALL MATERIAL AND LABOR FOR INSTALLATION AT 900 PENNSYLVANIA AVENUE, CHARLESTON, WV PER THE ATTACHED SPECIFICATIONS.</p> <p><b>AUDIO/VISUAL EQUIPMENT</b></p> <p><b>MANDATORY PRE-BID</b></p> <p>A MANDATORY PRE-BID WILL BE HELD ON 05/16/2012 AT 1:00 PM AT THE WV LOTTERY, 900 PENNSYLVANIA AVENUE. ALL INTERESTED PARTIES ARE REQUIRED TO ATTEND THIS MEETING. FAILURE TO ATTEND THE MANDATORY PRE-BID SHALL RESULT IN DISQUALIFICATION OF THE BID. NO ONE PERSON MAY REPRESENT MORE THAN ONE BIDDER.</p> <p>AN ATTENDANCE SHEET WILL BE MADE AVAILABLE FOR ALL POTENTIAL BIDDERS TO COMPLETE. THIS WILL SERVE AS THE OFFICIAL DOCUMENT VERIFYING ATTENDANCE AT THE MANDATORY PRE-BID. FAILURE TO PROVIDE YOUR COMPANY AND REPRESENTATIVE NAME ON THE ATTENDANCE SHEET WILL RESULT IN DISQUALIFICATION OF THE BID. THE STATE WILL NOT ACCEPT ANY OTHER DOCUMENTATION TO VERIFY ATTENDANCE. THE BIDDER IS RESPONSIBLE FOR ENSURING THEY HAVE COMPLETED THE INFORMATION REQUIRED ON THE ATTENDANCE</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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## GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
5. Payment may only be made after the delivery and acceptance of goods or services.
6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vrc/hipaa.html](http://www.state.wv.us/admin/purchase/vrc/hipaa.html) and is hereby made part of the agreement provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

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### INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



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<p>SHEET. THE PURCHASING DIVISION AND THE STATE AGENCY WILL NOT ASSUME ANY RESPONSIBILITY FOR A BIDDER-S FAILURE TO COMPLETE THE PRE-BID ATTENDANCE SHEET. IN ADDITION, WE REQUEST THAT ALL POTENTIAL BIDDERS INCLUDE THEIR E-MAIL ADDRESS AND FAX NUMBER.</p> <p>ALL POTENTIAL BIDDERS ARE REQUESTED TO ARRIVE PRIOR TO THE STARTING TIME FOR THE PRE-BID. BIDDERS WHO ARRIVE LATE, BUT PRIOR TO THE DISMISSAL OF THE TECHNICAL PORTION OF THE PRE-BID WILL BE PERMITTED TO SIGN IN. BIDDERS WHO ARRIVE AFTER CONCLUSION OF THE TECHNICAL PORTION OF THE PRE-BID, BUT DURING ANY SUBSEQUENT PART OF THE PRE-BID WILL NOT BE PERMITTED TO SIGN THE ATTENDANCE SHEET.</p> <p>TECHNICAL QUESTIONS MUST BE SUBMITTED IN WRITING TO SHELLY MURRAY IN THE WEST VIRGINIA PURCHASING DIVISION VIA MAIL AT THE ADDRESS SHOWN AT THE TOP OF THIS RFQ, VIA FAX AT 304-558-4115, OR VIA E-MAIL AT SHELLY.L.MURRAY@WV.GOV. DEADLINE FOR ALL TECHNICAL QUESTIONS IS 05/18/2012 AT THE CLOSE OF BUSINESS. ALL TECHNICAL QUESTIONS RECEIVED, IF ANY, WILL BE ADDRESSED BY ADDENDUM AFTER THE DEADLINE.</p> <p>THE MODEL/BRAND/SPECIFICATIONS NAMED HEREIN ESTABLISH THE ACCEPTABLE LEVEL OF QUALITY ONLY AND ARE NOT INTENDED TO REFLECT A PREFERENCE OR FAVOR ANY PARTICULAR BRAND OR VENDOR. VENDORS WHO ARE BIDDING ALTERNATES SHOULD SO STATE AND INCLUDE PERTINENT LITERATURE AND SPECIFICATIONS. FAILURE TO PROVIDE INFORMATION FOR ANY ALTERNATES MAY BE GROUNDS FOR REJECTION OF THE BID. THE STATE RESERVES THE RIGHT TO WAIVE MINOR IRREGULARITIES IN BIDS OR SPECIFICATIONS IN ACCORDANCE WITH SECTION 148-1-4(F) OF THE WEST VIRGINIA LEGISLATIVE RULES AND REGULATIONS.</p>						

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<p>ANY INDIVIDUAL SIGNING THIS BID IS CERTIFYING THAT:            (1) HE OR SHE IS AUTHORIZED BY THE BIDDER TO EXECUTE THE BID OR ANY DOCUMENTS RELATED THERE TO ON BEHALF OF THE BIDDER, (2) THAT HE OR SHE IS AUTHORIZED TO BIND THE BIDDER IN A CONTRACTUAL RELATIONSHIP, AND (3) THAT THE BIDDER HAS PROPERLY REGISTERED WITH ANY STATE AGENCIES THAT MAY REQUIRE REGISTRATION.</p> <p>EXHIBIT 5</p> <p>WEST VIRGINIA CODE 21-1D-5 PROVIDES THAT: ANY SOLICITATION FOR A PUBLIC IMPROVEMENT CONSTRUCTION CONTRACT REQUIRES EACH VENDOR THAT SUBMITS A BID FOR THE WORK TO SUBMIT AT THE SAME TIME AN AFFIDAVIT OF COMPLIANCE WITH THE BID. THE ENCLOSED DRUG-FREE WORKPLACE AFFIDAVIT MUST BE SIGNED AND SUBMITTED WITH THE BID AS EVIDENCE OF THE VENDOR'S COMPLIANCE WITH THE PROVISIONS OF ARTICLE 1D, CHAPTER 21 OF THE WEST VIRGINIA CODE. FAILURE TO SUBMIT THE SIGNED DRUG-FREE WORKPLACE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF SUCH BID.</p> <p>NOTICE TO PROCEED: THIS CONTRACT IS TO BE PERFORMED WITHIN 30 CALENDAR DAYS AFTER THE NOTICE TO PROCEED IS RECEIVED. UNLESS OTHERWISE SPECIFIED, THE FULLY EXECUTED PURCHASE ORDER WILL BE CONSIDERED NOTICE TO PROCEED.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE MATERIALS OR WORKMANSHIP SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE BID AND CONTRACT HERE IN.</p> <p>WAGE RATES: THE CONTRACTOR OR SUBCONTRACTOR SHALL PAY THE HIGHER OF THE U.S. DEPARTMENT OF LABOR MINIMUM WAG</p>						

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				<p>RATES AS ESTABLISHED FOR KANAWHA COUNTY, PURSUANT TO WEST VIRGINIA CODE 21-5A, ET, SEQ. (PREVAILING WAGE RATES APPLY TO THIS PROJECT)</p> <p>ARBITRATION: ANY REFERENCES MADE TO ARBITRATION OR INTEREST FOR PAYMENTS DUE (EXCEPT FOR ANY INTEREST REQUIRED BY STATE LAW) CONTAINED IN THIS CONTRACT OR IN ANY AMERICAN INSTITUTE OF ARCHITECTS DOCUMENTS PERTAINING TO THIS CONTRACT ARE HEREBY DELETED.</p> <p>WORKERS' COMPENSATION: VENDOR IS REQUIRED TO PROVIDE A CERTIFICATE FROM WORKERS' COMPENSATION IF SUCCESSFUL</p> <p>ALL OF THE ITEMS CHECKED BELOW WILL BE A REQUIREMENT OF THIS CONTRACT:</p> <p>(XX) INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF OF COMMERCIAL GENERAL LIABILITY INSURANCE PRIOR TO ISSUANCE OF CONTRACT. UNLESS OTHERWISE SPECIFIED IN THE BID DOCUMENTS, THE MINIMUM AMOUNT OF INSURANCE COVERAGE REQUIRED IS \$250,000.</p> <p>( ) BUILDERS RISK INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF OF BUILDERS RISK - ALL RISK INSURANCE IN AN AMOUNT EQUAL TO 100% OF THE AMOUNT OF THE CONTRACT.</p> <p>(XX) BONDS: FIVE PERCENT (5%) OF THE TOTAL AMOUNT OF THE BID PAYABLE TO THE STATE OF WEST VIRGINIA, SHALL BE SUBMITTED WITH EACH BID AS A BID BOND. THE SUCCESSFUL BIDDER SHALL ALSO FURNISH A PERFORMANCE BOND AND LABOR MATERIAL BOND FOR 100% OF THE AMOUNT OF THE CONTRACT. BONDS MAY BE PROVIDED IN THE FORM OF A CERTIFIED CHECK, IRREVOCABLE LETTER OF CREDIT, OR BOND FURNISHED BY A SOLVENT SURETY COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE OF WEST VIRGINIA. A LETTER OF CREDIT SUBMITTED IN LIEU OF A BOND WILL ONLY BE ALLOWED FOR PROJECTS</p>		

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<p>UNDER \$100,000. PERSONAL OR BUSINESS CHECKS ARE NOT ACCEPTABLE IN LIEU OF THE 5% BID BOND, PERFORMANCE BOND, OR LABOR AND MATERIAL BOND.</p> <p>( ) MAINTENANCE BOND: A TWO (2) YEAR MAINTENANCE BOND COVERING THE ROOFING SYSTEM WILL BE A REQUIREMENT OF THE SUCCESSFUL VENDOR.</p> <p>REV. 11/00</p> <p>EXHIBIT 7</p> <p>DOMESTIC ALUMINUM, GLASS &amp; STEEL IN PUBLIC WORKS PROJECTS</p> <p>IN ACCORDANCE WITH WEST VIRGINIA CODE 5-19-1 ET., SEQ., EVERY CONTRACT FOR CONSTRUCTION, RECONSTRUCTION, ALTERATION, REPAIR, IMPROVEMENT OR MAINTENANCE OF PUBLIC WORKS, WHERE THE COST IS MORE THAN \$50,000 AND, IN THE CASE OF STEEL ONLY, WHERE THE COST OF STEEL IS MORE THAN \$50,000 OR WHERE MORE THAN 10,000 POUNDS OF STEEL ARE REQUIRED, THE STATE WILL ACCEPT ONLY ALUMINUM GLASS, OR STEEL PRODUCTS PRODUCED IN THE UNITED STATES IN ADDITION, ITEMS OF MACHINERY OR EQUIPMENT PURCHASED FOR USE AT THE SITE OF PUBLIC WORKS SHALL BE MADE OF DOMESTIC ALUMINUM, GLASS OR STEEL, UNLESS THE COST OF THE PRODUCT IS LESS THAN \$50,000 OR LESS THAN 10,000 POUNDS OF STEEL ARE USED IN PUBLIC WORKS PROJECTS.</p> <p>FOREIGN MADE ALUMINUM, GLASS OR STEEL PRODUCTS MAY BE ACCEPTED ONLY IF THE COST OF DOMESTIC PRODUCTS IS FOUND TO BE UNREASONABLE. SUCH COST IS UNREASONABLE IF IT IS 20% OR MORE HIGHER THAN THE BID PRICE FOR FOREIGN MADE PRODUCTS. IF THE DOMESTIC ALUMINUM, GLASS OR STEEL PRODUCTS TO BE SUPPLIED OR PRODUCED IN A "SUBSTANTIAL</p>						

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<p>LABOR SURPLUS AREA", AS DEFINED BY THE UNITED STATES DEPARTMENT OF LABOR, FOREIGN PRODUCTS MAY BE SUPPLIED ONLY IF DOMESTIC PRODUCTS ARE 30% OR MORE HIGHER IN PRICE THAN THE FOREIGN MADE PRODUCTS.</p> <p>IF, PRIOR TO THE AWARD OF A CONTRACT UNDER THE ABOVE PROVISIONS, THE SPENDING OFFICER OF THE SPENDING UNIT DETERMINES THAT THERE EXISTS A BID FOR LIKE FOREIGN ALUMINUM, GLASS OR STEEL THAT IS REASONABLE AND LOWER THAN THE LOWEST BID DOMESTIC PRODUCTS, THE SPENDING OFFICE MAY REQUEST, IN WRITING, A REEVALUATION AND REDUCTION IN THE LOWEST BID FOR SUCH DOMESTIC PRODUCTS ALL VENDORS MUST INDICATE IN THEIR BID IF THEY ARE SUPPLYING FOREIGN ALUMINUM, GLASS OR STEEL.</p> <p>REV. 3/88</p> <p>EXHIBIT 9</p> <p>NOTICE FOR ISSUANCE &amp; ACKNOWLEDGEMENT OF CONSTRUCTION PROJECT ADDENDA</p> <p>THE ARCHITECT/ENGINEER AND/OR AGENCY SHALL BE REQUIRED TO ABIDE BY THE FOLLOWING SCHEDULE IN ISSUING CONSTRUCTION PROJECT ADDENDA FOR STATE AGENCIES:</p> <p>(1) THE ARCHITECT/ENGINEER SHALL PREPARE THE ADDENDUM AND A LIST OF ALL PARTIES THAT HAVE PROCURED DRAWINGS AND SPECIFICATIONS FOR THE PROJECT. THE ADDENDUM AND LIST SHALL BE FORWARDED TO THE BUYER IN THE STATE PURCHASING DIVISION. THE ARCHITECT/ENGINEER SHALL ALSO SEND A COPY OF THE ADDENDUM TO THE STATE AGENCY FOR WHICH THE CONTRACT IS ISSUED.</p> <p>(2) THE BUYER SHALL SEND THE ADDENDUM TO ALL</p>						

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<p>INTERESTED PARTIES AND, IF NECESSARY, EXTEND THE BID            OPENING DATE. ANY ADDENDUM SHOULD BE RECEIVED BY THE            BUYER WITHIN FOURTEEN (14) DAYS PRIOR TO THE BID            OPENING DATE.</p> <p>(3) ALL ADDENDA SHOULD BE FORMALLY ACKNOWLEDGED BY ALL            BIDDERS AND SUBMITTED TO THE STATE PURCHASING            DIVISION. THE SAME RULES AND REGULATIONS            THAT APPLY TO THE ORIGINAL BIDDING DOCUMENT            SHALL ALSO APPLY TO AN ADDENDUM DOCUMENT. THE ONLY            EXCEPTION MAY BE FOR AN ADDENDUM THAT IS ISSUED FOR THE            SOLE PURPOSE OF CHANGING A BID OPENING TIME AND/OR            DATE.</p> <p>REV. 11/96</p> <p>EXHIBIT 10</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED            ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO            MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p> <p>ADDENDUM NOS.:</p> <p>NO. 1 . . . . .</p> <p>NO. 2 . . . . .</p> <p>NO. 3 . . . . .</p> <p>NO. 4 . . . . .</p> <p>NO. 5 . . . . .</p>						

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<p>I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF THE BIDS.</p> <p>VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.</p> <p>.....SIGNATURE</p> <p>.....COMPANY</p> <p>.....DATE</p> <p>REV. 11/96</p> <p>CONTRACTORS LICENSE</p> <p>WEST VIRGINIA STATE CODE 21-11-2 REQUIRES THAT ALL PERSONS DESIRING TO PERFORM CONTRACTING WORK IN THIS STATE MUST BE LICENSED. THE WEST VIRGINIA CONTRACTORS LICENSING BOARD IS EMPOWERED TO ISSUE THE CONTRACTORS LICENSE. APPLICATIONS FOR A CONTRACTORS LICENSE MAY BE MADE BY CONTACTING THE WEST VIRGINIA DIVISION OF LABOR CAPITOL COMPLEX, BUILDING 3, ROOM 319, CHARLESTON, WV 25305. TELEPHONE: (304) 558-7890.</p> <p>WEST VIRGINIA STATE CODE 21-11-11 REQUIRES ANY PROSPECTIVE BIDDER TO INCLUDE THE CONTRACTORS LICENSE NUMBER ON THEIR BID.</p>						

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04/30/2012				

BID OPENING DATE: **06/06/2012** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p><b>BIDDER TO COMPLETE:</b></p> <p>CONTRACTORS NAME: .....</p> <p>CONTRACTORS LICENSE NO.: .....</p> <p>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FURNISH A COPY OF THEIR CONTRACTORS LICENSE PRIOR TO ISSUANCE OF A PURCHASE ORDER/CONTRACT</p> <p style="text-align: center;">APPLICABLE LAW</p> <p>THE WEST VIRGINIA STATE CODE, PURCHASING DIVISION RULES AND REGULATIONS, AND THE INFORMATION PROVIDED IN THE "REQUEST FOR QUOTATION" ISSUED BY THE PURCHASING DIVISION IS THE SOLE AUTHORITY GOVERNING THIS PROCUREMENT.</p> <p>ANY INFORMATION PROVIDED IN SPECIFICATION MANUALS, OR ANY OTHER SOURCE, VERBAL OR WRITTEN, WHICH CONTRADICTS OR ALTERS THE INFORMATION PROVIDED FROM THE SOURCES AS DESCRIBED IN THE ABOVE PARAGRAPH IS VOID AND OF NO EFFECT.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p> <p>REV. 5/2009</p> <p style="text-align: center;">NOTICE</p> <p>A SIGNED BID MUST BE SUBMITTED TO:</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE		TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER
LOT493

PAGE
10

ADDRESS CORRESPONDENCE TO ATTENTION OF:
SHELLY MURRAY 304-558-8801

RFQ COPY  
 TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

WEST VIRGINIA LOTTERY  
  
 900 PENNSYLVANIA AVE  
 CHARLESTON, WV  
 25302 304-558-0500

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
04/30/2012				

BID OPENING DATE: 06/06/2012 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130		
				THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:		
				SEALED BID		
				BUYER: SHELLY MURRAY		
				REQ. NO.: LOT493		
				BID OPENING DATE: 06/06/2012		
				BID OPENING TIME: 1:30 PM		
				PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:		
				-----		
				PLEASE PRINT OR TYPE NAME OF PERSON TO CONTACT CONCERNING THIS QUOTE:		
				-----		

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
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WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

REQUEST FOR QUOTATION  
WEST VIRGINIA LOTTERY  
LOT493

TABLE OF CONTENTS

- Section 1: General Information
- Section 2: Project Specifications
- Section 3: Vendor Bid

SECTION ONE: GENERAL INFORMATION

- 1.1 Purpose: The Purchasing Division, hereinafter referred to as "State," is soliciting bids pursuant to **West Virginia Code §5A-3-10b** for the Department of Revenue, West Virginia Lottery, hereinafter referred to as "Agency," to provide various audio, video, data projection and communications equipment and components (A/V equipment) to be installed, tested, implemented, accepted and training conducted at 900 Pennsylvania Avenue, Charleston, WV 25302.
- 1.2 By signing and submitting its bid, the successful Vendor agrees to be bound by all the terms contained in this RFQ.
  - 1.2.1 Compliance with Laws and Regulations: The Vendor shall procure all necessary permits and licenses to comply with all applicable Federal, State, or municipal laws, along with all regulations, and ordinances of any regulating body.

The Vendor shall pay any applicable sales, use or personal property taxes arising out of this contract and the transactions contemplated thereby. Any other taxes levied upon this contract shall be borne by the Vendor. It is clearly understood that the State of West Virginia is exempt from any taxes regarding performance of the scope of work of this contract.

1.3 Schedule of Events:

Mandatory Pre-bid Conference.....	05/16/2012
Bidder's Written Questions Submission Deadline.....	05/18/2012
Addendum Issued .....	TBD
Bid Opening Date.....	06/06/2012

1.4 **Mandatory Pre-bid Conference:** A mandatory pre-bid will be conducted on the date listed below:

Date: 05/16/2012  
 Time: 1:30 PM  
 Location: 900 Pennsylvania Avenue, Charleston, WV 25302  
 Telephone Number: 304-558-0500

All interested Vendors are required to be represented at this meeting. **Failure to attend the mandatory pre-bid shall result in the disqualification of the bid.** No one person may represent more than one Vendor.



All potential Vendors are requested to arrive prior to the starting time for the pre-bid conference. Vendors who arrive late, but prior to the dismissal of the technical portions of the pre-bid conference will be permitted to sign in. Vendors who arrive after conclusion of the technical portion of the pre-bid, but during any subsequent part of the pre-bid will not be permitted to sign the attendance sheet.

An attendance sheet will be made available for all potential Vendors to complete. This will serve as the official document verifying attendance at the mandatory pre-bid. Failure to provide your company and representative name on the attendance sheet will result in the disqualification of your bid. The State will not accept any other documentation to verify attendance. The Vendor is responsible for ensuring they have completed the information required on the attendance sheet. The Purchasing Division and the State Agency will not assume any responsibility for a Vendor's failure to complete the pre-bid attendance sheet. In addition, all potential Vendors are asked to include their email address and fax number.

- 1.5 **Inquiries:** Inquiries regarding specifications of this RFQ must be submitted in writing to the State Buyer with the exception of questions regarding the bid submission which may be oral. The deadline for written inquiries is identified in the Schedule of Events, Section 1.3. All inquiries of specification clarification must be addressed to:

Shelly Murray, Buyer Supervisor  
 Purchasing Division  
 2019 Washington Street, East  
 P.O. Box 50130  
 Charleston, WV 25305-0130  
 Fax: (304) 558-4115

**No contact between the Vendor and the Agency is permitted without the express written consent of the State Buyer.** Violation may result in rejection of the bid. The State Buyer named above is the sole contact for any and all inquiries after this RFQ has been released.

- 1.6 **Verbal Communication:** Any verbal communication between the Vendor and any State personnel is **not** binding, including that made at the mandatory pre-bid conference. Only information issued in writing and added to the RFQ specifications by an official written addendum by Purchasing is binding.
- 1.7 **Addenda:** If it becomes necessary to revise any part of this RFQ, an official written addendum will be issued by the Purchasing Division.

## SECTION TWO: PROJECT SPECIFICATIONS

- 2.1 **Location:** Agency is located at 900 Pennsylvania Avenue, Charleston, WV 25302.

### 2.2 **Background and Current Operating Environment:**

2.2.1 **Commissioners' Conference Room (10<sup>th</sup> floor):** The A/V equipment for this conference room will consist of two (2) separate/combinable A/V systems. The first system will engage a large screen video projector in conjunction with two owner-furnished electric ceiling mounted screens and ceiling mounted projector lifts. The lifts and the screens will be installed by the owner's electrical subcontractor. Lift locations will be determined by the successful bidder. Sources will include a VGA/composite video and audio plate located at the front and rear of the

room for implementation of PC presentations and/or video presentations from a composite video source. This system will include a rack mount Audio Codec/DSP for audio conferencing, Blu-Ray Disc player for high resolution video playback, recording device and wireless microphones. The audio conferencing codec will be used in conjunction with table top wireless microphones which will be housed on the docking/charging station when not in use. Two (2) handheld wireless microphones are being provided for audience participation in meetings and events. An SD/USB recording device will be rack mounted for remote recording of any meeting or events.

The control portion of this system will be provided via an Ethernet control processor capable of controlling all available functionality of all hardware via bi-directional communications. Bi-directional communications will provide full feedback to and functionality of all aspects of the A/V system in the room, including the OFE CRESTRON lighting controller. A 5.7" wireless touch panel connected via wireless access point will control all user available functions of the A/V system. This will include output volume control, MACRO functions for powering on and off the A/V equipment, all recording functions, dialing functions and microphone controls, and separation of microphone functions from each half of the room for multi-room use purposes.

**2.2.2 Conference Room 1036 (10<sup>th</sup> floor).** This system will consist of a 60" LCD display, along with a control processor/switcher, a 5.7" touch panel, and ceiling mounted speakers, and an audio conferencing/DSP with ceiling mounted microphones. The remaining rack mounted gear will be located in a network closet on the same floor in the adjacent hallway. The owner will provide a location in the existing network rack to mount the equipment. All cables must be run in existing cable trays through the hallway/wall penetrations. This room will also have six (6) ceiling mounted speakers to provide sound reinforcement for audio conferences and other general audio requirements

The control portion of this system will be provided via control processor capable of controlling all available functionality of all gear with bi-directional communications. Bi-directional communications will provide full feedback to and functionality of all aspects of the A/V system in the room. A 5.7" wireless touch panel connected via wireless access point will control all user available functions of the A/V system. This will include, output volume control, MACRO functions for powering on and off the A/V equipment, dialing functions and microphone controls. The control system will include amplification and the ability to receive audio and video via CAT5 Cable. A CAT5 transmitter is included to send audio and video from any of the table location CAT5 floor jacks.

**2.2.3 Conference Room 1214 (12<sup>th</sup> floor).** This system will consist of a 60" LCD display, along with a control processor/switcher, a 5.7" touch panel, wall mounted smart board with a ceiling mounted projector, ceiling mounted speakers, and an audio conferencing/DSP with ceiling mounted microphones. The remaining rack mounted gear will be located in a network closet on the same floor in the adjacent hallway. The owner will provide a location in the existing network rack to mount the equipment. All cables must be run in existing cable trays through the hallway/wall penetrations. This room will also have 6 ceiling mounted speakers to provide sound reinforcement for audio conferences and other general audio requirements

The control portion of this system will be provided via control processor capable of controlling all available functionality of all gear with bi-directional communications. Bi-directional communications will provide full feedback to and functionality of all aspects of the A/V system in the room. A 5.7" wireless touch panel connected via wireless access point will control all user available functions of the A/V system. This will include, output volume control, MACRO functions for powering on and off the A/V equipment, dialing functions, and microphone controls. The control system will include amplification and the ability to receive audio and video via CAT5 Cable. A CAT5 transmitter is included to send audio and video from any of the table location CAT5 floor jacks.

**2.2.4 Director's Conference Room (13<sup>th</sup> floor).** The 13<sup>th</sup> Floor Conference Room will consist of a 60" LCD display, along with a control processor/switcher, a 5.7" touch panel and ceiling mounted speakers, and an audio conferencing/DSP with ceiling mounted microphones. All hardware will be located in the existing mill work. The 60" LCD will be wall mounted in the center of the conference room at the head of the table above the credenza.

The control portion of this system will be provided via control processor capable of controlling all available functionality of all gear with bi-directional communications. Bi-directional communications will provide full feedback to and functionality of all aspects of the A/V system in the room. A 5.7" wireless touch panel connected via wireless access point will control all user available functions of the A/V system. This will include, output volume control, MACRO functions for powering on and off the A/V equipment, dialing functions and microphone controls.

### **2.3 Mandatory Requirements**

The following mandatory requirements must be met by the Vendor as a part of the submitted bid. Failure on the part of the Vendor to meet any of the mandatory specifications shall result in the disqualification of the bid. The terms "must", "will", "shall", "minimum", "maximum", or "is/are required" identify a mandatory item or factor. Decisions regarding compliance with any mandatory requirements shall be at the sole discretion of the State.

2.3.1 Project shall include procurement, installation, testing, training and acceptance within sixty (60) days of issuance of purchase order.

2.3.2 Bidders must attend a mandatory pre-bid walk-through of the facility on **05/16/2012 at 1:30 PM** at 900 Pennsylvania Ave, Charleston WV 25302.

2.3.3 Pricing shall include all labor and materials for proper installation of equipment.

2.3.4 Pricing shall include cost of Crestron (or equal) and related control programming.

2.3.5 Pricing shall be all-inclusive of delivery, installation and system testing and training.

2.3.6 Bidder shall provide with its bid a written schematic or plan for the installation of the equipment.

2.3.7 Bidder shall provide a projected delivery, installation, system testing and training timeline to detail how the sixty (60) day installation will be met.

2.3.8 Bidder shall maintain manufacturers' certifications required for resellers installation, programming, warranty and maintenance support.

2.3.9 Access above the ceiling and AC power outlets to restricted points shall be coordinated by a staff member of the West Virginia Lottery Commission.

2.3.10 Installation shall include all cable access and cable raceways and cable access to all equipment. The Bidder will be responsible for installing all bidder provided hardware into the existing structure, and for providing the necessary electrical and cable connections. The bidder will provide a single point of contact to assist in readying the site for system

installation. The bidder will then be responsible for mounting, installing and connecting all components, including complete testing of the equipment.

2.3.11 A minimum of one day (eight hours) of training and documentation on operation and maintenance procedures shall be provided to designated Lottery personnel upon completion and acceptance of installation.

2.3.12 All equipment must be new, not used or refurbished. Delivery and installation must be completed within sixty (60) days of issuance of purchase order. The fully executed purchase order shall serve as the Notice to Proceed, and the date of the purchase order will determine the start of the sixty (60) day installation period.

2.3.13 All equipment must carry a minimum of a one (1) year warranty (with the exception of the Video Codec's, which shall have a three (3) year warranty on parts and labor) with on-site support as required. Bids must be all inclusive of travel expense.

2.3.14 Bidder will guarantee microphones will have no feedback.

2.3.15 Bidder will provide support response within twenty-four (24) hours of call for support.

2.3.16 Bidder must have at least 5 years of experience and have successfully completed at least 3 projects in the last 5 years of similar or larger scope. References will be required upon issue of the purchase order. Bidders will provide in **Attachment A: Bidder Response Sheet** information regarding their firm, such as staff qualifications and experience in completing similar projects; references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and what the project goals and objectives were and how they were met.

2.3.17 The model/brand/specification named herein establishes the acceptable level of quality only and is not intended to reflect a preference or favor any particular Bidder. The following specifications are to be considered minimum acceptable specification unless otherwise noted in this document. Manufacturer specification sheets must be provided with the bid. Failure to provide the manufacturer specifications may result in bidder disqualification.

As used herein, (EC)= Electrical Contractor installed.

#### **Commissioners' Conference Room (10<sup>th</sup> Floor)**

##### **Qty. Item Description**

2 OFE Draper screen (EC)

2 OFE Draper Orbiter lift (EC)

2 **Draper Low Voltage Control LVCIII (EC)**

**Input:** 115 VAC +/- 10%, 50/60 Hz

**Output:** 115 VAC, 5 Amps, 50/60 Hz. Fused with 250 VAC, 6.3 Amps UL and c-UL recognized. Two double-gang electrical boxes bolted together. One box contains the actual module, while the empty box is useful for making connections. The module contains a 3-screw terminal block for a wall switch (up, down, common), IR receiver jack, RF



receiver jack, and a user-serviceable 6.3A fuse. A spare fuse is included. There is a 6-wire pigtail for Hot, Neutral, Ground, Common, Up and Down.

## 2 Christie Digital LCD Projector LW555

Image brightness • 4000 ANSI lumens (single lamp) contrast • 1000:1 (full on/off) uniformity • 90% brightness uniformity (corner to center) Display tech type • 3 x 0.75" Inorganic LCDs native resolution • WXGA (1366 x 800) Native aspect ratio 16:10, selectable aspect ratios 16:9; 4:3, 14:9 Lamp type • 275W UHB lamp life • Normal mode: up to 2000hrs • Eco mode: up to 3000hrs Input signals • VGA through XGA (1600 x 1200) • Accepts current HDTV/DTV formats (480i up to 1080p) • NTSC, NTSC 4.43, PAL, PAL M, SECAM, PAL-N, PAL 60 pixel clock • 150MHz scan rates • Horizontal frequency range 31.5-106kHz • Vertical frequency range 56-120Hz Inputs, control and networking input • HDMI x 1 (HDCP Compliant) • HD 15 x 1 (with HD15 loop-through) • BNC x 5 (R,G,B,H,V & Y, Pb/Cb, Pr/Cr & Composite) • YPbPr (component video RCA x 3) • 1 RCA composite video • Mini DIN 4-pin (S-video) • Audio input (x 4) • Dsub-9 x 1 • LAN port • R/C Jack – Mini jack x 1 • Output HD 15 x 1 (loop-through) • Audio output x 1 mini jack output • Speakers 4W x 4 Optical system • Manual zoom, focus and lens shift Lenses fixed • Short 0.8:1 (121-100102-XX) zoom • Ships with standard lens 1.5-1.8:1 (N/A) • Short 1.2-1.9:1 (121-101103-XX) • Long 1.9-3.8:1 (121-102104-XX) • Ultra Long 3.9-7.3:1 (121-103105-XX) offsets • Vertical and Horizontal lens shift\*\* Accessories standard • Computer cable (Dsub15) • Wireless/wired remote control • AC line cord UL type (NEMA 6-20P plug type) • European 2P plug type optional • Filter cartridge (003-002119-01) • 275W UHB lamp (003-120457-01) Enhanced feature sets • Auto Detect • Auto Digital keystone (vertical) feature • Anti-theft: Kensington style slot and security bar • Support for closed caption video display (NTSC) • RJ45 LAN connection with network control and SNMP monitoring • Dynamic iris control • Customizable start-up logo Power requirements operating voltage • 90-132 VAC ±10% • 198-264 VAC ±10% operating current • 5.0A max (AC100V) • 2.1A max (AC200V) power • 460W max dissipation • 1570BTU/hr max Dimensions: size • Body with lens (LxWxH): 12.52 x 16.46 x 5.47" (318 x 418 x 139mm) weight • 15.8lbs (7.2kg) with lens shipping weight • 25.57lbs (11.6kg) shipping size • (LxWxH): 18.8 x 21.9 x 9.6" (478 x 555 x 244mm) Noise • Standard mode: 37dBA • Eco mode: 31dBA Operating environment • Operating temperature: 40-95°F (5-35°C) • Storage temperature: 14-140°F (-10-60°C) • Humidity (non-condensing): 10-85% Regulatory approvals • This product should conform to the following regulations related to product safety, environmental requirements and electromagnetic compatibility (EMC): • FCC Part 15, Subpart B Class A • CISPR22/EN55022 • CISPR24/EN55024 • UL 60950-1 first edition • CAN/CSA-C22.2 No 60950-1-03 first edition • IEC60950-1:2001 • 2002/95/EC RoHS Limited warranty projector • 3 years parts and labor lamp • 500hrs or 120 days (whichever comes first)

## 10 JBL Ceiling mounted loud speaker Control 24 CT

Freq. Range (-10 dB)1: 80 Hz - 20 kHz

Power Capacity 2: 80 Watts Continuous Program Power 40 Watts Continuous Pink Noise

Nominal Sensitivity 3: 86 dB SPL @ 1 m (3.3 ft)

Nominal Coverage Angle 4: 130° conical coverage

Directivity Factor (Q): 2.4 averaged 500 Hz to 4 kHz

Directivity Index (DI): 3.8 averaged 500 Hz to 4 kHz Rated

Maximum SPL: 102 dB @ 1 m (3.3 ft)

Nominal Impedance (24C): 16 ohms (Min Z 16.1 Ω @ 320 Hz)

Transformer Taps (24CT): 70V: 30W, 15W, 7.5W & 3.7W taps 100V: 30W, 15W, & 7.5W

taps Transducers: Low-Frequency: 100 mm (4.0 in) Polypropylene-coated, 1" coil on

aluminum former. High-Frequency: 19 mm (0.75 in) Titanium coated polyester.

Physical: Enclosure: Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0

Overload Protection: Full-range power limiting to protect network and transducers. (On Control 24C, not on Control 24CT)

Termination: Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm<sup>2</sup>)

Safety Agency Rating: Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849.

Outside Dimensions (H x Dia): 200 x 195 mm (7.9 x 7.7 in) 184 mm (7.2 in) front of ceiling tile to back of backcan Cutout Size: 168 mm (6.6 in) Net Weight (ea): 2.7 kg (6 lb) CT: 3.5 kg (8 lb)

Shipping Weight (pair): 6.4 kg (15 lb) CT: 8.0 kg (18 lb)

Included Accessories: C-shaped support backing plate 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) Cutout template Paint shield Removable locking wiring connector.

## 1 QSC 8 Channel Amplifier CX108V

8 $\Omega$  / 20 Hz – 20 kHz / 0.05% THD 200 W, Signal to Noise (20 Hz – 20 kHz) > -107 dB, Input Sensitivity at 8 $\Omega$  1.26 Vrms, Gain at 8 $\Omega$  30 dB, Output Circuitry Class AB+BDistortion (typical) 20 Hz – 20 kHz: 10 dB below rated power < 0.01% THD 1.0 kHz and below: full rated power < 0.01% THD Frequency Response 20 Hz - 20 kHz,  $\pm$  0.2 dB Damping Factor > 500 Input Impedance 6k ohms unbalanced, 12k ohms balanced Input Clipping 10 Vrms (+22 dBu) Cooling Variable-speed fan, rear-to-front air flow

Connectors Input: 3-pin XLR & 3-pin detachable terminal blocks (1 each per channel) Output: Safety shrouded barrier strip Amplifier Protection Full short circuit, open circuit, thermal, ultrasonic, RF protection. Stable into reactive or mismatched loads Load Protection On/off muting, DC-fault power supply shutdown

Dimensions (HWD) 3.5" (8.9 cm) 2 RU x 19" (48.3 cm) rack mounting x 14" (35.6 cm) from front mounting rails

Weight - Net / Shipping 21 lb (9.5 kg) / 27 lb (12.3 kg)

## 1 Denon USB Recording Device DN-F650R

Compatible recording media SD/SDHC card, USB flash memory, external USB recording media Recording format MP3 MPEG1 Layer III audio compression WAV 16/24-bit linear PCM Recording MP3 bitrate(selectable) MONO 160, 128, 96, 64, 32 kbps STEREO 320, 256, 192, 128, 64 kbps Sampling frequency 96 kHz, (PCM recording only), Number of channels 2 (STEREO)1 (MONO)

Audio frequency characteristics 20 – 40,000 Hz  $\pm$  1.0 dB (Fs=96kHz)

S/N ratio, IEC-A filter 96 dB(0dBFS During playback at 1 kHz)

Total harmonic distortion (at 0 (AES-17 20kHz filter) VU (PCM))

Dynamic range 96 dB Variable pitch width -40% – +20%

### INPUT

Balanced in L/R Type XLR (1:GND, 2:Hot, 3:Cold)

Input sensitivity +24 dBu,+20 dBu,+18 dBu,0 dBu / 24 k $\Omega$  (0dBFS Reference) Line in L/R

Type RCA terminal Input sensitivity 500 mVrms/22 k $\Omega$  Unbalanced digital in Type RCA terminal Input impedance 75  $\Omega$  Standard input level 0.5 Vp-p Format IEC-60958 (SPDIF)

Balanced digital in Type XLR (1:GND, 2:Hot, 3:Cold) Input impedance 110  $\Omega$  Standard

input level 3.5 Vp-p Format IEC-60958 (AES/EBU)

## 1 **Biamp Digital Signal Processor Nexia TC**

8 wide-band AEC balanced mic/line inputs • 2 standard balanced mic/line inputs • 4 balanced mic/line outputs • telephone interface with line & set connections • Ethernet port for software configuration/control • serial port for third-party RS-232 remote control • NexLink ports for multi-unit system designs • Nexia software for Windows® XP Professional/Vista • pre-configured I/O with definable processing • **RoHS** compliance and **AES** grounding practices • **CE** marked and **UL/C-UL** listed • covered by Biamp Systems' five-year warranty • Ability to select, view, and calibrate: Mixers, Equalizers, Filters, Crossovers, Dynamics, Routers, Delays, Controls, Meters, Generators, Diagnostics • Telephone Interface capabilities include: ° initiation of outgoing calls ° detection and answering of incoming calls ° line echo cancellation ° TouchTone™ decoding ° caller ID reception ° call progress detection ° line intrusion detection ° continuous line status and fault monitoring Frequency Response (20Hz~20kHz @ +4dBu): +0/-0.4dB THD+N (20Hz~20kHz @ +4dBu): line level < 0.006% mic level < 0.05% Equivalent Input Noise (20Hz~20kHz, 66dB gain, 150 ohm): -125bBu Dynamic Range 20Hz~20kHz, 0dB): > 105dB Maximum Gain (input channels): 66dB

Crosstalk (channel-to-channel @ 1kHz): line level < -80dB mic level < -75dB Output Impedance (balanced): 200 ohms Input Impedance (mic/line balanced): 8k ohms Input Gain Range (variable trim): 0dB ~ +66dB Maximum Output (balanced): +24dBu Maximum Input (mic/line): +24dBu Full Scale Output Level (six selections) -31dBu ~ +24dBu Telephone Interface: ringer equivalency number 0.0B dynamic range 67dBu frequency response 250Hz ~ 3.4kHz

THD < 0.3% transhybrid balance 30dB Tail Length: up to 300ms

Convergence: up to 100dB/sec Phantom Power: +48 VDC (7mA/input)

Sampling Rate: 48kHz A/D - D/A Converters: 24-bit Power Consumption (100~240VAC 50/60Hz): 65 watts

Dimensions: height 1.75 inches (45mm) width 19 inches (483mm) depth 11.15 inches (283mm) Weight: 8.6 lbs. (3.9kg) Compliance: AES48-2005 Grounding & EMC practices EU Directive 2002/95/EC, RoHS directive CE marked UL listed

## 2 **Telex Wireless Microphone FMR500HD-A**

Receiver Type Synthesized PLL Frequency Range (RF) A Band 648 – 676 MHz B Band 696 – 724 MHz Number of Channels 1112 possible frequencies Programmable in 25 kHz steps Modulation +/- 40 kHz

Diversity Digital Posi-Phase™ True Diversity RF Sensitivity < 1.0 mV for 12 dB SINAD Image Rejection > 60dB Squelch Tone Code plus Amplitude Ultimate Quieting > 100dB FCC Certification Approved under Part 15 Power Requirements 12 V AC/DC 300mA Operating Temperature -7° to 49° C (20° to 120° F) Dimensions 1.72" H x 7.5" W x 5.9" D 43.69mm H x 190.50mm W x 150mm D

### AUDIO PARAMETERS:

Frequency Response 50 – 15kHz +/- 2dB Balanced Output (max @ 40kHz deviation) Mic Position -10dBV Line Position adjustable 10mV - 2V RMS Unbalanced Output adjustable 10mV - 1V RMS Distortion <1.0%, 0.5% typical (ref 1kHz, 40kHz deviation) Signal-to-Noise Ratio >100dB A Weighted Dynamic Range >100dB Radiated Output 30 mW typical Microphone Head ElectroVoice767a N/D 767a supercardioid N/DYM Dynamic Microphone Head ElectroVoice RE410 cardioid condenser Standard Lavalier Microphone ELM-22S MicroMini™ Omni-Directional Condenser TA4 Connector Wiring Pin 1: Ground; Pin 2 Mic Input; Pin 3: +5V bias; Pin 4: +5V bias through a 3k Ohm resistor Audio Gain Adjustment 40 dB (26dB HT500) Power Requirements 9 Volt Alkaline Battery Battery Life (Typical) > 8 hours with 9-Volt Alkaline Typical Bodypack Antenna Flexible external 1/4 wave Handheld Antenna Internal 1/2 wave Dimensions (Handheld) 9.4 in. (24.0cm) Long Dimensions

(Bodypack) 3.8 in. H x 2.38 in. W x 0.92 in. D 96.5 mm H x 60.5 mm W x 23.4 mm D

**1 Revo Labs Wireless Microphone system  
01-HDEXEC-NM**

**Audio Bandwidth** 50-20,000 Hz Selectable 50-12,000 Hz mode

**Channels** 4 or 8 channels per system North America 32 channels maximum (4 systems)  
International 40 channels maximum (5 systems)

**Radio Frequency** North America 1.92 to 1.93 GHz (UPCS North America) International  
1.88 to 1.90 GHz (DECT EU)

**Range** 300' (91 meters) approx. (no obstructions) Out-of-range alarm

**Executive HD Base Station Dimensions** 16.9" (43.03 cm) x 8.0" (20.32 cm) x 1.7" (4.42  
cm) 2.9 lbs (1.31 kg)

**HD Charger Base Dimensions** 8.3" (21.1 cm) x 4.3" (10.9 cm) x 1.0" (2.56 cm) 1.1 lb (.49  
kg) **HD Charger Base Connectors** USB port DC power input port Proprietary 4 pin  
microphone charge jacks

**HD Charger Base Power Requirements** 20W

**Battery** Lithium Polymer Up to 8 hours of talk time **Charge Time** 2 hours

**Encryption** 128-bit proprietary (per microphone channel)

**Environmental Requirements** Temperature 40° to 100° F (5° to 40° C) operating Humidity  
20% to 85%

**8 Revo Labs Directional Microphone  
01-HDTBLMIC-DR-11**

**HD Wireless Microphone Features** Mute Button for muting and pairing LED Display for  
muting and pairing Audio Out port– 2.5 mm unbalanced Power/Charging Port– Requires  
Revolabs HD Charger Base

**Audio Bandwidth** 50-20,000 Hz

**Radio Frequency** North America

1.92 to 1.93 GHz (UPCS North America) International 1.88 to 1.90 GHz (DECT EU)

**Encryption** 128-bit proprietary (per microphone channel)

**Battery** Lithium Polymer Up to 8 hours of talk time **Charge Time** 2 hours

**HD Directional Wireless Microphone** 3.54" (9 cm) x 1.0" (2.5 cm) x .69" (1.75 cm) 0.07 lb  
(.03 kg)

**HD**

**1 Crestron Wireless Access Point  
CEN-WAP-ABG-Cm**

**Wireless** Transceiver: IEEE 802.11a/b/g Wi-Fi (5.8 or 2.4 GHz 2-way RF); 64, 128, & 152-bit  
WEP encryption; WPA & WAP2 with TKIP & AES Transmit Power: Up to 19 dBm

**Ethernet** 10BaseT/100BaseTX, auto-switching, auto-negotiating, auto-discovery, full/ half  
duplex, TCP/IP, UDP/IP, DHCP client and server; SNMP, IEEE 802.3u &  
802.3af compliant

**Controls and LED Indicators**

LAN: (1) Green LED, indicates wired Ethernet activity and link status

Wi-Fi: (1) Green LED, indicates Wi-Fi activity and connection status

Reset: (1) Recessed miniature pushbutton for hardware reset

**Connectors - Rear Panel** NETWORK PoE: (1) 8-wire RJ45, female;

10BaseT/100BaseTX Ethernet port, 802.3af Power over Ethernet compliant; Connects to  
LAN via a 802.3af compliant PoE power source

**Power Requirements** Power over Ethernet: IEEE 802.3af Class 1 PoE Powered Device



**Enclosure** Injection-molded plastic, paintable white matte finish, ceiling mountable using a 1-gang plaster ring or electrical box (2 inch deep minimum)

**Environmental** Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% RH (non-condensing) Heat Dissipation: 11 BTU/Hr

**Dimensions** Height: 2.54 in (65 mm)

Diameter: 4.73 in (120 mm)

**Weight** 6.0 oz (168 g) Available Models CEN-WAP-ABG-CM: Ceiling Mount 802.11a/b/g Wireless Access Point CEN-WAP-ABG-POE-PWE-CM: Ceiling Mount 802.11a/b/g Wireless Access Point w/PoE Injector Included Accessories PWE-4803RU PoE Injector [Included Quantity for CEN-WAP-ABG-POE-PWECM: 1] Available Accessories PWE-4803RU: PoE Injector CEN-SW-POE-5: 5-Port PoE Switch CEN-SWPOE-24: 24-Port Managed PoE Switch

## 1 **Crestron Control Processor** **MPS300** **Processor**

**CPU:** 32-bit Freescale ColdFire® Microprocessor **Memory** 32 MB SDRAM, 256 KB NVRAM, 16 MB Flash **Operating System** Real-time, preemptive, multitasking kernel, multi-threaded; FAT3 filesystem with long names; supports SIMPL™ Windows® and SIMPL+®

**Ethernet** 10/100BaseT, static IP or DHCP/DNS, SSL, auto-negotiating, full duplex TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control®2 XPanel and RoomView® applications

**Video Switcher:** 8x7 crosspoint matrix including 3x3 QM signal routing, local QM delay skew compensation, RGB pass-thru mode (multi-format via RGB output connection)

**Signal Types:** RGB and composite, S-Video, or component video (does not transcode)

**Video/HDTV Formats:** NTSC or PAL, HDTV up to 1080i/1080p **RGB Formats:** RGBHV, RGBS, RGsB **Maximum Resolution:** 2048 X 1536 @ 60Hz (1920 X 1200 @ 60Hz via QM)

**Blanking Time:** < 0.1 second **Sync Rise/Fall Time:** 3.5 ns maximum

**Sync Latency:** < 30 ns **Gain:** 0dB (75 ohms terminated) **QM Cable Compensation:** 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R, G, and B) **Audio Switcher/Preamp:** 8x4 stereo crosspoint matrix including 3x3 QM signal routing, 2-channel gated mic preamp with compressor & limiter, 8-channels mic EQ, 10X5 mic/program matrix mixer, 8x2 mic matrix mixer per each of 3 QM outputs, stereo volume/tone control and EQ per each of PROGRAM and RECORD outputs, mono volume/tone control and EQ/delay on SPEECH output, integrated power amplifier, QM auto-compensation with self-peaking **A-D/D-A Conversion:** 24-bit, 48 kHz **Volume Range:** -80 to +20 dB, 0.1dB steps (output); -80 to 0 dB, 0.1dB steps (mixer)

**Mute:** -100dB (electronic), -120dB (relay) **Input Compensation:** ±10dB, 0.1dB steps **Mic Input Gain:** 0 to 100 % (40dB range) plus mute **Gate Level (Threshold):** 0 to 100 % **Gate Attack:** 0 to 100 mS

**Gate Decay (Release):** 0 to 5000 mS **Gate Depth:** -80dB (mute) to 0dB, 0.1dB steps **Compression Threshold:** -80dB to +20dB, 0.1dB steps **Limit Threshold:** 0dB to 20dB, 0.1dB steps **Comp/Lim Attack:** Separately adjustable 0.1 to 300 mS **Comp/Lim Release:** Separately adjustable 1 to 500 mS **Compression Ratio:** 1.0:1 to 10.0:1 **Comp/Lim Curve:** Separately selectable hard or soft knee **Mic EQ:** ±12dB, 0.1 dB steps at 160, 500, 1.2k, and 3k Hz **Bass/Treble:** ±12dB, 0.5dB steps at 100Hz and 10kHz **Output Equalization:** 10-band graphic (GEQ) + 2-band parametric (PEQ) **GEQ:** ±12dB, 0.1dB steps at 31, 63, 125, 250, 500, 1k, 2k, 4k, 8k, and 16k Hz **PEQ Filter Gain/Center Frequency:** ±12dB, 0.1dB steps at 25Hz to 20kHz, 0.5Hz steps **PEQ Filter Bandwidth:** 0.1 to 3.0 octaves, 0.1 octave steps **PEQ Filter Types:** Low Pass, High Pass, Peaking Eq, Notch, Treble Shelf, Bass Shelf **Speech Output Delay:** 0 to 40 mS, 1mS steps **Frequency Response:** 20Hz to 20kHz

±0.5dB (PROG/REC OUT), 50Hz to 20kHz ±0.5dB (SPEECH OUT), 20Hz to 20kHz ±0.5dB (SPEAKER @ 8 ohms), 100Hz to 20kHz ±1.5dB (SPEAKER @ 70V or 100V) **S/N Ratio:** 95dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz A-weighted), 95dB (SPEECH OUT @ 10dBV, 50Hz to 20kHz A-weighted), 90dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz A-weighted), 90dB (SPEAKER @ 70V or 100V, full output, 20Hz to 20kHz A-weighted) **THD+N:** 0.02% (PROG/REC OUT @ 10dBV, 20Hz to 20kHz), 0.02% (SPEECH OUT @ 10dBV, 50Hz to 20kHz), 0.7% (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz), 0.7% (SPEAKER @ 70V or 100V, full output, 100Hz to 20kHz A-weighted) **Stereo Separation:** -80dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz), -60dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz) **Channel Crosstalk:** -80dB (AUD IN @ 10dBV, 20Hz to 20kHz)

## 1 Crestron Touch Panel

### TPS-6X

#### Touchscreen Display

Display Type: TFT Active matrix color LCD Size: 5.7 inch (145 mm) diagonal Aspect Ratio: 4:3 VGA Resolution: 640 x 480 pixels

Brightness: 350 nits (cd/m<sup>2</sup>) Contrast: 400:1 Color Depth: 18-bit, 256k colors

Illumination: Backlit fluorescent Viewing Angle: ±80° horizontal, +80°/-70° vertical

Touchscreen: Resistive membrane

**Buttons & Switches** Sleep: (1) Programmable top-mounted pushbutton (left); normally initiates "Sleep" mode when docked, turns power on/off when undocked; also resets touchpanel if held for 5 seconds Brightness: (1) Programmable top-mounted pushbutton (right), normally sets display brightness level Hard Keys: (8) Optional programmable pushbuttons, engravable backlit text [2] (default engraving included) Up/Down: (2) Optional programmable "up/down" pushbuttons, backlit, engravable backlit text[2] on bezel (default engraving included) Thumbpad: (5) Optional programmable pushbuttons for 4-way directional navigation and "enter", backlit

Battery: (1) Rear panel recessed DIP switch, shuts off battery for long-term storage **LED Indicators** Battery: (1) Green LED, indicates battery condition and charging status when docked

**Connectors** Docking Connector: (1) multi-pin connector; Mates with the docking port on the docking station[6] See the TPS-6X-IMCW interface module[6] specification for other connectors

**Memory** SDRAM: 32 MB Flash: 32 MB Maximum Project Size: 28 MB

**Graphic Engine** lsys engine; 16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm; multi-mode objects, DNav dynamic menu objects, dynamic graphics, PNG translucency, full-motion (60 fps) animation, color key video windowing

**RF Wireless** RF Transceiver: 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), IEEE 802.15.4 compliant Transmitting Power: 75 mW (Ch.11), 100 mW (Ch.12-23), 15 mW (Ch.24), 3.5 mW (Ch.25), 1 mW (Ch.26) @ High Setting; 1 mW (Ch.11-25), 0.5 mW (Ch.26) @ Low Setting Range (typical): 100 to 200 feet maximum indoor, 1000 feet outdoor, subject to site-specific conditions Gateway: Requires a CEN-HPRFGW Extended Range RF Gateway[5] Roaming: Supports roaming amongst up to 8 RF gateways

**IR Wireless[1]** IR Transmitter: 38 kHz, RC5 format

Range: 50 feet typical

## 2 Crestron QMWMC

**Video** Signal Types: RGB and composite, S-Video, or component[2] video Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p[2]

RGB Formats: RGBHV, RGBS, or RGsB Gain: 0dB (75 ohms terminated)

Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation at receiver

**Audio** A-D Conversion: 24-bit, 48 kHz Frequency Response: 20Hz to 20kHz

**Communications** QuickMedia: QM origination point device[1] Cresnet: Cresnet slave device

**Connectors - Front Panel** S-VIDEO: (1) 4-pin mini DIN female, S-Video (Y/C) input; Input Impedance: 75 Ohms; Maximum Input: 1 Vp-p; Signal sensing on Y S-VIDEO AUDIO R, L: (2) RCA female; Unbalanced stereo line-level audio input; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms VIDEO: (1) RCA female, composite video input; Input Impedance: 75 Ohms; Maximum Input: 1 Vp-p; Includes signal sensing VIDEO AUDIO R, L: (2) RCA female; Unbalanced stereo line-level audio input; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms COMPUTER: (1) DB15HD female; RGB(VGA)/component video input[2]; Formats: RGBHV, RGBS, RGsB, YPbPr; Input Impedance: 75 Ohms; H Sync Impedance: 1k Ohms; V Sync Impedance: 2.2k Ohms; Maximum Input Level: 1 Vp-p; Maximum Sync Level: 5 Vp-p; Signal sensing on H-SYNC only AUDIO (computer): (1) 3.5mm TRS mini phone jack; Unbalanced stereo line-level audio input; Input Impedance: 10k Ohms; Maximum Input Level: 1 Vrms MONITOR: (1) DB15HD female, buffered RGBHV pass-thru

**Connectors - Rear Panel** QM: (1) 8-wire RJ45 female, QuickMedia output port; Connects to QM input port of any QuickMedia device via CresCAT-QM or CresCAT-IM cable[1] NET: (2) 4-pin 3.5mm detachable terminal blocks; Cresnet slave ports, paralleled; connect to Cresnet control network via CresCAT-QM or Cresnet cable GROUND: (1) Flying lead, grounding wire TO MIC: (1) 14-pin header; Accepts connection from optional QM-WMIC (sold separately) **Controls & Indicators** PWR: (1) green LED, indicates 24 Volts DC power supplied from Cresnet network NET: (1) yellow LED, indicates communication with Cresnet system SETUP: (1) miniature pushbutton and red LED, used for touch-settable ID (TSID) COMP: (1) red LED, indicates a signal at the COMPUTER input VIDEO: (1) red LED, indicates a signal at the VIDEO input S-VID: (1) red LED, indicates signal at the S-VIDEO input

**Power Requirements** Cresnet Power Usage : 5 Watts (0.21 Amp @ 24 Volts DC); 8 Watts (0.33 Amp) with QM-WMIC installed

**Environmental** Temperature: 41° to 104°F (5° to 40°C) Humidity: 10% to 90% RH (non-condensing) Heat Dissipation: 17 BTU/Hr

**Enclosure** Construction: Metal with black finish Flush Wall Mount: 2-gang mountable in a standard electrical box (2-1/2 inch deep minimum); requires decorator style faceplate (not included)

**Dimensions** Height: 4.12 in (105 mm) Width: 3.50 in (89 mm) Depth: 2.61 in (67 mm)

**Weight** 8.0 oz (230 g) Available Models QM-WMC: QuickMedia Wall Plate Media Center Available Accessories CRESCAT-QM-NP-SP500: QuickMedia® Cable, Low-skew CAT5e & Cresnet, non-plenum, 500 ft spool CRESCAT-QM-P-SP500: QuickMedia® Cable, Low-skew CAT5e & Cresnet, plenum, 500 ft spool QM-WMIC: Microphone Input Module.

## 1 Sony Blu Ray Player

### BDP-S480s

Video DVD  DVD 24p output : Yes BD  HD (24Hz) (24p True Cinema) : Yes  HD (50Hz) : No  HD (60Hz) : 480i/480p/720p/1080i/1080p  HD 24Hz to 60Hz conversion : Yes

General Features  Region Code (BD) : A  Region Code (DVD) : 1

Convenience Features  USB Keyboard : Yes (standard 101 Key)

BRAVIA® Sync™ : Yes  Bit Rate Indicator (Video) : Yes

Child Lock : Yes  Easy Setup : Yes

File System : FAT32/NTSF USB and HDD (Read Only)

Media Remote : Yes (Media Remote 1.1, 2.0 and above)

Weights and Measurements  Dimensions (Approx.) : 17" x 1.4" x 7.8" (430 x 36 x 199mm)

Power  Power Consumption (in Operation) : 20W  Power Requirements (frequency) :

60Hz  Power requirements (voltage) : 120V Inputs and Outputs  HDMI Output(s) : 1



(Rear)  Composite Video Output(s) : 1 (Rear)  Component Video Output(s) : 1 (Rear)  Digital Audio Output(s) : 1 (Rear)  USB Input(s) : 2 (1 Rear/ 1 Front)  Ethernet Connection(s) : 1 (Rear)  Analog Audio 2ch Output(s) : 1 (Rear) Function  PREV/NEXT : Yes  Parental Control : Yes  Play / Stop / Pause : Yes  REV/ FWD : Yes  Repeat (All/ 1title) : Yes  Screen Saver : Yes Video Features  Preset Picture mode Cinema tuned : Yes (Theater room/Brighter room/Standard room/Film/Anime/Auto)  24p True Cinema™ Technology : Yes

3D Playback : Yes  BD-R/RE Read Compatibility : Yes (BD-R / BD-RE)  BD-ROM : Bonus View(Profile1.1); BD-Live(Profile2.0); BD-ROM (SL/DL)  DVD Camcorder 8cm DVD : Yes RW/-R (+VR)  DVD Playback : Yes  DVD+R Read Compatibility : Yes (+VR)  DVD+RW Read Compatibility : Yes (+VR)  DVD-R Read Compatibility : Yes  DVD-RW Read Compatibility : Yes (+VR)  JPEG Playback : BD/DVD/CD/USB/DLNA  Noise Reduction : Yes (BNR on DVDs Only)

PhotoTV HD : Yes  x.v.Color™ Technology : Yes Audio Features

Music : BD/DVD/CD/USB/DLNA (non secured)  DTS : D/DVD/CD/USB/DLNA (non secured)  LPCM : BD/DVD/CD/USB/DLNA (non secured)  MP3 Playback : BD/DVD/CD/USB/DLNA (non secured)  SA-CD : Yes Video  Deep Color : Yes  Precision Cinema HD Upscale : Yes Network Features/SEN Wi-fi  USB Wi-Fi Ready : Yes (UWA-BR100 adapter not supplied) Supported Media Video  MPEG-1 Video/PS (.mpg .mpeg, .m2ts, .mts) : BD/DVD/CD/USB/DLNA

MPEG-2 Video/PS, TS (.mpg.mpeg, .m2ts, .mts) : BD/DVD/CD/USB/DLNA

## 1 Misc. Audio/Video cable and Connectors

### 1 Middle Atlantic Equipment Rack (24RU) WRK-24SA-27

Stand-alone equipment rack shall be Middle Atlantic Products model # WRK-2SA-27 (see chart for available models). Overall dimensions of rack shall be 48.125"H x 24.25"W x 27.6"D (refer to chart). Useable height shall be 24 rackspaces, useable depth shall be 25.75" (refer to chart). Fully welded construction shall provide a static load capacity of 10,000 lbs. and a UL Listed 2,500 lb. weight capacity. Top and bottom shall be 14-gauge steel, horizontal braces shall be 16-gauge steel welded to integral structural side panels of 16-gauge steel giving an 1/8" thick structure, all structural elements shall be finished in a durable black powder coat. Rack shall include a locking, latching rear door. Rack shall come equipped with two pairs of 11-gauge steel rackrail with tapped 10-32 mounting holes in universal EIA spacing.

Rackrail shall be finished in black e-coat with numbered rackspaces. Top and bottom of rack shall have a vertical slotted vent pattern. The WRK shall have a solid locking rear door. Rack shall have removable split rear knockout panels with 1/2", 3/4", 1", and 1-1/2" electrical knockouts installed in base, and removable split rear knockout panels with electrical knockouts and BNC knockouts for UHF/VHF antennae installed in top. Fully welded sides shall feature vertical vent pattern at top and bottom. Grounding and bonding stud shall be 1/4-20 threaded, installed in base of enclosure. WRK-24MDK shall additionally include a 3/4" thick, graphite-marbled laminate top, skirted wheel-base, latching front plexi door, latching vented rear door and front and rear rackrail. WRK-SA Series enclosures shall satisfy the 2007 & 2010 CBC; 2006, 2009 & 2012 IBC; ASCE 7-05 (2005 Edition) & ASCE 7-10 (2010 Edition) and the 2006 & 2009 editions of NFPA 5000 for use in areas of high seismicity, Seismic Use Group III, Zone 4 or Seismic Design Category (SDC) "D" with lateral force requirements for protecting 900 lbs. of essential equipment in locations with the highest level of seismicity and top floor or rooftop installations with an Importance factor (Ip) of 1.5 when used with WRK-Z4 seismic floor anchor bracket. WRK shall be UL Listed in the US and Canada. WRK shall be GREENGUARD Indoor Air Quality Certified for Children and Schools. WRK shall be RoHS EU Directive 2002/95/EC compliant. WRK shall be manufactured by an



ISO 9001 and ISO 14001 registered company. Rack shall be warranted to be free from defects in material or workmanship under normal use and conditions for the lifetime of the product.

**1 Labor**

**Conference Room 1036**

**1 iBIAmp Digital Signal Processor Nexia TC**

8 wide-band AEC balanced mic/line inputs • 2 standard balanced mic/line inputs • 4 balanced mic/line outputs • telephone interface with line & set connections • Ethernet port for software configuration/control • serial port for third-party RS-232 remote control • NexLink ports for multi-unit system designs • Nexia software for Windows® XP Professional/Vista • pre-configured I/O with definable processing • **RoHS** compliance and **AES** grounding practices • **CE** marked and **UL/C-UL** listed • covered by Biamp Systems' five-year warranty • Ability to select, view, and calibrate: Mixers, Equalizers, Filters, Crossovers, Dynamics, Routers, Delays, Controls, Meters, Generators, Diagnostics • Telephone Interface capabilities include: ° initiation of outgoing calls ° detection and answering of incoming calls ° line echo cancellation ° TouchTone™ decoding ° caller ID reception ° call progress detection ° line intrusion detection ° continuous line status and fault monitoring Frequency Response (20Hz~20kHz @ +4dBu): +0/-0.4dB THD+N (20Hz~20kHz @ +4dBu): line level < 0.006% mic level < 0.05% Equivalent Input Noise (20Hz~20kHz, 66dB gain, 150 ohm): -125dBu Dynamic Range 20Hz~20kHz, 0dB): > 105dB Maximum Gain (input channels): 66dB

Crosstalk (channel-to-channel @ 1kHz): line level < -80dB mic level < -75dB Output Impedance (balanced): 200 ohms Input Impedance (mic/line balanced): 8k ohms Input Gain Range (variable trim): 0dB ~ +66dB Maximum Output (balanced): +24dBu Maximum Input (mic/line): +24dBu Full Scale Output Level (six selections) -31dBu ~ +24dBu Telephone Interface: ringer equivalency number 0.0B dynamic range 67dBu frequency response 250Hz ~ 3.4kHz

THD < 0.3% transhybrid balance 30dB Tail Length: up to 300ms

Convergence: up to 100dB/sec Phantom Power: +48 VDC (7mA/input)

Sampling Rate: 48kHz A/D - D/A Converters: 24-bit Power Consumption (100~240VAC 50/60Hz): 65 watts

Dimensions: height 1.75 inches (45mm) width 19 inches (483mm) depth 11.15 inches (283mm) Weight: 8.6 lbs. (3.9kg) Compliance: AES48-2005 Grounding & EMC practices EU Directive 2002/95/EC, RoHS directive CE marked UL listed

**3 CROWN PZM-10**

Polar pattern, hemispherical.

Frequency range PZM®-10: 80 to 20,000 Hz; PZM®-10LL: 100 to 20,000 Hz

Sensitivity PZM®-10: 2.5 mV/Pa (-52 dBV); PZM®-10 LL: 1.4 V/Pa (+3 dBV) Max. SPL 120 dB

Equivalent noise level 26 dB-A Signal/noise ratio 68 dB (A-weighted)

Impedance PZM®-10: 240 ohms; PZM®-10 LL: 75 ohms

Connector PZM®-10: 3-pin XLR; PZM®-10 LL: stripped and tinned leads

Finish Off-white. May be painted any color.

Dimensions ø 3.9 cm x 7.2 cm (ø 1.53 x 2.829 in.)

Net weight PZM®-10: 74 g (22,6 oz.); PZM®-10 LL: 93 g (3,3 oz.) ROHS OK

**1 Denon USB Recording Device DN-F650R**

Compatible recording media SD/SDHC card, USB flash memory, external USB recording media Recording format MP3 MPEG1 Layer III audio compression WAV 16/24-bit linear PCM Recording MP3 bitrate (selectable) MONO 160, 128, 96, 64, 32 kbps STEREO 320, 256, 192, 128, 64 kbps Sampling frequency 96 kHz, (PCM recording only), Number of channels 2 (STEREO)1 (MONO)  
 Audio frequency characteristics 20 – 40,000 Hz  $\pm$  1.0 dB (Fs=96kHz)  
 S/N ratio, IEC-A filter 96 dB(0dBFS During playback at 1 kHz)  
 Total harmonic distortion (at 0 (AES-17 20kHz filter) VU (PCM))  
 Dynamic range 96 dB Variable pitch width -40% – +20%

#### **INPUT**

Balanced in L/R Type XLR (1:GND, 2:Hot, 3:Cold)  
 Input sensitivity +24 dBu,+20 dBu,+18 dBu,0 dBu / 24 k $\Omega$  (0dBFS Reference) Line in L/R Type RCA terminal Input sensitivity 500 mVrms/22 k $\Omega$  Unbalanced digital in Type RCA terminal Input impedance 75  $\Omega$  Standard input level 0.5 Vp-p Format IEC-60958 (SPDIF) Balanced digital in Type XLR (1:GND, 2:Hot, 3:Cold) Input impedance 110  $\Omega$  Standard input level 3.5 Vp-p Format IEC-60958 (AES/EBU)

### **1 LG 60" Display 60PV450C**

**PLASMA MODULE** Screen Size 60" class (59.8" measured diagonally) Native Display Resolution 1920 x 1080 Brightness 1,500 cd/m<sup>2</sup> Dynamic Contrast Ratio 3,000,000:1 Protective Skin Glass Yes Color Reproduction (Panel Output) 16 Bit ISM (Image Sticking Minimization) White Wash / Orbiter / Color Wash 600Hz Sub-Field Driving Yes (600Hz Max Sub-Field Driving) Life Span (typical) 100,000 Hours

**VIDEO** Built-in tuner ATSC/NTSC/Clear QAM - 1 Tuner Dual XD Engine Yes Aspect Ratio 16:9 Aspect Ratio Correction 6 Modes (16:9 Just Scan, Set by Program, 4:3, Zoom1, Cinema Zoom1) Just Scan (1:1 Pixel matching) HDMI 1080p/1080i/720p (0% overscan) Component 1080p/1080i/720p RF 1080i/720p Enhanced Noise Reduction 3D & MPEG Color Temperature Control 3 Modes (Warm, Medium, Cool) 24p Real Cinema (3:3 Pulldown) Yes (HDMI 1080 24p) Cinema 3:2/2:2 Pulldown Mode Yes Picture Reset Yes AV Mode (Picture & Mode) Yes Picture Mode 8 Modes (Vivid, Standard, APS, Cinema, Game, Sports, Expert 1, Expert 2) XD Color (Active Color Management) Yes ISFccc Ready Yes Intelligent Sensor Mode Yes xvYCC Yes DTV Signal Strength (Digital) Yes PC Resolution 1920 x 1080 @ 120Hz or better Color Reproduction (Chassis Output) 10-Bit

**AUDIO** Mono/Stereo/Dual (MTS/SAP) Yes Audio Output (Watts - THD 10%) 10W + 10W Speaker System Invisible Speaker (1 Way 2 Speaker) Dolby Digital 5.1 Decoder Yes Surround System Infinite Sound Bass/Treble/Balance Yes Smart Volume Leveler (Auto Volume Leveler) Yes Clear Voice II Yes Auto Volume Leveler II Yes Sound Mode 5 Modes (Standard, Music, Cinema, Sports, Game) Mute Yes

**SPECIAL FEATURES** USB 2.0 MP3 & JPEG Public Display Settings Yes (V 2.5) Intelligent Sensor Yes Auto Demo Yes Picture Wizard II Yes AV Input Navigation / EZ Input Toggle Yes Input Labeling Yes Quick View (Flashback) Yes Picture Freeze Yes Parental Control w/V-Chip Yes Key Lock Yes Closed Caption Yes Simplink™ (HDMI CEC) Yes

**CONVENIENCE FEATURES** Language 3 (English, Spanish, French) Quick Menu Yes Auto Tuning / Programming Yes Program (Channel) Edit (Add / Delete) Yes Favorite Channel Programming Yes Auto/Manual Clock Yes On/Off Timer Yes Sleep Timer Yes Auto Off / Auto Sleep Yes

**JACK PACK TV – SIDE** AV In Yes (1) HDMI/HDCP Input Yes, 2D: (480i/480p/720p/1080i/1080p), 1 Port PC Mode, SIMPLINK USB 2.0 Yes, (MP3, JPEG) **TV – REAR** RF In Yes (1) AV In Yes (1) Component In (Y,Pb,Pr) + Audio Yes (2) (480i/480p/720p/1080i/1080p) Digital Audio Out (Optical) Yes, (1, Optical) HDMI/HDCP Input Yes, 2D: (480i/480p/720p/1080i/1080p), 1 Port PC Mode, SIMPLINK RGB In (D-sub 15pin) - PC Yes (1) PC Audio Input Yes (1) RS-232C In Yes, (1, Control & Service)Remote

Control In Yes (1) Wired IR Jack Yes

**CABINET/ACCESSORIES** TruSlim Frame Yes Cabinet Color Gloss Black Speaker Invisible Speaker Table Stand Included Detachable (20°/20°) Swivel VESA™ Compliant 600 x 400 (60") Local Key Type Touch Sensitive Keys Remote Control Yes, Illuminated Quick Setup Guide Yes Power Cord Yes

**POWER** EcoSmart - Energy Savings Intelligent Sensor (auto) Yes (automatic) 3 Mode Power Saving Levels Yes (manual) Voltage, Hz 100~240V, 50/60Hz Power Consumption (IEC62087 dynamic 201W (60"), broadcast-content video signal) Stand by Mode Under 0.2W

**REQUIRED APPROVALS** RoHS Compliant Yes UL, c-UL, FCC Yes

**DIMENSIONS & WEIGHT 60PV450C** Dimensions without Stand (W×H×D) 54.6" x 32.9" x 2.0" with Stand (W×H×D) 54.6" x 35.6" x 13.2" packaging (W×H×D) 60.8" x 38.2" x 13.0" Weight without Stand 84.9 lbs with Stand 94.0 lbs with packaging 108.2 lbs

**LIMITED WARRANTY** 2 Years (Parts/Labor)

**UPC 60PV450C** 7 19192 90245 9

## 1 Chief LTA5536

### Flat Panel Wall Mount

Certifications: UL Listed Color:Black Lateral Shift 16" (406.4mm) Maximum Screen Thickness 6" Minimum Depth : 1.99" (50.5mm)

Mounting Pattern Compatibility (Universal Versions): 100 x 100mm- 895 x 505mm Orientation: Landscape Overall Dimensions (H x W x D): 13.2" x 34.4" x 2.0" (335 x 875 x 51mm) Solution Type: Custom Tilt: + 0° , - 12° Typical Screen Sizes 37 - 63" Wall Stud Compatibility (inches): 12 - 34" Weight Capacity : 200 lbs (90.7kg)

## 1 Crestron QM transmitter

### QM-TX

**Video** Signal Types: RGB and composite, S-Video, or component video

Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p RGB Formats: RGBHV, RGBS, or RGsB Gain: 0dB (75 ohms terminated) Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation at receiver

**Audio** A-D Conversion : 24-bit, 48 kHz Frequency Response : 20Hz to 20kHz

**Connectors** R/C/Pr, G/Y/Y, B/COMP/Pb, H, V: (5) BNC female, Multi-format RGB/Video input; Formats: RGBHV, RGBS, RGsB, YPbPr, S-Video (Y/C), composite; Input Impedance: 75 ohms; H/V Sync Impedance: 620 ohms; Maximum Input Level: 0.7 Vp-p for RGB and C of S-Video; 1 Vp-p for composite and Y of S-Video; Maximum H/V Sync Level: 5 Vp-p; Signal sensing on G/Y/Y, B/COMP/Pb, and HG: (1) 6-32 screw, chassis ground lug **AUDIO:** (1) 5-pin 3.5mm detachable terminal block; Balanced/unbalanced stereo line-level audio input; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced; Input Impedance: 10k ohms balanced, 5k ohms unbalanced **QM OUT :** (1) 8-wire RJ45 female, QuickMedia output port; Connects to QM input port of any QuickMedia device via CresCAT-QM or CresCAT-IM cable\* **NET:** (2) 4-pin 3.5mm detachable terminal blocks; Cresnet slave ports, paralleled; Connect to Cresnet control network via CresCAT-QM or Cresnet cable

**Buttons & LED Indicators** PWR: (1) green LED, indicates 24 Volts DC power supplied from Cresnet control network NET: (1) yellow LED, indicates communication with Cresnet system VIDEO ACT : (1) red LED, indicates signal at the G/Y/Y, B/COMP/PB, or H connectors

SETUP (rear) : (1) miniature pushbutton and red LED, used for touch-settable ID (TSID)

**Power Requirements** Cresnet Power Usage: 5 Watts (0.21 Amp @ 24 Volts DC)

**Environmental** Temperature: 41° to 104°F (5° to 40°C) Humidity: 10% to 90% RH (non-condensing)

**Enclosure** Chassis: Steel, black matte powder coat finish Faceplate: Extruded aluminum, black matte powder coat finish with polycarbonate label overlay Mounting: Freestanding or 0.5U 19-inch rack-mountable (adhesive feet included, ST-RMK rack kit sold separately)

## 1 Crestron Control Processor MPS300 Processor

**CPU:** 32-bit Freescale ColdFire® Microprocessor **Memory** 32 MB SDRAM, 256 KB NVRAM, 16 MB Flash **Operating System** Real-time, preemptive, multitasking kernel, multi-threaded; FAT3 filesystem with long names; supports SIMPL™ Windows® and SIMPL+®

**Ethernet** 10/100BaseT, static IP or DHCP/DNS, SSL, auto-negotiating, full duplex TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control®2 XPanel and RoomView® applications

**Video Switcher:** 8x7 crosspoint matrix including 3x3 QM signal routing, local QM delay skew compensation, RGB pass-thru mode (multi-format via RGB output connection)

**Signal Types:** RGB and composite, S-Video, or component video (does not transcode)

**Video/HDTV Formats:** NTSC or PAL, HDTV up to 1080i/1080p **RGB Formats:** RGBHV, RGsB, RGsB **Maximum Resolution:** 2048 X 1536 @ 60Hz (1920 X 1200 @ 60Hz via QM)

**Blanking Time:** < 0.1 second **Sync Rise/Fall Time:** 3.5 ns maximum

**Sync Latency:** < 30 ns **Gain:** 0dB (75 ohms terminated) **QM Cable Compensation:** 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R, G, and B) **Audio Switcher/Preamp:** 8x4 stereo crosspoint matrix including 3x3 QM signal routing, 2-channel gated mic preamp with compressor & limiter, 8-channels mic EQ, 10X5 mic/program matrix mixer, 8x2 mic matrix mixer per each of 3 QM outputs, stereo volume/tone control and EQ per each of PROGRAM and RECORD outputs, mono volume/tone control and EQ/delay on SPEECH output, integrated power amplifier, QM auto-compensation with self-peaking **A-D/D-A Conversion:** 24-bit, 48 kHz **Volume Range:** -80 to +20 dB, 0.1dB steps (output); -80 to 0 dB, 0.1dB steps (mixer)

**Mute:** -100dB (electronic), -120dB (relay) **Input Compensation:** ±10dB, 0.1dB steps **Mic Input Gain:** 0 to 100 % (40dB range) plus mute **Gate Level (Threshold):** 0 to 100 % **Gate Attack:** 0 to 100 mS

**Gate Decay (Release):** 0 to 5000 mS **Gate Depth:** -80dB (mute) to 0dB, 0.1dB steps **Compression Threshold:** -80dB to +20dB, 0.1dB steps **Limit Threshold:** 0dB to 20dB, 0.1dB steps **Comp/Lim Attack:** Separately adjustable 0.1 to 300 mS **Comp/Lim Release:** Separately adjustable 1 to 500 mS **Compression Ratio:** 1.0:1 to 10.0:1 **Comp/Lim Curve:** Separately selectable hard or soft knee **Mic EQ:** ±12dB, 0.1 dB steps at 160, 500, 1.2k, and 3k Hz **Bass/Treble:** ±12dB, 0.5dB steps at 100Hz and 10kHz **Output Equalization:** 10-band graphic (GEQ) + 2-band parametric (PEQ) **GEQ:** ±12dB, 0.1dB steps at 31, 63, 125, 250, 500, 1k, 2k, 4k, 8k, and 16k Hz **PEQ Filter Gain/Center Frequency:** ±12dB, 0.1dB steps at 25Hz to 20kHz, 0.5Hz steps **PEQ Filter Bandwidth:** 0.1 to 3.0 octaves, 0.1 octave steps **PEQ Filter Types:** Low Pass, High Pass, Peaking Eq, Notch, Treble Shelf, Bass Shelf **Speech Output Delay:** 0 to 40 mS, 1mS steps **Frequency Response:** 20Hz to 20kHz ±0.5dB (PROG/REC OUT), 50Hz to 20kHz ±0.5dB (SPEECH OUT), 20Hz to 20kHz ±0.5dB (SPEAKER @ 8 ohms), 100Hz to 20kHz ±1.5dB

(SPEAKER @ 70V or 100V) **S/N Ratio:** 95dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz A-weighted), 95dB (SPEECH OUT @ 10dBV, 50Hz to 20kHz A-weighted), 90dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz A-weighted), 90dB (SPEAKER @ 70V or 100V, full output, 20Hz to 20kHz A-weighted) **THD+N:** 0.02% (PROG/REC OUT @ 10dBV,



20Hz to 20kHz), 0.02% (SPEECH OUT @ 10dBV, 50Hz to 20kHz), 0.7% (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz), 0.7% (SPEAKER @ 70V or 100V, full output, 100Hz to 20kHz A-weighted) **Stereo Separation:** -80dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz), -60dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz) **Channel Crosstalk:** -80dB (AUD IN @ 10dBV, 20Hz to 20kHz)

## 1 Crestron Quick Media Receiver QMRX

Video Signal Types RGB and composite, S-Video, or component† video Video/HDTV Formats NTSC or PAL, HDTV up to 1080i/1080p†

RGB Formats RGBHV, RGBS, or RGsB Gain 0dB (75 ohms terminated) Maximum Resolution 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation

QM Cable Compensation 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R/Pr, G/Y, and B/Pb) Connectors – Front Panel

QM (1) 8-wire RJ45 female, QuickMedia input port; Connects to QM output port of any QuickMedia device via CresCAT-QM or CRESCAT-IM cable\* NET (2) 4-pin 3.5mm detachable terminal blocks; Cresnet ports (paralleled), Master/Slave selectable; Connect to Cresnet control network via CresCAT-QM or Cresnet cable Connectors – Rear Panel RGBHV (1) DB15HD female, RGB(VGA)/component video† output; Formats: RGBHV, RGBS, RGsB, YPbPr; Output Level: 1 Vp-p nominal; Sync Level: 5 Vp-p nominal; Output Impedance: 75 ohms; H/V Sync Impedance: 100 ohms S-VIDEO (1) 4-pin mini DIN female, S-Video (Y/C) output; Output Level: 1.0 Vp-p (luma), 0.7 Vp-p (chroma); Output Impedance: 75 ohms VIDEO (1) BNC female, composite video output; Output Level: 1.0 Vp-p; Output Impedance: 75 ohms G 6-32 screw, chassis ground lug COM (1) DB9 male, bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support IR (1) 2-pin 3.5mm detachable terminal block; IR/Serial port; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0-5 Volts) up to 9600 baud INPUT 1 (1) 2-pin 3.5mm detachable terminal block;

Digital/contact closure input. Rated for 0-24 Volts DC, referenced to GND; Input Impedance: 2.2k ohms pulled up to 5 Volts DC; Logic Threshold: 2.5 Volts DC nominal with 1 Volt hysteresis band LED Indicators PWR (green) Indicates 24 Volts DC power supplied from Cresnet control network NET (yellow) Indicates communication with Cresnet system SETUP (red) Used for touch-settable ID (TSID) Buttons SETUP Used for touch-settable ID (TSID)

Power Requirements Cresnet Power Usage 8 Watts (0.33 Amp @ 24 Volts DC) Environmental Temperature 41° to 104°F (5° to 40°C) Humidity 10% to 90% RH (non-condensing) Enclosure Chassis Steel, black matte powder coat finish Mounting Free-standing, surface-mount, or pole-mount (adhesive feet and [4] "L" brackets included, MK-QM-RMCRX pole mount kit sold separately) Dimensions Height 1.71 in (4.34 cm) Width 6.96 in (17.68 cm) Depth 5.83 in (14.81 cm) Weight 1.1 lbs (0.5 kg)

## 1 Crestron Touch Panel TPS-6X

### Touchscreen Display

Display Type: TFT Active matrix color LCD Size: 5.7 inch (145 mm) diagonal Aspect Ratio: 4:3 VGA Resolution: 640 x 480 pixels

Brightness: 350 nits (cd/m<sup>2</sup>) Contrast: 400:1 Color Depth: 18-bit, 256k colors

Illumination: Backlit fluorescent Viewing Angle:  $\pm 80^\circ$  horizontal,  $+80^\circ/-70^\circ$  vertical

Touchscreen: Resistive membrane

**Buttons & Switches** Sleep: (1) Programmable top-mounted pushbutton (left); normally initiates "Sleep" mode when docked, turns power on/off when undocked; also resets touchpanel if held for 5 seconds Brightness: (1) Programmable top-mounted pushbutton (right), normally sets display brightness level Hard Keys: (8) Optional programmable pushbuttons, engravable backlit text [2] (default engraving included) Up/Down: (2) Optional programmable "up/down" pushbuttons, backlit, engravable backlit text[2] on bezel (default engraving included) Thumbpad: (5) Optional programmable pushbuttons for 4-way directional navigation and "enter", backlit

Battery: (1) Rear panel recessed DIP switch, shuts off battery for long-term storage **LED Indicators** Battery: (1) Green LED, indicates battery condition and charging status when docked

**Connectors** Docking Connector: (1) multi-pin connector; Mates with the docking port on the docking station[6] See the TPS-6X-IMCW interface module[6] specification for other connectors

**Memory** SDRAM: 32 MB Flash: 32 MB Maximum Project Size: 28 MB

**Graphic Engine** Isys engine; 16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm; multi-mode objects, DNav dynamic menu objects, dynamic graphics, PNG translucency, full-motion (60 fps) animation, color key video windowing

**RF Wireless** RF Transceiver: 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), IEEE 802.15.4 compliant Transmitting Power: 75 mW (Ch.11), 100 mW (Ch.12-23), 15 mW (Ch.24), 3.5 mW (Ch.25), 1 mW (Ch.26) @ High Setting; 1 mW (Ch.11-25), 0.5 mW (Ch.26) @ Low Setting Range (typical): 100 to 200 feet maximum indoor, 1000 feet outdoor,

subject to site-specific conditions Gateway: Requires a CEN-HPRFGW Extended Range RF Gateway[5] Roaming: Supports roaming amongst up to 8 RF gateways

**IR Wireless[1]** IR Transmitter: 38 kHz, RC5 format

Range: 50 feet typical

## 1 Crestron Wireless Access Point

### CEN-WAP-ABG-Cm

**Wireless** Transceiver: IEEE 802.11a/b/g Wi-Fi (5.8 or 2.4 GHz 2-way RF); 64, 128, & 152-bit WEP encryption; WPA & WAP2 with TKIP & AES Transmit Power: Up to 19 dBm

**Ethernet** 10BaseT/100BaseTX, auto-switching, auto-negotiating, auto-discovery, full/ half duplex, TCP/IP, UDP/IP, DHCP client and server, SNMP, IEEE 802.3u & 802.3af compliant

### Controls and LED Indicators

LAN: (1) Green LED, indicates wired Ethernet activity and link status

Wi-Fi: (1) Green LED, indicates Wi-Fi activity and connection status

Reset: (1) Recessed miniature pushbutton for hardware reset

**Connectors - Rear Panel** NETWORK PoE: (1) 8-wire RJ45, female;

10BaseT/100BaseTX Ethernet port, 802.3af Power over Ethernet compliant; Connects to LAN via a 802.3af compliant PoE power source

**Power Requirements** Power over Ethernet: IEEE 802.3af Class 1 PoE Powered Device

**Enclosure** Injection-molded plastic, paintable white matte finish, ceiling mountable using a 1-gang plaster ring or electrical box (2 inch deep minimum)

**Environmental** Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% RH (non-condensing)

Heat Dissipation: 11 BTU/Hr

**Dimensions** Height: 2.54 in (65 mm)

Diameter: 4.73 in (120 mm)

**Weight** 6.0 oz (168 g) Available Models CEN-WAP-ABG-CM: Ceiling Mount 802.11a/b/g

Wireless Access Point CEN-WAP-ABG-POE-PWE-CM: Ceiling Mount 802.11a/b/g  
Wireless Access Point w/PoE Injector Included Accessories PWE-4803RU PoE Injector  
[Included Quantity for CEN-WAP-ABG-POE-PWECM: 1]Available Accessories PWE-  
4803RU: PoE Injector CEN-SW-POE-5: 5-Port PoE Switch CEN-SWPOE-24: 24-Port  
Managed PoE Switch

## 6 JBL Ceiling mounted loud speaker

### Control 24 CT

Freq. Range (-10 dB)<sup>1</sup>: 80 Hz - 20 kHz

Power Capacity<sup>2</sup>: 80 Watts Continuous Program Power 40 Watts Continuous Pink Noise

Nominal Sensitivity<sup>3</sup>: 86 dB SPL @ 1 m (3.3 ft)

Nominal Coverage Angle<sup>4</sup>: 130° conical coverage Directivity Factor (Q): 2.4 averaged 500  
Hz to 4 kHz Directivity Index (DI): 3.8 averaged 500 Hz to 4 kHz Rated Maximum SPL: 102

dB @ 1 m (3.3 ft) Nominal Impedance (24C): 16 ohms (Min Z 16.1 Ω @ 320 Hz)

Transformer Taps (24CT): 70V: 30W, 15W, 7.5W & 3.7W taps 100V: 30W, 15W, & 7.5W

taps Transducers: Low-Frequency: 100 mm (4.0 in) Polypropylene-coated, 1" coil on  
aluminum former High-Frequency: 19 mm (0.75 in) Titanium coated polyester. Physical:

Enclosure: Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated

UL94V-0 Overload Protection: Full-range power limiting to protect network and transducers.

(On Control 24C, not on Control 24CT) Termination: Removable locking connector with

screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12

AWG (2.5 mm<sup>2</sup>) Safety Agency Rating: Suitable for use in air handling spaces per UL1480,

UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL

registered per UL1876. In accordance with IEC60849/EN60849. Outside Dimensions (H x

Dia): 200 x 195 mm (7.9 x 7.7 in) 184 mm (7.2 in) front of ceiling tile to back of backcan

Cutout Size: 168 mm (6.6 in) Net Weight (ea): 2.7 kg (6 lb) CT: 3.5 kg (8 lb) Shipping

Weight (pair): 6.4 kg (15 lb) CT: 8.0 kg (18 lb) Included Accessories: C-shaped support

backing plate 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) Cutout template

Paint shield Removable locking wiring connector.

## 1 Misc. Audio/Video Cabling and Connectors

## 1 Labor

### Conference Room 1214

Qty.	Item Description
1	<p><b>Biamp Digital Signal Processor Nexia TC</b> 8 wide-band AEC balanced mic/line inputs • 2 standard balanced mic/line inputs • 4 balanced mic/line outputs • telephone interface with line &amp; set connections • Ethernet port for software configuration/control • serial port for third-party RS-232 remote control • NexLink ports for multi-unit system designs • Nexia software for Windows® XP Professional/Vista • pre-configured I/O with definable processing • <b>RoHS</b> compliance and <b>AES</b> grounding practices • <b>CE</b> marked and <b>UL/C-UL</b> listed • covered by Biamp Systems' five-year warranty • Ability to select, view, and calibrate: Mixers, Equalizers, Filters, Crossovers, Dynamics, Routers, Delays, Controls, Meters, Generators, Diagnostics • Telephone Interface capabilities include: ° initiation of outgoing calls ° detection and answering of incoming calls ° line echo cancellation ° TouchTone™ decoding ° caller ID reception ° call progress detection ° line intrusion detection ° continuous line status and fault monitoring Frequency Response (20Hz~20kHz @ +4dBu): +0/-0.4dB THD+N (20Hz~20kHz @ +4dBu): line level &lt; 0.006% mic level &lt; 0.05% Equivalent Input Noise (20Hz~20kHz, 66dB gain, 150 ohm): -125bBu Dynamic</p>

Range 20Hz~20kHz, 0dB): > 105dB Maximum Gain (input channels): 66dB  
 Crosstalk (channel-to-channel @ 1kHz): line level < -80dB mic level < -75dB Output  
 Impedance (balanced): 200 ohms Input Impedance (mic/line balanced): 8k ohms Input  
 Gain Range (variable trim): 0dB ~ +66dB Maximum Output (balanced): +24dBu  
 Maximum Input (mic/line): +24dBu Full Scale Output Level (six selections) -31dBu ~  
 +24dBu Telephone Interface: ringer equivalency number 0.0B dynamic range 67dBu  
 frequency response 250Hz ~ 3.4kHz  
 THD < 0.3% transhybrid balance 30dB Tail Length: up to 300ms  
 Convergence: up to 100dB/sec Phantom Power: +48 VDC (7mA/input)  
 Sampling Rate: 48kHz A/D - D/A Converters: 24-bit Power Consumption (100~240VAC  
 50/60Hz): 65 watts  
 Dimensions: height 1.75 inches (45mm) width 19 inches (483mm) depth 11.15 inches  
 (283mm) Weight: 8.6 lbs. (3.9kg) Compliance: AES48-2005 Grounding & EMC  
 practices EU Directive 2002/95/EC, RoHS directive CE marked UL listed

3

**CROWN PZM-10**

Polar pattern, hemispherical. Frequency range PZM®-10: 80 to 20,000 Hz; PZM®-  
 10LL: 100 to 20,000 Hz Sensitivity PZM®-10: 2.5 mV/Pa (-52 dBV); PZM®-10 LL: 1.4  
 V/Pa (+3 dBV) Max. SPL 120 dB Equivalent noise level 26 dB-A Signal/noise ratio  
 68 dB (A-weighted) Impedance PZM®-10: 240 ohms; PZM®-10 LL: 75 ohms  
 Connector PZM®-10: 3-pin XLR; PZM®-10 LL: stripped and tinned leads Finish  
 Off-white. May be painted any color. Dimensions ø 3.9 cm x 7.2 cm (ø 1.53 x  
 2.829 in.) Net weight PZM®-10: 74 g (22,6 oz.); PZM®-10 LL: 93 g (3,3 oz.) ROHS  
 OK

1

**LG 60" Display 60PV450C**

**PLASMA MODULE** Screen Size 60" class (59.8" measured diagonally) Native Display  
 Resolution 1920 x 1080 Brightness 1,500 cd/m<sup>2</sup> Dynamic Contrast Ratio 3,000,000:1  
 Protective Skin Glass Yes Color Reproduction (Panel Output) 16 Bit ISM (Image  
 Sticking Minimization) White Wash / Orbiter / Color Wash 600Hz Sub-Field Driving Yes  
 (600Hz Max Sub-Field Driving) Life Span (typical) 100,000 Hours  
**VIDEO** Built-in tuner ATSC/NTSC/Clear QAM - 1 Tuner Dual XD Engine Yes Aspect  
 Ratio 16:9 Aspect Ratio Correction 6 Modes (16:9 Just Scan, Set by Program, 4:3,  
 Zoom1, Cinema Zoom1) Just Scan (1:1 Pixel matching) HDMI 1080p/1080i/720p (0%  
 overscan) Component 1080p/1080i/720p RF 1080i/720p Enhanced Noise Reduction  
 3D & MPEG Color Temperature Control 3 Modes (Warm, Medium, Cool) 24p Real  
 Cinema (3:3 Pulldown) Yes (HDMI 1080 24p) Cinema 3:2/2:2 Pulldown Mode Yes  
 Picture Reset Yes AV Mode (Picture & Mode) Yes Picture Mode 8 Modes (Vivid,  
 Standard, APS, Cinema, Game, Sports, Expert 1, Expert 2) XD Color (Active Color  
 Management) Yes ISFccc Ready Yes Intelligent Sensor Mode Yes xvYCC Yes DTV  
 Signal Strength (Digital) Yes PC Resolution 1920 x 1080 @ 120Hz or better Color  
 Reproduction (Chassis Output) 10-Bit  
**AUDIO** Mono/Stereo/Dual (MTS/SAP) Yes Audio Output (Watts - THD 10%) 10W +  
 10W Speaker System Invisible Speaker (1 Way 2 Speaker) Dolby Digital 5.1 Decoder  
 Yes Surround System Infinite Sound Bass/Treble/Balance Yes Smart Volume Leveler  
 (Auto Volume Leveler) Yes Clear Voice II Yes Auto Volume Leveler II Yes Sound Mode  
 5 Modes (Standard, Music, Cinema, Sports, Game) Mute Yes  
**SPECIAL FEATURES** USB 2.0 MP3 & JPEG Public Display Settings Yes (V 2.5)  
 Intelligent Sensor Yes Auto Demo Yes Picture Wizard II Yes A/V Input Navigation / EZ  
 Input Toggle Yes Input Labeling Yes Quick View (Flashback) Yes Picture Freeze Yes  
 Parental Control w/V-Chip Yes Key Lock Yes Closed Caption Yes SimpLink™ (HDMI  
 CEC) Yes  
**CONVENIENCE FEATURES** Language 3 (English, Spanish, French) Quick Menu Yes



Auto Tuning / Programming Yes Program (Channel) Edit (Add / Delete) Yes Favorite Channel Programming Yes Auto/Manual Clock Yes On/Off Timer Yes Sleep Timer Yes Auto Off / Auto Sleep Yes

**JACK PACK TV – SIDE** AV In Yes (1) HDMI/HDCP Input Yes, 2D: (480i/480p/720p/1080i/1080p), 1 Port PC Mode, SIMPLINK USB 2.0 Yes, (MP3, JPEG) **TV – REAR** RF In Yes (1) AV In Yes (1) Component In (Y,Pb,Pr) + Audio Yes (2) (480i/480p/720p/1080i/1080p) Digital Audio Out (Optical) Yes, (1, Optical) HDMI/HDCP Input Yes, 2D: (480i/480p/720p/1080i/1080p), 1 Port PC Mode, SIMPLINK RGB In (D-sub 15pin) - PC Yes (1) PC Audio Input Yes (1) RS-232C In Yes, (1, Control & Service) Remote Control In Yes (1) Wired IR Jack Yes

**CABINET/ACCESSORIES** TruSlim Frame Yes Cabinet Color Gloss Black Speaker Invisible Speaker Table Stand Included Detachable (20°/20°) Swivel VESA™ Compliant 600 x 400 (60") Local Key Type Touch Sensitive Keys Remote Control Yes, Illuminated Quick Setup Guide Yes Power Cord Yes

**POWER** EcoSmart - Energy Savings Intelligent Sensor (auto) Yes (automatic) 3 Mode Power Saving Levels Yes (manual) Voltage, Hz 100~240V, 50/60Hz Power Consumption (IEC62087 dynamic 201W (60"), broadcast-content video signal) Stand by Mode Under 0.2W

**REQUIRED APPROVALS** RoHS Compliant Yes UL, c-UL, FCC Yes

**DIMENSIONS & WEIGHT 60PV450C** Dimensions without Stand (W×H×D) 54.6" x 32.9" x 2.0" with Stand (W×H×D) 54.6" x 35.6" x 13.2" packaging (W×H×D) 60.8" x 38.2" x 13.0" Weight without Stand 84.9 lbs with Stand 94.0 lbs with packaging 108.2 lbs

**LIMITED WARRANTY** 2 Years (Parts/Labor)

**UPC** 60PV450C 7 19192 90245 9

## 1 Chief LTA5536

### Flat Panel Wall Mount

Certifications: UL Listed Color:Black Lateral Shift 16" (406.4mm) Maximum Screen Thickness 6" Minimum Depth : 1.99" (50.5mm)

Mounting Pattern Compatibility (Universal Versions): 100 x 100mm- 895 x 505mm

Orientation: Landscape Overall Dimensions (H x W x D): 13.2" x 34.4" x 2.0" (335 x 875 x 51mm) Solution Type: Custom Tilt: + 0° , - 12° Typical Screen Sizes 37 - 63"

Wall Stud Compatibility (inches): 12 - 34" Weight Capacity : 200 lbs (90.7kg)

## 1 Crestron QM transmitter

### QM-TX

**Video** Signal Types: RGB and composite, S-Video, or component video

Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p RGB Formats: RGBHV, RGBS, or RGsB Gain: 0dB (75 ohms terminated) Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation at receiver

**Audio** A-D Conversion : 24-bit, 48 kHz Frequency Response : 20Hz to 20kHz

**Connectors** R/C/Pr, G/YY, B/COMP/Pb, H, V: (5) BNC female, Multi-format RGB/Video input; Formats: RGBHV, RGBS, RGsB, YPbPr, S-Video (Y/C), composite; Input Impedance: 75 ohms; H/V Sync Impedance: 620 ohms; Maximum Input Level: 0.7 Vp-p for RGB and C of S-Video; 1 Vp-p for composite and Y of S-Video; Maximum H/V Sync Level: 5 Vp-p; Signal sensing on G/YY, B/COMP/Pb, and H

G: (1) 6-32 screw, chassis ground lug AUDIO: (1) 5-pin 3.5mm detachable terminal block; Balanced/unbalanced stereo line-level audio input; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced; Input Impedance: 10k ohms balanced, 5k ohms unbalanced QM OUT : (1) 8-wire RJ45 female, QuickMedia output port; Connects to QM input port of any QuickMedia device via CresCAT-QM or CresCAT-IM cable\* NET:

(2) 4-pin 3.5mm detachable terminal blocks; Cresnet slave ports, paralleled; Connect to Cresnet control network via CresCAT-QM or Cresnet cable

**Buttons & LED Indicators** PWR: (1) green LED, indicates 24 Volts DC power supplied from Cresnet control network NET: (1) yellow LED, indicates communication with Cresnet system VIDEO ACT : (1) red LED, indicates signal at the G/Y/Y, B/COMP/PB, or H connectors

SETUP (rear) : (1) miniature pushbutton and red LED, used for touch-settable ID (TSID) **Power Requirements** Cresnet Power Usage: 5 Watts (0.21 Amp @ 24 Volts DC) **Environmental** Temperature: 41° to 104°F (5° to 40°C) Humidity: 10% to 90% RH (non-condensing)

**Enclosure** Chassis: Steel, black matte powder coat finish Faceplate: Extruded aluminum, black matte powder coat finish with polycarbonate label overlay Mounting: Freestanding or 0.5U 19-inch rack-mountable (adhesive feet included, ST-RMK rack kit sold separately)

## 1 Crestron Control Processor

### MPS300

**CPU:** 32-bit Freescale ColdFire® Microprocessor **Memory** 32 MB SDRAM, 256 KB NVRAM, 16 MB Flash **Operating System** Real-time, preemptive, multitasking kernel, multi-threaded; FAT3 filesystem with long names; supports SIMPL™ Windows® and SIMPL+® **Ethernet** 10/100BaseT, static IP or DHCP/DNS, SSL, auto-negotiating, full duplex TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control® 2 XPanel and RoomView® applications **Video Switcher:** 8x7 crosspoint matrix including 3x3 QM signal routing, local QM delay skew compensation, RGB pass-thru mode (multi-format via RGB output connection) **Signal Types:** RGB and composite, S-Video, or component video (does not transcode) **Video/HDTV Formats:** NTSC or PAL, HDTV up to 1080i/1080p **RGB Formats:** RGBHV, RGBS, RGsB **Maximum Resolution:** 2048 X 1536 @ 60Hz (1920 X 1200 @ 60Hz via QM)

**Blanking Time:** < 0.1 second **Sync Rise/Fall Time:** 3.5 ns maximum **Sync Latency:** < 30 ns **Gain:** 0dB (75 ohms terminated) **QM Cable Compensation:** 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R, G, and B) **Audio Switcher/Preamp:** 8x4 stereo crosspoint matrix including 3x3 QM signal routing, 2-channel gated mic preamp with compressor & limiter, 8-channels mic EQ, 10X5 mic/program matrix mixer, 8x2 mic matrix mixer per each of 3 QM outputs, stereo volume/tone control and EQ per each of PROGRAM and RECORD outputs, mono volume/tone control and EQ/delay on SPEECH output, integrated power amplifier, QM auto-compensation with self-peaking **A-D/D-A Conversion:** 24-bit, 48 kHz **Volume Range:** -80 to +20 dB, 0.1dB steps (output); -80 to 0 dB, 0.1dB steps (mixer) **Mute:** -100dB (electronic), -120dB (relay) **Input Compensation:** ±10dB, 0.1dB steps **Mic Input Gain:** 0 to 100 % (40dB range) plus mute **Gate Level (Threshold):** 0 to 100 % **Gate Attack:** 0 to 100 mS **Gate Decay (Release):** 0 to 5000 mS **Gate Depth:** -80dB (mute) to 0dB, 0.1dB steps **Compression Threshold:** -80dB to +20dB, 0.1dB steps **Limit Threshold:** 0dB to 20dB, 0.1dB steps **Comp/Lim Attack:** Separately adjustable 0.1 to 300 mS **Comp/Lim Release:** Separately adjustable 1 to 500 mS **Compression Ratio:** 1.0:1 to 10.0:1 **Comp/Lim Curve:** Separately selectable hard or soft knee **Mic EQ:** ±12dB, 0.1 dB steps at 160, 500, 1.2k, and 3k Hz **Bass/Treble:** ±12dB, 0.5dB steps at 100Hz and 10kHz **Output Equalization:** 10-band graphic (GEQ) + 2-band parametric (PEQ) **GEQ:** ±12dB, 0.1dB steps at 31, 63, 125, 250, 500, 1k, 2k, 4k, 8k, and 16k Hz **PEQ Filter Gain/Center Frequency:** ±12dB, 0.1dB steps at 25Hz to 20kHz, 0.5Hz steps **PEQ Filter Bandwidth:** 0.1 to 3.0 octaves, 0.1 octave steps **PEQ Filter Types:** Low Pass, High Pass, Peaking Eq, Notch, Treble Shelf, Bass Shelf **Speech Output Delay:**

0 to 40 mS, 1mS steps **Frequency Response:** 20Hz to 20kHz  $\pm 0.5$ dB (PROG/REC OUT), 50Hz to 20kHz  $\pm 0.5$ dB (SPEECH OUT), 20Hz to 20kHz  $\pm 0.5$ dB (SPEAKER @ 8 ohms), 100Hz to 20kHz  $\pm 1.5$ dB (SPEAKER @ 70V or 100V) **S/N Ratio:** 95dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz A-weighted), 95dB (SPEECH OUT @ 10dBV, 50Hz to 20kHz A-weighted), 90dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz A-weighted), 90dB (SPEAKER @ 70V or 100V, full output, 20Hz to 20kHz A-weighted) **THD+N:** 0.02% (PROG/REC OUT @ 10dBV, 20Hz to 20kHz), 0.02% (SPEECH OUT @ 10dBV, 50Hz to 20kHz), 0.7% (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz), 0.7% (SPEAKER @ 70V or 100V, full output, 100Hz to 20kHz A-weighted) **Stereo Separation:** -80dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz), -60dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz) **Channel Crosstalk:** -80dB (AUD IN @ 10dBV, 20Hz to 20kHz)

## 2 **Crestron Quick Media Receiver** **QMRX**

Video Signal Types RGB and composite, S-Video, or component† video Video/HDTV Formats NTSC or PAL, HDTV up to 1080i/1080p†

RGB Formats RGBHV, RGBS, or RGsB Gain 0dB (75 ohms terminated)

Maximum Resolution 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation

QM Cable Compensation 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R/Pr, G/Y, and B/Pb) Connectors – Front Panel

QM (1) 8-wire RJ45 female, QuickMedia input port; Connects to QM output port of any QuickMedia device via CresCAT-QM or CRESCAT-IM cable\* NET (2) 4-pin 3.5mm detachable terminal blocks; Cresnet ports (paralleled), Master/Slave selectable; Connect to Cresnet control network via CresCAT-QM or Cresnet cable Connectors – Rear Panel RGBHV (1) DB15HD female, RGB(VGA)/component video† output; Formats: RGBHV, RGBS, RGsB, YPbPr; Output Level: 1 Vp-p nominal; Sync Level: 5 Vp-p nominal; Output Impedance: 75 ohms;

H/V Sync Impedance: 100 ohms S-VIDEO (1) 4-pin mini DIN female, S-Video (Y/C) output; Output Level: 1.0 Vp-p (luma), 0.7 Vp-p (chroma);

Output Impedance: 75 ohms VIDEO (1) BNC female, composite video output; Output Level: 1.0 Vp-p; Output Impedance: 75 ohms G 6-32 screw, chassis ground lug COM (1) DB9 male, bidirectional RS-232 port; Up to 115.2k baud, hardware and software handshaking support IR (1) 2-pin 3.5mm detachable terminal block; IR/Serial port; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0-5 Volts) up to 9600 baud INPUT 1 (1) 2-pin 3.5mm detachable terminal block;

Digital/contact closure input. Rated for 0-24 Volts DC, referenced to GND; Input Impedance: 2.2k ohms pulled up to 5 Volts DC; Logic Threshold: 2.5 Volts DC nominal with 1 Volt hysteresis band LED Indicators PWR (green) Indicates 24 Volts DC power supplied from Cresnet control network NET (yellow) Indicates communication with Cresnet system SETUP (red) Used for touch-settable ID (TSID) Buttons SETUP Used for touch-settable ID (TSID) Power Requirements

Cresnet Power Usage 8 Watts (0.33 Amp @ 24 Volts DC) Environmental Temperature 41° to 104°F (5° to 40°C) Humidity 10% to 90% RH (non-condensing)

Enclosure Chassis Steel, black matte powder coat finish Mounting Free-standing, surface-mount, or pole-mount (adhesive feet and [4] "L" brackets included, MK-QM-RMCRX pole mount kit sold separately) Dimensions Height 1.71 in (4.34 cm) Width 6.96 in (17.68 cm) Depth 5.83 in (14.81 cm) Weight 1.1 lbs (0.5 kg)

## 1 **Crestron Touch Panel** **TPS-6X**

### Touchscreen Display

Display Type: TFT Active matrix color LCD Size: 5.7 inch (145 mm) diagonal Aspect Ratio: 4:3 VGA Resolution: 640 x 480 pixels

Brightness: 350 nits (cd/m<sup>2</sup>) Contrast: 400:1 Color Depth: 18-bit, 256k colors Illumination: Backlit fluorescent Viewing Angle: ±80° horizontal, +80°/-70° vertical Touchscreen: Resistive membrane

**Buttons & Switches** Sleep: (1) Programmable top-mounted pushbutton (left); normally initiates "Sleep" mode when docked, turns power on/off when undocked; also resets touchpanel if held for 5 seconds Brightness: (1) Programmable top-mounted pushbutton (right), normally sets display brightness level Hard Keys: (8) Optional programmable pushbuttons, engravable backlit text [2] (default engraving included) Up/Down: (2) Optional programmable "up/down" pushbuttons, backlit, engravable backlit text[2] on bezel (default engraving included) Thumbpad: (5) Optional programmable pushbuttons for 4-way directional navigation and "enter", backlit

Battery: (1) Rear panel recessed DIP switch, shuts off battery for long-term storage **LED Indicators** Battery: (1) Green LED, indicates battery condition and charging status when docked

**Connectors** Docking Connector: (1) multi-pin connector; Mates with the docking port on the docking station[6] See the TPS-6X-IMCW interface module[6] specification for other connectors

**Memory** SDRAM: 32 MB Flash: 32 MB Maximum Project Size: 28 MB

### Graphic Engine

Isys engine; 16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm; multi-mode objects, DNav dynamic menu objects, dynamic graphics, PNG translucency, full-motion (60 fps) animation, color key video windowing

**RF Wireless** RF Transceiver: 2-way RF, 2.4 GHz ISM Channels 11-26 (2400 to 2483.5 MHz), IEEE 802.15.4 compliant Transmitting Power: 75 mW (Ch.11), 100 mW (Ch.12-23), 15 mW (Ch.24), 3.5 mW (Ch.25), 1 mW (Ch.26) @ High Setting; 1 mW (Ch.11-25), 0.5 mW (Ch.26) @ Low Setting Range (typical): 100 to 200 feet maximum indoor, 1000 feet outdoor, subject to site-specific conditions Gateway: Requires a CEN-HPRFGW Extended Range RF Gateway[5] Roaming: Supports roaming amongst up to 8 RF gateways **IR Wireless**[1] IR Transmitter: 38 kHz, RC5 format Range: 50 feet typical

2

### Crestron QMWWMC

**Video** Signal Types: RGB and composite, S-Video, or component[2] video Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p[2]

RGB Formats: RGBHV, RGBS, or RGsB Gain: 0dB (75 ohms terminated)

Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation at receiver **Audio** A-D Conversion: 24-bit, 48 kHz Frequency Response: 20Hz to 20kHz

**Communications** QuickMedia: QM origination point device[1] Cresnet: Cresnet slave device

**Connectors - Front Panel** S-VIDEO: (1) 4-pin mini DIN female, S-Video (Y/C) input; Input Impedance: 75 Ohms; Maximum Input: 1 Vp-p; Signal sensing on Y S-VIDEO AUDIO R, L: (2) RCA female; Unbalanced stereo line-level audio input; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms VIDEO: (1) RCA female, composite video input; Input Impedance: 75 Ohms; Maximum Input: 1 Vp-p; Includes signal sensing VIDEO AUDIO R, L: (2) RCA female; Unbalanced stereo line-level audio input; Input Impedance: 10k Ohms; Maximum Input Level: 2 Vrms COMPUTER: (1) DB15HD female; RGB(VGA)/component video input[2]; Formats: RGBHV, RGBS, RGsB, YPbPr; Input Impedance: 75 Ohms; H Sync Impedance: 1k Ohms; V Sync Impedance: 2.2k Ohms; Maximum Input Level: 1 Vp-p; Maximum Sync Level: 5 Vp-p; Signal sensing on H-SYNC only AUDIO (computer): (1) 3.5mm TRS mini phone jack;



Unbalanced stereo line-level audio input; Input Impedance: 10k Ohms; Maximum Input Level: 1 Vrms MONITOR: (1) DB15HD female, buffered RGBHV pass-thru

#### Connectors - Rear Panel

QM: (1) 8-wire RJ45 female, QuickMedia output port; Connects to QM input port of any QuickMedia device via CresCAT-QM or CresCAT-IM cable[1] NET: (2) 4-pin 3.5mm detachable terminal blocks; Cresnet slave ports, paralleled; connect to Cresnet control network via CresCAT-QM or Cresnet cable GROUND: (1) Flying lead, grounding wire TO MIC: (1) 14-pin header; Accepts connection from optional QM-WMIC (sold separately)

#### Controls & Indicators

PWR: (1) green LED, indicates 24 Volts DC power supplied from Cresnet network NET: (1) yellow LED, indicates communication with Cresnet system SETUP: (1) miniature pushbutton and red LED, used for touch-settable ID (TSID) COMP: (1) red LED, indicates a signal at the COMPUTER input VIDEO: (1) red LED, indicates a signal at the VIDEO input S-VID: (1) red LED, indicates signal at the S-VIDEO input

**Power Requirements** Cresnet Power Usage : 5 Watts (0.21 Amp @ 24 Volts DC); 8 Watts (0.33 Amp) with QM-WMIC installed

**Environmental** Temperature: 41° to 104°F (5° to 40°C) Humidity: 10% to 90% RH (non-condensing) Heat Dissipation: 17 BTU/Hr

**Enclosure** Construction: Metal with black finish Flush Wall Mount: 2-gang mountable in a standard electrical box (2-1/2 inch deep minimum); requires decorator style faceplate (not included)

**Dimensions** Height: 4.12 in (105 mm) Width: 3.50 in (89 mm) Depth: 2.61 in (67 mm)

**Weight** 8.0 oz (230 g) Available Models QM-WMC: QuickMedia Wall Plate Media Center Available Accessories CRESCAT-QM-NP-SP500: QuickMedia® Cable, Low-skew CAT5e & Cresnet, non-plenum, 500 ft spool CRESCAT-QM-P-SP500: QuickMedia® Cable, Low-skew CAT5e & Cresnet, plenum, 500 ft spool QM-WMIC: Microphone Input Module.

## 1 SMART Interactive White Board

### SBX885

Size 78 1/2" W × 51 1/8" H × 6 1/2" D (199.4 cm × 130 cm × 16.5 cm)

Active screen area (maximum interactive projected image)

73 7/8" W × 46 1/4" H (187.7 cm × 117.3 cm) 87" (221 cm) diagonal, 16:10 aspect ratio

Weight 60 lb. (27.2 kg) Shipping size 1 unit 56 3/4" W × 88" H × 4 3/8" D (144.1 cm × 223.5 cm × 11.1 cm) 10 units on pallet 44 1/4" W × 56 3/4" L × 92 5/8" H (112.4 cm × 144.1 cm × 235.3 cm) Shipping weight 1 unit 90 lb. (40.8 kg) 10 units on pallet 920 lb. (417 kg) All dimensions +/- 1/8" (0.3 cm). All weights +/- 2 lb. (0.9 kg)

2 | S P E C I F I C A T I O N S – S M A R T B O A R D I N T E R A C T I V E W H I T E B O A R D –

**M O D E L X 8 8 5** Touch and gestures Perform mouse functions with your finger, and write digital ink with a pen tray pen or erase it with the eraser. The object awareness feature enables you to pick up a pen, and then write, select or erase without putting the pen back in the tray. Dual sketch capabilities Enables two users to draw simultaneously on the interactive whiteboard surface SMART Ink™ Smooths out the appearance of the digital ink, improving the legibility of your handwriting. The ink becomes an object you can move and manipulate. Lockable pen option Hold down a pen color button on the pen tray until its light flashes to lock the interactive whiteboard in pen mode. In this mode you can use any device as a pen. Early education students and students with special needs can use an object like a tennis ball to write more easily on the surface. Pen tray Removeable end caps for optional accessories. Optical sensors in the pen tray detect when you lift a pen or eraser from the tray. Color buttons on the pen tray enable you to select a pen color. pens and eraser Two ergonomic pens

with a comfort grip and a rectangular eraser Resolution Touch resolution is approximately 4000 × 4000. Screen surface The hard-coated steel surface is durable, optimized for projection, compatible with dry-erase markers and easily cleaned with whiteboard cleaner.

Digitizing technology Four camera DVIT™ (Digital Vision Touch) technology Frame finish Two-tone gray (dark gray approximates Pantone® Charcoal Gray 18-0601 TPX) Wall-mount bracket Two 32" (81.3 cm) wide brackets with ten screws and toggle bolt anchors to support a wall-mounted interactive whiteboard Computer connection 16' (5 m) USB 2.0 cable, 6' (1.8 m) power cable Power requirements Power consumption is less than 7 W (100V to 240V AC, 50/60 Hz, 5V DC 2.0A). Environmental compliance China EIP, EU RoHS, WEEE Regulatory certifications CE, CSA (U.S./Canada), FCC Warranty Five-year limited equipment warranty upon registration. Storage and operating specifications Storage -40°F to 120°F (-40°C to 50°C) Operation 41°F to 95°F (5°C to 35°C) with up to 80% humidity, non-condensing .

**1 TecNec  
Custom USB Pass Through Plate**

**1 Christie Digital LCD Projector  
LW555**

Image brightness • 4000 ANSI lumens (single lamp) contrast • 1000:1 (full on/off) uniformity • 90% brightness uniformity (corner to center) Display tech type • 3 x 0.75" Inorganic LCDs native resolution • WXGA (1366 x 800) Native aspect ratio 16:10, selectable aspect ratios 16:9; 4:3,14:9 Lamp type • 275W UHB lamp life • Normal mode: up to 2000hrs • Eco mode: up to 3000hrs Input signals • VGA through XGA (1600 x 1200) • Accepts current HDTV/DTV formats (480i up to 1080p) • NTSC, NTSC 4.43, PAL, PAL M, SECAM, PAL-N, PAL 60 pixel clock • 150MHz scan rates • Horizontal frequency range 31.5-106kHz • Vertical frequency range 56-120Hz Inputs, control and networking input • HDMI x 1 (HDCP Compliant) • HD 15 x 1 (with HD15 loop-through) • BNC x 5 (R,G,B,H,V & Y, Pb/Cb, Pr/Cr & Composite) • YPbPr (component video RCA x 3) • 1 RCA composite video • Mini DIN 4-pin (S-video) • Audio input (x 4) • Dsub-9 x 1 • LAN port • R/C Jack – Mini jack x 1 • Output HD 15 x 1 (loop-through) • Audio output x 1 mini jack output • Speakers 4W x 4 Optical system • Manual zoom, focus and lens shift Lenses fixed • Short 0.8:1 (121-100102-XX) zoom • Ships with standard lens 1.5-1.8:1 (N/A) • Short 1.2-1.9:1 (121-101103-XX) • Long 1.9-3.8:1 (121-102104-XX) • Ultra Long 3.9-7.3:1 (121-103105-XX) offsets • Vertical and Horizontal lens shift\*\* Accessories standard • Computer cable (Dsub15) • Wireless/wired remote control • AC line cord UL type (NEMA 6-20P plug type) • European 2P plug type optional • Filter cartridge (003-002119-01) • 275W UHB lamp (003-120457-01) Enhanced feature sets • Auto Detect • Auto Digital keystone (vertical) feature • Anti-theft: Kensington style slot and security bar • Support for closed caption video display (NTSC) • RJ45 LAN connection with network control and SNMP monitoring • Dynamic iris control • Customizable start-up logo Power requirements operating voltage • 90-132 VAC ±10% • 198-264 VAC ±10% operating current • 5.0A max (AC100V) • 2.1A max (AC200V) power • 460W max dissipation • 1570BTU/hr max Dimensions size • Body with lens (LxWxH): 12.52 x 16.46 x 5.47" (318 x 418 x 139mm) weight • 15.8lbs (7.2kg) with lens shipping weight • 25.57lbs (11.6kg) shipping size • (LxWxH): 18.8 x 21.9 x 9.6" (478 x 555 x 244mm) Noise • Standard mode: 37dBA • Eco mode: 31dBA Operating environment • Operating temperature: 40-95°F (5-35°C) • Storage temperature: 14-140°F (-10-60°C) • Humidity (non-condensing): 10-85% Regulatory approvals • This product conforms to the following regulations related to product safety, environmental requirements and electromagnetic compatibility (EMC): •

FCC Part 15, Subpart B Class A • CISPR22/EN55022 • CISPR24/EN55024 • UL 60950-1 first edition • CAN/CSA-C22.2 No 60950-1-03 first edition • IEC60950-1:2001 • 2002/95/EC RoHS Limited warranty projector • 3 years parts and labor lamp • 500hrs or 120 days (whichever comes first) • Contact an authorized Christie representative for full details of our limited warranty

**1 Chief Projector Mount  
RPAU**

Specifications Adjustments: Roll: 4° Pitch: 25° Yaw: 360° Certifications: UL Listed Color: Black Overall Dimensions (H x W x D): 1.8" x 6.5" x 5.5" (44 x 165 x 140 mm) Solution Type: Universal Weight Capacity: 50 lbs (22.7 kg)

**1 Crestron Wireless Access Point  
CEN-WAP-ABG-Cm**

**Wireless** Transceiver: IEEE 802.11a/b/g Wi-Fi (5.8 or 2.4 GHz 2-way RF); 64, 128, & 152-bit WEP encryption; WPA & WAP2 with TKIP & AES Transmit Power: Up to 19 dBm **Ethernet** 10BaseT/100BaseTX, auto-switching, auto-negotiating, auto-discovery, full/half duplex, TCP/IP, UDP/IP, DHCP client and server, SNMP, IEEE 802.3u & 802.3af compliant **Controls and LED Indicators** LAN: (1) Green LED, indicates wired Ethernet activity and link status Wi-Fi: (1) Green LED, indicates Wi-Fi activity and connection status Reset: (1) Recessed miniature pushbutton for hardware reset **Connectors - Rear Panel** NETWORK PoE: (1) 8-wire RJ45, female; 10BaseT/100BaseTX Ethernet port, 802.3af Power over Ethernet compliant; Connects to LAN via a 802.3af compliant PoE power source **Power Requirements** Power over Ethernet: IEEE 802.3af Class 1 PoE Powered Device **Enclosure** Injection-molded plastic, paintable white matte finish, ceiling mountable using a 1-gang plaster ring or electrical box (2 inch deep minimum) **Environmental** Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% RH (non-condensing) Heat Dissipation: 11 BTU/Hr **Dimensions** Height: 2.54 in (65 mm) Diameter: 4.73 in (120 mm) **Weight** 6.0 oz (168 g) Available Models CEN-WAP-ABG-CM: Ceiling Mount 802.11a/b/g Wireless Access Point CEN-WAP-ABG-POE-PWE-CM: Ceiling Mount 802.11a/b/g Wireless Access Point w/PoE Injector Included Accessories PWE-4803RU PoE Injector [Included Quantity for CEN-WAP-ABG-POE-PWECM: 1] Available Accessories PWE-4803RU: PoE Injector CEN-SW-POE-5: 5-Port PoE Switch CEN-SWPOE-24: 24-Port Managed PoE Switch

**6 JBL Ceiling mounted loud speaker  
Control 24 CT**

Freq. Range (-10 dB)<sup>1</sup>: 80 Hz - 20 kHz Power Capacity<sup>2</sup>: 80 Watts Continuous Program Power 40 Watts Continuous Pink Noise Nominal Sensitivity<sup>3</sup>: 86 dB SPL @ 1 m (3.3 ft) Nominal Coverage Angle<sup>4</sup>: 130° conical coverage Directivity Factor (Q): 2.4 averaged 500 Hz to 4 kHz Directivity Index (DI): 3.8 averaged 500 Hz to 4 kHz Rated Maximum SPL: 102 dB @ 1 m (3.3 ft) Nominal Impedance (24C): 16 ohms (Min Z 16.1 Ω @ 320 Hz) Transformer Taps (24CT): 70V: 30W, 15W, 7.5W & 3.7W taps 100V: 30W, 15W, & 7.5W taps Transducers: Low-Frequency: 100 mm (4.0 in) Polypropylene-coated, 1" coil on aluminum former High-Frequency: 19 mm (0.75 in) Titanium coated polyester. Physical: Enclosure: Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0 Overload Protection: Full-range power limiting to protect network and transducers. (On Control 24C, not on Control 24CT) Termination: Removable

locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm<sup>2</sup>) Safety Agency Rating: Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849. Outside Dimensions (H x Dia): 200 x 195 mm (7.9 x 7.7 in) 184 mm (7.2 in) front of ceiling tile to back of backcan Cutout Size: 168 mm (6.6 in) Net Weight (ea): 2.7 kg (6 lb) CT: 3.5 kg (8 lb) Shipping Weight (pair): 6.4 kg (15 lb) CT: 8.0 kg (18 lb) Included Accessories: C-shaped support backing plate 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles)  
Cutout template Paint shield Removable locking wiring connector.

1 **Misc. Audio/Video Cabling and Connectors**

1 **Labor**

**Director's Conference Room**

Qty.	Item Description
1	<p><b>LG 60" Display 60PV450C</b>  <b>PLASMA MODULE</b> Screen Size 60" class (59.8" measured diagonally) Native Display Resolution 1920 x 1080 Brightness 1,500 cd/m<sup>2</sup> Dynamic Contrast Ratio 3,000,000:1 Protective Skin Glass Yes Color Reproduction (Panel Output) 16 Bit ISM (Image Sticking Minimization) White Wash / Orbiter / Color Wash 600Hz Sub-Field Driving Yes (600Hz Max Sub-Field Driving) Life Span (typical) 100,000 Hours  <b>VIDEO</b> Built-in tuner ATSC/NTSC/Clear QAM - 1 Tuner Dual XD Engine Yes Aspect Ratio 16:9 Aspect Ratio Correction 6 Modes (16:9 Just Scan, Set by Program, 4:3, Zoom1, Cinema Zoom1) Just Scan (1:1 Pixel matching) HDMI 1080p/1080i/720p (0% overscan) Component 1080p/1080i/720p RF 1080i/720p Enhanced Noise Reduction 3D &amp; MPEG Color Temperature Control 3 Modes (Warm, Medium, Cool) 24p Real Cinema (3:3 Pulldown) Yes (HDMI 1080 24p) Cinema 3:2/2:2 Pulldown Mode Yes Picture Reset Yes AV Mode (Picture &amp; Mode) Yes Picture Mode 8 Modes (Vivid, Standard, APS, Cinema, Game, Sports, Expert 1, Expert 2) XD Color (Active Color Management) Yes ISFccc Ready Yes Intelligent Sensor Mode Yes xvYCC Yes DTV Signal Strength (Digital) Yes PC Resolution 1920 x 1080 @ 120Hz or better Color Reproduction (Chassis Output) 10-Bit  <b>AUDIO</b> Mono/Stereo/Dual (MTS/SAP) Yes Audio Output (Watts - THD 10%) 10W + 10W Speaker System Invisible Speaker (1 Way 2 Speaker) Dolby Digital 5.1 Decoder Yes Surround System Infinite Sound Bass/Treble/Balance Yes Smart Volume Leveler (Auto Volume Leveler) Yes Clear Voice II Yes Auto Volume Leveler II Yes Sound Mode 5 Modes (Standard, Music, Cinema, Sports, Game) Mute Yes  <b>SPECIAL FEATURES</b> USB 2.0 MP3 &amp; JPEG Public Display Settings Yes (V 2.5) Intelligent Sensor Yes Auto Demo Yes Picture Wizard II Yes A/V Input Navigation / EZ Input Toggle Yes Input Labeling Yes Quick View (Flashback) Yes Picture Freeze Yes Parental Control w/V-Chip Yes Key Lock Yes Closed Caption Yes Simplink™ (HDMI CEC) Yes  <b>CONVENIENCE FEATURES</b> Language 3 (English, Spanish, French) Quick Menu Yes Auto Tuning / Programming Yes Program (Channel) Edit (Add / Delete) Yes Favorite Channel Programming Yes Auto/Manual Clock Yes On/Off Timer Yes Sleep Timer Yes Auto Off / Auto Sleep Yes  <b>JACK PACK TV - SIDE</b> AV In Yes (1) HDMI/HDCP Input Yes, 2D: (480i/480p/720p/1080i/1080p), 1 Port PC Mode, SIMPLINK USB 2.0 Yes, (MP3, JPEG)  <b>TV - REAR</b> RF In Yes (1) AV In Yes (1) Component In (Y,Pb,Pr) + Audio Yes (2)</p>



(480i/480p/720p/1080i/1080p) Digital Audio Out (Optical) Yes, (1, Optical) HDMI/HDCP Input Yes, 2D: (480i/480p/720p/1080i/1080p), 1 Port PC Mode, SIMPLINK RGB In (D-sub 15pin) - PC Yes (1) PC Audio Input Yes (1) RS-232C In Yes, (1, Control & Service) Remote Control In Yes (1) Wired IR Jack Yes

**CABINET/ACCESSORIES** TruSlim Frame Yes Cabinet Color Gloss Black Speaker Invisible Speaker Table Stand Included Detachable (20°/20°) Swivel VESA™ Compliant 600 x 400 (60") Local Key Type Touch Sensitive Keys Remote Control Yes, Illuminated Quick Setup Guide Yes Power Cord Yes

**POWER** EcoSmart - Energy Savings Intelligent Sensor (auto) Yes (automatic) 3 Mode Power Saving Levels Yes (manual) Voltage, Hz 100~240V, 50/60Hz Power Consumption (IEC62087 dynamic 201W (60"), broadcast-content video signal) Stand by Mode Under 0.2W

**REQUIRED APPROVALS** RoHS Compliant Yes UL, c-UL, FCC Yes

**DIMENSIONS & WEIGHT 60PV450C** Dimensions without Stand (W×H×D) 54.6" x 32.9" x 2.0" with Stand (W×H×D) 54.6" x 35.6" x 13.2" packaging (W×H×D) 60.8" x 38.2" x 13.0" Weight without Stand 84.9 lbs with Stand 94.0 lbs with packaging 108.2 lbs

**LIMITED WARRANTY** 2 Years (Parts/Labor)

**UPC** 60PV450C 7 19192 90245 9

## 1 Chief LTA5536

### Flat Panel Wall Mount

Certifications: UL Listed Color: Black Lateral Shift 16" (406.4mm) Maximum Screen Thickness 6" Minimum Depth : 1.99" (50.5mm)

Mounting Pattern Compatibility (Universal Versions): 100 x 100mm- 895 x 505mm

Orientation: Landscape Overall Dimensions (H x W x D): 13.2" x 34.4" x 2.0" (335 x 875 x 51mm) Solution Type: Custom Tilt: + 0° , - 12° Typical Screen Sizes 37 - 63"

Wall Stud Compatibility (inches): 12 - 34" Weight Capacity : 200 lbs (90.7kg)

## 1 Crestron QM transmitter

### QM-TX

**Video** Signal Types: RGB and composite, S-Video, or component video

Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p RGB Formats: RGBHV, RGsB, or RGsB Gain: 0dB (75 ohms terminated) Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation at receiver

**Audio** A-D Conversion : 24-bit, 48 kHz Frequency Response : 20Hz to 20kHz **Connectors** R/C/Pr, G/Y/Y, B/COMP/Pb, H, V: (5) BNC female, Multi-format RGB/Video input; Formats: RGBHV, RGsB, RGsB, YPbPr, S-Video (Y/C), composite; Input Impedance: 75 ohms; H/V Sync Impedance: 620 ohms; Maximum Input Level: 0.7 Vp-p for RGB and C of S-Video; 1 Vp-p for composite and Y of S-Video; Maximum H/V Sync Level: 5 Vp-p; Signal sensing on G/Y/Y, B/COMP/Pb, and H

G: (1) 6-32 screw, chassis ground lug **AUDIO:** (1) 5-pin 3.5mm detachable terminal block; Balanced/unbalanced stereo line-level audio input; Maximum Input Level: 4 Vrms balanced, 2 Vrms unbalanced; Input Impedance: 10k ohms balanced, 5k ohms unbalanced **QM OUT :** (1) 8-wire RJ45 female, QuickMedia output port; Connects to QM input port of any QuickMedia device via CresCAT-QM or CresCAT-IM cable\* **NET:** (2) 4-pin 3.5mm detachable terminal blocks; Cresnet slave ports, paralleled; Connect to Cresnet control network via CresCAT-QM or Cresnet cable

**Buttons & LED Indicators** **PWR:** (1) green LED, indicates 24 Volts DC power supplied from Cresnet control network **NET:** (1) yellow LED, indicates communication with Cresnet system **VIDEO ACT :** (1) red LED, indicates signal at the G/Y/Y, B/COMP/PB, or H connectors **SETUP (rear) :** (1) miniature pushbutton and red LED, used for touch-settable ID (TSID) **Power Requirements** Cresnet Power Usage: 5 Watts (0.21 Amp @ 24 Volts DC) **Environmental** Temperature: 41° to 104°F (5° to 40°C) Humidity: 10% to

90% RH (non-condensing)

**Enclosure Chassis:** Steel, black matte powder coat finish **Faceplate:** Extruded aluminum, black matte powder coat finish with polycarbonate label overlay **Mounting:** Freestanding or 0.5U 19-inch rack-mountable (adhesive feet included, ST-RMK rack kit sold separately)

## 1 **Crestron Control Processor**

### **MPS300**

#### **Processor**

**CPU:** 32-bit Freescale ColdFire® Microprocessor **Memory** 32 MB SDRAM, 256 KB NVRAM, 16 MB Flash **Operating System**

Real-time, preemptive, multitasking kernel, multi-threaded; FAT3 filesystem with long names; supports SIMPL™ Windows® and SIMPL+® **Ethernet** 10/100BaseT, static IP or DHCP/DNS, SSL, auto-negotiating, full duplex TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control®2 XPanel and RoomView® applications **Video Switcher:** 8x7 crosspoint matrix including 3x3 QM signal routing, local QM delay skew compensation, RGB pass-thru mode (multi-format via RGB output connection) **Signal Types:** RGB and composite, S-Video, or component video (does not transcode) **Video/HDTV Formats:** NTSC or PAL, HDTV up to 1080i/1080p **RGB Formats:** RGBHV, RGBS, RGsB **Maximum Resolution:** 2048 X 1536 @ 60Hz (1920 X 1200 @ 60Hz via QM)

**Blanking Time:** < 0.1 second **Sync Rise/Fall Time:** 3.5 ns maximum

**Sync Latency:** < 30 ns **Gain:** 0dB (75 ohms terminated) **QM Cable Compensation:** 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R, G, and B) **Audio Switcher/Preamp:** 8x4 stereo crosspoint matrix including 3x3 QM signal routing, 2-channel gated mic preamp with compressor & limiter, 8-channels mic EQ, 10X5 mic/program matrix mixer, 8x2 mic matrix mixer per each of 3 QM outputs, stereo volume/tone control and EQ per each of PROGRAM and RECORD outputs, mono volume/tone control and EQ/delay on SPEECH output, integrated power amplifier, QM auto-compensation with self-peaking **A-D/D-A Conversion:** 24-bit, 48 kHz **Volume Range:** -80 to +20 dB, 0.1dB steps (output); -80 to 0 dB, 0.1dB steps (mixer)

**Mute:** -100dB (electronic), -120dB (relay) **Input Compensation:** ±10dB, 0.1dB steps **Mic Input Gain:** 0 to 100 % (40dB range) plus mute **Gate Level (Threshold):** 0 to 100 % **Gate Attack:** 0 to 100 mS

**Gate Decay (Release):** 0 to 5000 mS **Gate Depth:** -80dB (mute) to 0dB, 0.1dB steps **Compression Threshold:** -80dB to +20dB, 0.1dB steps **Limit Threshold:** 0dB to 20dB, 0.1dB steps **Comp/Lim Attack:** Separately adjustable 0.1 to 300 mS **Comp/Lim Release:** Separately adjustable 1 to 500 mS **Compression Ratio:** 1.0:1 to 10.0:1 **Comp/Lim Curve:** Separately selectable hard or soft knee **Mic EQ:** ±12dB, 0.1 dB steps at 160, 500, 1.2k, and 3k Hz **Bass/Treble:** ±12dB, 0.5dB steps at 100Hz and 10kHz **Output Equalization:** 10-band graphic (GEQ) + 2-band parametric (PEQ) **GEQ:** ±12dB, 0.1dB steps at 31, 63, 125, 250, 500, 1k, 2k, 4k, 8k, and 16k Hz **PEQ Filter Gain/Center Frequency:** ±12dB, 0.1dB steps at 25Hz to 20kHz, 0.5Hz steps **PEQ Filter Bandwidth:** 0.1 to 3.0 octaves, 0.1 octave steps **PEQ Filter Types:** Low Pass, High Pass, Peaking Eq, Notch, Treble Shelf, Bass Shelf **Speech Output Delay:** 0 to 40 mS, 1mS steps **Frequency Response:** 20Hz to 20kHz ±0.5dB (PROG/REC OUT), 50Hz to 20kHz ±0.5dB (SPEECH OUT), 20Hz to 20kHz ±0.5dB (SPEAKER @ 8 ohms), 100Hz to 20kHz ±1.5dB

(SPEAKER @ 70V or 100V) **S/N Ratio:** 95dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz A-weighted), 95dB (SPEECH OUT @ 10dBV, 50Hz to 20kHz A-weighted), 90dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz A-weighted), 90dB (SPEAKER @ 70V or 100V, full output, 20Hz to 20kHz A-weighted) **THD+N:** 0.02% (PROG/REC OUT

@ 10dBV, 20Hz to 20kHz), 0.02% (SPEECH OUT @ 10dBV, 50Hz to 20kHz), 0.7% (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz), 0.7% (SPEAKER @ 70V or 100V, full output, 100Hz to 20kHz A-weighted) **Stereo Separation:** -80dB (PROG/REC OUT @ 10dBV, 20Hz to 20kHz), -60dB (SPEAKER @ 8 ohms, full output, 20Hz to 20kHz) **Channel Crosstalk:** -80dB (AUD IN @ 10dBV, 20Hz to 20kHz)

## 1 Crestron Touch Panel

### TPS-6X

#### Touchscreen Display

Display Type: TFT Active matrix color LCD Size: 5.7 inch (145 mm) diagonal Aspect Ratio: 4:3 VGA Resolution: 640 x 480 pixels Brightness: 350 nits (cd/m<sup>2</sup>) Contrast: 400:1 Color Depth: 18-bit, 256k colors Illumination: Backlit fluorescent Viewing Angle: ±80° horizontal, +80°/-70° vertical Touchscreen: Resistive membrane

**Buttons & Switches** Sleep: (1) Programmable top-mounted pushbutton (left); normally initiates "Sleep" mode when docked, turns power on/off when undocked; also resets touchpanel if held for 5 seconds Brightness: (1) Programmable top-mounted pushbutton (right), normally sets display brightness level Hard Keys: (8) Optional programmable pushbuttons, engravable backlit text [2] (default engraving included) Up/Down: (2) Optional programmable "up/down" pushbuttons, backlit, engravable backlit text[2] on bezel (default engraving included) Thumbpad: (5) Optional programmable pushbuttons for 4-way directional navigation and "enter", backlit

Battery: (1) Rear panel recessed DIP switch, shuts off battery for long-term storage

**LED Indicators** Battery: (1) Green LED, indicates battery condition and charging status when docked **Connectors** Docking Connector: (1) multi-pin connector; Mates with the docking port on the docking station[6] See the TPS-6X-IMCW interface module[6] specification for other connectors **Memory** SDRAM: 32 MB Flash: 32 MB Maximum Project Size: 28 MB **Graphic Engine** Isys engine; 16-bit non-palette graphics; 65,536 colors; Synapse image rendering algorithm; multi-mode objects, DNav dynamic menu objects, dynamic graphics, PNG translucency, full-motion (60 fps) animation, color key video windowing **RF Wireless** RF Transceiver: 2-way RF, 2.4 GHz ISM Channels. 11-26 (2400 to 2483.5 MHz), IEEE 802.15.4 compliant Transmitting Power: 75 mW (Ch.11), 100 mW (Ch.12-23), 15 mW (Ch.24), 3.5 mW (Ch.25), 1 mW (Ch.26) @ High Setting; 1 mW (Ch.11-25), 0.5 mW (Ch.26) @ Low Setting Range (typical): 100 to 200 feet maximum indoor, 1000 feet outdoor, subject to site-specific conditions Gateway: Requires a CEN-HPRFGW Extended Range RF Gateway[5] Roaming: Supports roaming amongst up to 8 RF gateways **IR Wireless**[1] IR Transmitter: 38 kHz, RC5 format Range: 50 feet typical

## 1 Crestron Wireless Access Point

### CEN-WAP-ABG-Cm

**Wireless** Transceiver: IEEE 802.11a/b/g Wi-Fi (5.8 or 2.4 GHz 2-way RF); 64, 128, & 152-bit WEP encryption; WPA & WAP2 with TKIP & AES Transmit Power: Up to 19 dBm **Ethernet** 10BaseT/100BaseTX, auto-switching, auto-negotiating, auto-discovery, full/ half duplex, TCP/IP, UDP/IP, DHCP client and server, SNMP, IEEE 802.3u &

802.3af compliant

#### Controls and LED Indicators

LAN: (1) Green LED, indicates wired Ethernet activity and link status

Wi-Fi: (1) Green LED, indicates Wi-Fi activity and connection status

Reset: (1) Recessed miniature pushbutton for hardware reset

**Connectors - Rear Panel** NETWORK PoE: (1) 8-wire RJ45, female; 10BaseT/100BaseTX Ethernet port, 802.3af Power over Ethernet compliant; Connects to LAN via a 802.3af compliant PoE power source

**Power Requirements** Power over Ethernet: IEEE 802.3af Class 1 PoE Powered

Device **Enclosure** Injection-molded plastic, paintable white matte finish, ceiling mountable using a 1-gang plaster ring or electrical box (2 inch deep minimum)  
**Environmental** Temperature: 32° to 104°F (0° to 40°C) Humidity: 10% to 90% RH (non-condensing)

Heat Dissipation: 11 BTU/Hr **Dimensions** Height: 2.54 in (65 mm) Diameter: 4.73 in (120 mm) **Weight** 6.0 oz (168 g) Available Models CEN-WAP-ABG-CM: Ceiling Mount 802.11a/b/g Wireless Access Point CEN-WAP-ABG-POE-PWE-CM: Ceiling Mount 802.11a/b/g Wireless Access Point w/PoE Injector Included Accessories PWE-4803RU PoE Injector [Included Quantity for CEN-WAP-ABG-POE-PWECM: 1] Available Accessories PWE-4803RU: PoE Injector CEN-SW-POE-5: 5-Port PoE Switch CEN-SWPOE-24: 24-Port Managed PoE Switch

**1 LOGITECH Wireless Keyboard/ Mouse  
MX505**

System Requirements Windows-based computer Windows® XP or Windows Vista® or Windows® 7 USB port CD-ROM drive

Warranty Information 3-year limited hardware warranty Package Contents Logitech® Bluetooth® MX™ Keyboard Logitech® Bluetooth® MX™ Revolution Laser Mouse USB Bluetooth® mini-receiver (can be used as Bluetooth® hub) 4 AA alkaline batteries CD with software, comfort guidelines, and help center Quick-Start guide

**6 JBL Ceiling mounted loud speaker  
Control 24 CT**

Freq. Range (-10 dB)<sup>1</sup>: 80 Hz - 20 kHz

Power Capacity<sup>2</sup>: 80 Watts Continuous Program Power 40 Watts Continuous Pink Noise Nominal Sensitivity<sup>3</sup>: 86 dB SPL @ 1 m (3.3 ft)

Nominal Coverage Angle<sup>4</sup>: 130° conical coverage Directivity Factor (Q): 2.4 averaged 500 Hz to 4 kHz Directivity Index (DI): 3.8 averaged 500 Hz to 4 kHz Rated Maximum SPL: 102 dB @ 1 m (3.3 ft) Nominal Impedance (24C): 16 ohms (Min Z 16.1 Ω @ 320 Hz) Transformer Taps (24CT): 70V: 30W, 15W, 7.5W & 3.7W taps 100V: 30W, 15W, & 7.5W taps Transducers: Low-Frequency: 100 mm (4.0 in) Polypropylene-coated, 1" coil on aluminum former High-Frequency: 19 mm (0.75 in) Titanium coated polyester. Physical: Enclosure: Backcan: Formed steel Baffle/Rim: Medium impact polystyrene, fire rated UL94V-0 Overload Protection: Full-range power limiting to protect network and transducers. (On Control 24C, not on Control 24CT) Termination: Removable locking connector with screw-down terminals. 2 input terminals and 2 loop-thru output terminals. Max. wire size 12 AWG (2.5 mm<sup>2</sup>) Safety Agency Rating: Suitable for use in air handling spaces per UL1480, UL2043, NFPA90 & NFPA 70. S7232/UL Listed, Signaling Speaker. Transformer UL registered per UL1876. In accordance with IEC60849/EN60849. Outside Dimensions (H x Dia): 200 x 195 mm (7.9 x 7.7 in) 184 mm (7.2 in) front of ceiling tile to back of backcan Cutout Size: 168 mm (6.6 in) Net Weight (ea): 2.7 kg (6 lb) CT: 3.5 kg (8 lb) Shipping Weight (pair): 6.4 kg (15 lb) CT: 8.0 kg (18 lb) Included Accessories: C-shaped support backing plate 2 tile support rails (fits both 2 x 4 ft or 600 x 1200 mm tiles) Cutout template Paint shield Removable locking wiring connector.

**Wall Plate VGA and Video with Audio**

**1**

**1 Biamp Digital Signal Processor  
Nexia TC**

8 wide-band AEC balanced mic/line inputs • 2 standard balanced mic/line inputs • 4



balanced mic/line outputs • telephone interface with line & set connections • Ethernet port for software configuration/control • serial port for third-party RS-232 remote control • NexLink ports for multi-unit system designs • Nexia software for Windows® XP Professional/Vista • pre-configured I/O with definable processing • **RoHS** compliance and **AES** grounding practices • **CE** marked and **UL/C-UL** listed • covered by Biamp Systems' five-year warranty • Ability to select, view, and calibrate:

° Mixers, Equalizers, Filters, Crossovers, Dynamics, Routers, Delays, Controls, Meters, Generators, Diagnostics • Telephone Interface capabilities include: ° initiation of outgoing calls ° detection and answering of incoming calls ° line echo cancellation ° TouchTone™ decoding ° caller ID reception ° call progress detection ° line intrusion detection ° continuous line status and fault monitoring Frequency Response (20Hz~20kHz @ +4dBu): +0/-0.4dB THD+N (20Hz~20kHz @ +4dBu): line level < 0.006% mic level < 0.05% Equivalent Input Noise (20Hz~20kHz, 66dB gain, 150 ohm): -125dBu Dynamic Range 20Hz~20kHz, 0dB): > 105dB Maximum Gain (input channels): 66dB

Crosstalk (channel-to-channel @ 1kHz): line level < -80dB mic level < -75dB Output Impedance (balanced): 200 ohms Input Impedance (mic/line balanced): 8k ohms Input Gain Range (variable trim): 0dB ~ +66dB Maximum Output (balanced): +24dBu Maximum Input (mic/line): +24dBu Full Scale Output Level (six selections) -31dBu ~ +24dBu Telephone Interface: ringer equivalency number 0.0B dynamic range 67dBu frequency response 250Hz ~ 3.4kHz THD < 0.3% transhybrid balance 30dB Tail Length: up to 300ms

Convergence: up to 100dB/sec Phantom Power: +48 VDC (7mA/input

Sampling Rate: 48kHz A/D - D/A Converters: 24-bit Power Consumption (100~240VAC 50/60Hz): 65 watts

Dimensions: height 1.75 inches (45mm) width 19 inches (483mm) depth 11.15 inches (283mm) Weight: 8.6 lbs. (3.9kg) Compliance: AES48-2005 Grounding & EMC practices EU Directive 2002/95/EC, RoHS directive CE marked UL listed

### 3 **CROWN PZM-10**

Polar pattern, hemispherical. Frequency range PZM®-10: 80 to 20,000 Hz; PZM®-10LL: 100 to 20,000 Hz Sensitivity PZM®-10: 2.5 mV/Pa (-52 dBV); PZM®-10 LL: 1.4 V/Pa (+3 dBV) Max. SPL 120 dB Equivalent noise level 26 dB-A Signal/noise ratio 68 dB (A-weighted) Impedance PZM®-10: 240 ohms; PZM®-10 LL: 75 ohms Connector PZM®-10: 3-pin XLR; PZM®-10 LL: stripped and tinned leads Finish Off-white. May be painted any color. Dimensions ø 3.9 cm x 7.2 cm (ø 1.53 x 2.829 in.) Net weight PZM®-10: 74 g (22,6 oz.); PZM®-10 LL: 93 g (3,3 oz.) ROHS OK

### 1 **Misc. Audio/Video Cabling and Connectors**

### 1 **Labor**

## **SECTION THREE: VENDOR BID**

- 3.1 **Economy of Preparation:** Bids should be prepared simply and economically providing a straightforward, concise description of the Vendor's abilities to satisfy the requirements of the RFQ. Emphasis should be placed on completeness and clarity of the content.
- 3.2 **Incurring Cost:** Neither the State nor any of its employees or officers shall be held liable for any expenses incurred by any Vendor responding to this RFQ, including but not limited to preparation, delivery, or travel.

3.3 **Bid Format:** Bidders must use cost forms provided in this RFQ.

3.4 **Bid Submission:**

**Vendors responding to this RFQ should submit:**

Two originals to:

Purchasing Division  
2019 Washington Street, East  
P.O. Box 50130  
Charleston, WV 25305-0130

The outside of the envelope or package(s) for both the technical and the cost should be clearly marked:

Vendor: \_\_\_\_\_  
Buyer: \_\_\_\_\_  
Req #: \_\_\_\_\_  
Opening Date: \_\_\_\_\_  
Opening Time: 1:30 p.m.

3.5 **Purchasing Affidavit:** *West Virginia Code* §5A-3-10a requires that all bidders submit an affidavit regarding any debt owed to the State. The affidavit must be signed and submitted prior to award. It is preferred that the affidavit be submitted with the bid.

3.6 **Resident Vendor Preference:** In accordance with *West Virginia Code* §5A-3-37, Vendors may make application for Resident Vendor Preference. Said application must be made on the attached Resident Vendor Certification form at the time of bid submission.

**SECTION FOUR: EVALUATION AND AWARD**

4.1 **Evaluation Process:** Bids will be evaluated against the established criteria. The Vendor who demonstrates that they meet all of the mandatory specifications, has appropriately presented within their written bid their understanding in meeting the goals and objectives of the project; and attains the lowest cost of all Vendors shall be awarded the contract.

4.1.1 Cost Evaluation: The Agency will review the cost bids and make a final recommendation to the Purchasing Division.

4.3 **Independent Price Determination:** A bid will not be considered for award if the price in the bid was not arrived at independently without collusion, consultation, communication, or agreement as to any matter relating to prices with any competitor unless the bid is submitted as a joint venture.

4.4 **Rejection of Bids:** The State reserves the right to accept or reject any or all bids, in part or in whole at its discretion. The State further reserves the right to withdraw this RFQ at any time and for any reason. Submission of or receipt of bids by the State confers no rights upon the bidder nor obligates the State in any manner.

4.5 **Vendor Registration:** Vendors participating in this process should complete and file a Vendor Registration and Disclosure Statement (Form WV-1) and remit the registration fee. Vendor is not required to be a registered Vendor in order to submit a bid, but the **successful**

**bidder must** register and pay the fee prior to the award of an actual purchase order or contract.

## SECTION FIVE: CONTRACT TERMS AND CONDITIONS

- 5.1 **Contract Provisions:** The RFQ and the Vendor's response will be incorporated into the contract by reference. The order of precedence shall be the contract, the RFQ and any addendum, and the vendor's bid in response to the RFQ.
- 5.2 **Public Record:** All documents submitted to the State Purchasing Division related to purchase orders or contracts are considered public records. All bids or offers submitted by Vendors shall become public information and are available for inspection during normal official business hours in the Purchasing Division Records and Distribution center after the bid opening. Certain information, such as reasons for disqualification, will not be available until after the contract award, pursuant to **West Virginia Code** §5A-3-11(h) and **West Virginia Code of State Rules** §148-1-6.2.5.
- 5.2.1 **Risk of Disclosure:** The only exemptions to disclosure of information are listed in **West Virginia Code** §29B-1-4. Any information considered a trade secret must be separated from the Vendor submission and clearly labeled as such. Primarily, only trade secrets, as submitted by a bidder, are exempt from public disclosure. The submission of any information to the State by a Vendor puts the risk of disclosure on the Vendor. The State does not guarantee non-disclosure of any information to the public.
- 5.2.2 **Written Release of Information:** All public information may be released with or without a Freedom of Information request; however, only a written request will be acted upon with duplication fees paid in advance. Duplication fees shall apply to all requests for copies of any document. Currently, the fees are 50 cents per page, or a minimum of \$10.00 per request, whichever is greater.
- 5.3 **Conflict of Interest:** Vendor affirms that neither it nor its representatives have any interest nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency.
- 5.4 **Vendor Relationship:** The relationship of the Vendor the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents.

Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this RFQ and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever.

Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, *et cetera* and the filing of all necessary documents, forms and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns. The Vendor shall not assign, convey, transfer, or delegate any of its responsibilities and obligations under this contract to any person, corporation, partnership, association, or entity without expressed written consent of the Agency.

5.4.1 Subcontracts/Joint Ventures: The Vendor may, with the prior written consent of the State, enter into subcontracts for performance of work under this contract.

5.4.2 Indemnification: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the contract in a manner not authorized by the contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage laws.

5.4.3 Governing Law: This contract shall be governed by the laws of the State of West Virginia. The Vendor further agrees to comply with the Civil Rights Act of 1964 and all other applicable laws and regulations as provided by Federal, State, and local governments.

5.5 **Non-Appropriation of Funds**: If funds are not appropriated for the Agency in any succeeding fiscal year for the continued use of the services covered by this contract, the State may terminate the contract at the end of the affected current fiscal period without further charge or penalty. The State shall give the Vendor written notice of such non-appropriation of funds as soon as possible after the Agency receives notice. No penalty shall accrue to the Agency in the event this provision is exercised.

5.6 **Changes**: If changes to the contract become necessary, a formal contract change order will be negotiated by the State, the Agency, and the Vendor.

As soon as possible, but not to surpass thirty (30) days after receipt of a written change request from the Agency, the Vendor shall determine if there is an impact on price with the change requested and provide the Agency a written Statement identifying any price impact on the contract. The Vendor shall provide a description of any price change associated with the implementation.

**NO CHANGE SHALL BE IMPLEMENTED BY THE VENDOR UNTIL SUCH TIME AS THE VENDOR RECEIVES AN APPROVED WRITTEN CHANGE ORDER FROM THE PURCHASING DIVISION.**

5.7 **Price Quotations**: The price(s) quoted in the Vendor's bid will not be subject to any increase and will be considered firm for the life of the contract unless specific provisions have been provided in the original specifications.

5.8 **Invoices and Progress Payments**: The Vendor shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To." Progress



payments may be made at the option of the Agency on the basis of percentage of work completed if so defined in the final contract.

- 5.9 **Contract Termination:** The State may terminate any contract resulting from this RFQ immediately at any time the Vendor fails to carry out its responsibilities or to make substantial progress under the terms of this RFQ and resulting contract. The State shall provide the Vendor with advance notice of performance conditions which may endanger the contract's continuation. If after such notice the Vendor fails to remedy the conditions within the established timeframe, the State shall order the Vendor to cease and desist any and all work immediately. The State shall be obligated only for services rendered and accepted prior to the date of the notice of termination.

The contract may be terminated by the State with thirty (30) days prior notice pursuant to **West Virginia Code of State Rules § 148-1-7.16.2.**

5.10 **Special Terms and Conditions:**

5.10.1 Insurance Requirements: *Insurance certificates are required prior to award, but are not required at the time of bid).*

- Public liability: \$1,000,000.00
- Property damage: \$1,000,000.00
- Professional liability (medical, advertising, *et cetera*): \$500,000.00

5.10.3 License Requirement: All federal and state licenses required by law.

- 5.11 **Record Retention (Access and Confidentiality):** Vendor shall comply with all applicable Federal and State rules, regulations, and requirements governing the maintenance of documentation to verify any cost of services or commodities rendered under this contract by the Vendor. The Vendor shall maintain such records a minimum of five (5) years and make such records available to Agency personnel at the Vendor's location during normal business hours upon written request by the Agency within ten (10) days after receipt of the request.

Vendor shall have access to private and confidential data maintained by the Agency to the extent required for the Vendor to carry out the duties and responsibilities defined in this contract. Vendor agrees to maintain confidentiality and security of the data made available and shall indemnify and hold harmless the State and the Agency against any and all claims brought by any party attributed to actions of breach of confidentiality by the Vendor, subcontractors, or individuals permitted access by the Vendor.

**Attachment A: Bidder Response Sheet**

*Provide a response regarding the following: firm and staff qualifications and experience in completing similar projects; 3 references; copies of any staff certifications or degrees applicable to this project; proposed staffing plan; descriptions of past projects completed entailing the location of the project, project manager name and contact information, type of project, and what the project goals and objectives were and how they were met.*

**Attachment B: Cost Bid Sheet**

WEST VIRGINIA LOTTERY  
REQUEST FOR QUOTATION LOT493

**COMMISSIONER'S CONFERENCE ROOM**

ITEM DESCRIPTION	MANUFACTURER	MODEL NUMBER	Qty	PRICE	EXTENDED PRICE
Screen (OFE)	Draper	16x9 Screen	2	\$_____	\$_____
Lift (OFE)	Draper	Orbiter	2	\$_____	\$_____
LVC	Draper	LVC III	2	\$_____	\$_____
Projector	CHRISTIE	LW555	2	\$_____	\$_____
Speakers	JBL	Control 24cT	10	\$_____	\$_____
Amplifier 8 channel	QSC	CX108V	1	\$_____	\$_____
USB/SD recording device (rs232)	Denon	DN-F650R	1	\$_____	\$_____
DSP	BIAMP	NEXIA TC	1	\$_____	\$_____
Wireless Hand Held (ND767 capsule)	EV	FMR500HD-A	2	\$_____	\$_____
Wireless Microphone System	Revo Labs	01-HDEXEC-NM 01-HDTBLMIC-DR-	1	\$_____	\$_____
Directional Table Top Mics	Revo Labs	11	8	\$_____	\$_____
Wireless AP	Crestron	CEN-WAP-ABG-CM	1	\$_____	\$_____
Control System	Crestron	MPS300-70	1	\$_____	\$_____
Wireless Touch Panel	Crestron	TPS 6X	1	\$_____	\$_____
Wall plate VGA and Video with Audio	Crestron	OMWMC	2	\$_____	\$_____
DVD Blu Ray Payer	Sony	BDP-S480s	1	\$_____	\$_____
Misc Audio Cable and Connectors	LHS/WV	Misc material	1	\$_____	\$_____
Rack 24 RU Floor standing 27" Depth	Middle Atlantic	WRK-24SA-27	1	\$_____	\$_____
Labor	LHS/WV	Installation/Training		\$_____	\$_____
				<b>Total</b>	\$_____

**CONFERENCE ROOM 1036**

Audio Codec	Biamp	NEXIA TC	1	\$_____	\$_____
Pressure Zone Microphone	Crown	PZM-10	3	\$_____	\$_____
USB/SD recording device (rs232)	Denon	DN-F650R	1	\$_____	\$_____
LCD 60"	LG	60PV450C	1	\$_____	\$_____
Wall Mount	Chief	LTA5536	1	\$_____	\$_____
Cat 5 RGBHV BALUN with Audio	Crestron	QM-TX	1	\$_____	\$_____
Control System	Crestron	MPS300	1	\$_____	\$_____

QuickMedia Receiver	Crestron	QM-RX	1	\$ _____	\$ _____
Wireless TP	Crestron	TPS 6X	1	\$ _____	\$ _____
Wireless AP	Crestron	CEN-WAP-ABG-CM	1	\$ _____	\$ _____
Speakers	JBL	Control 24cT	6	\$ _____	\$ _____
Cable	Cat5	Belden	1	\$ _____	\$ _____
Materials, rack screws, install hardware	LHS/WV	Misc material	1	\$ _____	\$ _____
Labor	LHS/WV	Installation/Training		\$ _____	\$ _____
				<b>Total</b>	\$ _____

**CONFERENCE ROOM 1214**

Audio Codec	Biamp	NEXIA TC	1	\$ _____	\$ _____
Pressure Zone Microphone	Crown	PZM-10	3	\$ _____	\$ _____
LCD 60"	LG	60PV450C	1	\$ _____	\$ _____
Wall Mount	Chief	LTA5536	1	\$ _____	\$ _____
Cat 5 RGBHV BALUN with Audio	Crestron	QM-TX	1	\$ _____	\$ _____
Control System	Crestron	MPS300	1	\$ _____	\$ _____
QuickMedia Receiver	Crestron	QMRX	2	\$ _____	\$ _____
Wireless TP	Crestron	TPS 6X	1	\$ _____	\$ _____
Wall plate VGA and Video with Audio	Crestron	OMWMC	2	\$ _____	\$ _____
Wireless AP	Crestron	CEN-WAP-ABG-CM	1	\$ _____	\$ _____
Interactive White Board	Smart	SBX885	1	\$ _____	\$ _____
USB Wall Plate	TecNec	WPLUSB	1	\$ _____	\$ _____
Projector	Christie	LW555	1	\$ _____	\$ _____
Projector Mount	Chief	RPAU	1	\$ _____	\$ _____
Speakers	JBL	Control 24cT	6	\$ _____	\$ _____
Cable	Cat5	Belden	1	\$ _____	\$ _____
Materials, rack screws, install hardware	LHS/WV	Misc material	1	\$ _____	\$ _____
Labor	LHS/WV	Installation/Training		\$ _____	\$ _____
				<b>Total</b>	\$ _____

**DIRECTOR'S CONFERENCE ROOM**

LCD 60"	LG	60PV450C	1	\$ _____	\$ _____
Wall Mount	Chief	LTA5536	1	\$ _____	\$ _____
Cat 5 RGBHV BALUN with Audio	Crestron	QM-TX	1	\$ _____	\$ _____
Control System	Crestron	MPS300	1	\$ _____	\$ _____
Wireless TP 5.7 "	Crestron	TPS 6X	1	\$ _____	\$ _____
Wireless AP	Crestron	CEN-WAP-ABG-CM	1	\$ _____	\$ _____
Wireless keyboard/Mouse	Logitech	MX5050	1	\$ _____	\$ _____
Speakers	JBL	Control 24cT	6	\$ _____	\$ _____
Wall plate VGA and Video with Audio	TecNec	WPL-1181	1	\$ _____	\$ _____



Audio Codec	Biamp	NEXIA TC	1	\$ _____	\$ _____
Pressure Zone Microphones	Crown	PZM10	3	\$ _____	\$ _____
Cable	Belden	Cat5	1	\$ _____	\$ _____
Materials, rack screws, install hardware	LHS/WV	Misc material	1	\$ _____	\$ _____
Labor	LHS/WV	Installation/Training		\$ _____	\$ _____
			<b>Total</b>	\$ _____	\$ _____

**BID SUMMARY TOTALS**

<b>A</b>	<b>COMMISSIONER'S CONFERENCE ROOM</b>	\$
<b>B</b>	<b>CONFERENCE ROOM 1036</b>	\$
<b>C</b>	<b>CONFERENCE ROOM 1214</b>	\$
<b>D</b>	<b>DIRECTOR'S CONFERENCE ROOM</b>	\$
	<b>TOTAL OF A+B+C+D</b>	\$

*NOTE: Contract award will be based on the total of A, B, C, and D.*

By my signature below I certify that the bid submitted meets or exceeds all the mandatory specifications and minimum requirements of this RFQ. Additionally, I agree to provide any requested documentation and/or samples deemed necessary by the State of West Virginia to demonstrate compliance with said specifications.

SIGNATURE	
PRINT OR TYPE NAME	
COMPANY NAME	
COMPANY ADDRESS	
COMPANY ADDRESS	
CITY, STATE, ZIP	
PHONE	
FAX	
EMAIL	

**BID BOND PREPARATION INSTRUCTIONS**

AGENCY \_\_\_\_\_ (A)  
RFQ/RFP# \_\_\_\_\_ (B)

**Bid Bond**

- (A) WV State Agency  
(Stated on Page 1 "Spending Unit")  
Request for Quotation Number (upper  
right corner of page #1)
- (C) Your Company Name
- (D) City, Location of your Company
- (E) State, Location of your Company
- (F) Surety Corporate Name
- (G) City, Location of Surety
- (H) State, Location of Surety
- (I) State of Surety Incorporation
- (J) City of Surety Incorporation
- (K) Minimum amount of acceptable bid  
bond is 5% of total bid. You may state  
"5% of bid" or a specific amount on  
this line in words.
- (L) Amount of bond in figures
- (M) Brief Description of scope of work
- (N) Day of the month
- (O) Month
- (P) Year
- (Q) Name of Corporation
- (R) Raised Corporate Seal of Principal
- (S) Signature of President or Vice  
President
- (T) Title of person signing
- (U) Raised Corporate Seal of Surety
- (V) Corporate Name of Surety
- (W) Signature of Attorney in Fact of the  
Surety

NOTE: Dated, Power of Attorney with Raised  
Surety Seal must accompany this bid  
bond.

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned,  
\_\_\_\_\_ (C) of \_\_\_\_\_ (D), \_\_\_\_\_ (E),  
as Principal, and \_\_\_\_\_ (F) of \_\_\_\_\_ (G),  
\_\_\_\_\_ (H), a corporation organized and existing under the laws  
of the State of \_\_\_\_\_ (I) with its principal office in the City of  
\_\_\_\_\_ (J), as Surety, are held and firmly bound unto The State  
of West Virginia, as Oblige, in the penal sum of \_\_\_\_\_ (K)  
(\$ \_\_\_\_\_ (L)) for the payment of which, well and truly to be made,  
we jointly and severally bind ourselves, our heirs, administrators, executors,  
successors and assigns.

The Condition of the above obligation is such that whereas the Principal  
has submitted to the Purchasing Section of the Department of Administration  
a certain bid or proposal, attached hereto and made a part hereof to enter into a  
contract in writing for \_\_\_\_\_ (M)  
\_\_\_\_\_  
\_\_\_\_\_

**NOW THEREFORE.**

(a) If said bid shall be rejected, or  
(b) If said bid shall be accepted and the Principal shall enter into a  
contract in accordance with the bid or proposal attached hereto and shall furnish  
any other bonds and insurance required by the bid or proposal, and shall in all  
other respects perform the agreement created by the acceptance of said bid then  
this obligation shall be null and void, otherwise this obligation shall remain in full  
force and effect. It is expressly understood and agreed that the liability of the  
Surety for any and all claims hereunder shall, in no event, exceed the penal  
amount of this obligation as herein stated

The Surety for value received, hereby stipulates and agrees that the  
obligations of said Surety and its bond shall be in no way impaired or affected by  
any extension of time within which the Oblige may accept such bid: and said  
Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their  
hands and seals, and such of them as are corporations have caused their corporate  
seals to be affixed hereto and these presents to be signed by their proper officers,  
this \_\_\_\_\_ (N) day of \_\_\_\_\_ (O), 20 \_\_\_\_\_ (P).

Principal Corporate Seal	_____ (Q) (Name of Principal)
(R)	By _____ (S) (Must be President or Vice President)
	_____ (T) Title
(U) Surety Corporate Seal	_____ (V) (Name of Surety)
	_____ (W) Attorney-in-Fact

IMPORTANT – Surety executing bonds must be licensed in West Virginia to  
transact surety insurance. Raised Corporate Seals must be affixed and a Power of  
Attorney must be attached.

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_, \_\_\_\_\_, as Principal, and \_\_\_\_\_  
\_\_\_\_\_ of \_\_\_\_\_, \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_  
\_\_\_\_\_ with its principal office in the City of \_\_\_\_\_, as Surety, are held and firmly bound unto the State  
of West Virginia, as Obligee, in the penal sum of \_\_\_\_\_ (\$ \_\_\_\_\_) for the payment of which,  
well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the  
Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW THEREFORE,

- (a) If said bid shall be rejected, or
- (b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached  
hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the  
agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise this obligation shall remain in full  
force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event,  
exceed the penal amount of this obligation as herein stated.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no  
way impaired or affected by any extension of the time within which the Obligee may accept such bid, and said Surety does hereby  
waive notice of any such extension.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations  
have caused their corporate seals to be affixed hereunto and these presents to be signed by their proper officers, this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

Principal Corporate Seal

\_\_\_\_\_  
(Name of Principal)

By \_\_\_\_\_  
(Must be President or  
Vice President)

\_\_\_\_\_  
(Title)

Surety Corporate Seal

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
Attorney-in-Fact

**IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance. Raised corporate seals  
must be affixed, a power of attorney must be attached.**



State of West Virginia  
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT  
West Virginia Code §21-1D-5

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_, TO-WIT:

I, \_\_\_\_\_, after being first duly sworn, depose and state as follows:

- 1. I am an employee of \_\_\_\_\_; and,  
(Company Name)
- 2. I do hereby attest that \_\_\_\_\_  
(Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with **West Virginia Code** §21-1D-5.

The above statements are sworn to under the penalty of perjury.

\_\_\_\_\_  
(Company Name)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Taken, subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_.

By Commission expires \_\_\_\_\_

(Seal)

\_\_\_\_\_  
(Notary Public)

**THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.**



STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**West Virginia Code §5A-3-10a states:** No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

**WITNESS THE FOLLOWING SIGNATURE**

Vendor's Name: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

State of \_\_\_\_\_

County of \_\_\_\_\_, to-wit:

Taken, subscribed, and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

My Commission expires \_\_\_\_\_, 20\_\_.

**AFFIX SEAL HERE**

**NOTARY PUBLIC** \_\_\_\_\_