



Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**State of West Virginia  
 Request for Quotation**

Proc Folder: 135062

Doc Description: Ross Carbonite 2s 2 M/E TV Prod Swtcher

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2015-09-21	2015-10-06 13:30:00	CRFQ 0439 EBA1600000001	1

**BID RECEIVING LOCATION**

BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**

Vendor Name, Address and Telephone Number:

**Lee Hartman & Sons, Inc.**  
**3 Davis Court**  
**Hurricane, WV 25528**  
**V 304-397-4100 F 304-397-4101**

10/06/15 09:30:07  
 WV Purchasing Division

**FOR INFORMATION CONTACT THE BUYER**

Stephanie L Gale  
 (304) 558-7023  
 stephanie.l.gale@wv.gov

Signature X *Stephanie L Gale*

FEIN # 54 0716 361

DATE 10-5-2015

All offers subject to all terms and conditions contained in this solicitation

**ADDITIONAL INFORMATION:**

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Broadcasting Authority (WVEBA) to establish a contract for the one-time purchase of a Ross Carbonite 2S 2 Mix/Effect Live Broadcast Television Production Switcher with 24 input and 96 output Chassis, or equivalent.

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	2 Mix Effect Live Broadcast TV Prod Switcher Router Chassis	1.00000	EA	\$30,625	\$30,625 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	For A	Attached	Hvs 2000 - Type A Package includes Hvs-2240, Hvs-2000mu Hvs-2006 PSM, Hvs-2000P30

**Extended Description :**

Part # C2S-224EX-96-001, Ross Carbonite 2s 2 Mix Effect Live Broadcast TV Production Switcher/Router chassis or equivalent

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Redundant Power Supply	1.00000	EA	1800 <sup>00</sup>	1800 <sup>00</sup> included Above

Comm Code	Manufacturer	Specification	Model #
43221701	For A	See Attached	MFR-15

**Extended Description :**

Part # CF-NK-P3G Redundant Power Supply Extreme Frame or equivalent.

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Carbonite 2S 2 M/E Live Production Switcher Panel ONLY	1.00000	EA		<i>included Above</i>

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**

Part # C2S-Panel Carbonite 2S 2 M/E Live Production Switcher Panel ONLY, 24 source button panel including 1 Power Supply, Source and Keyer Mnemonics, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	Redundant Power for Carbonite 2S Panel	2.00000	EA	<i>2300<sup>00</sup></i>	<i>2300<sup>00</sup> Included Above</i>

Comm Code	Manufacturer	Specification	Model #
43221701	<i>FOA A</i>		<i>MFR-CPU</i>

**Extended Description :**

Part # C2S-Panel-REDPSU-EXT, Redundant Power for Carbonite 2S Panel, additional PSU External Brick type power supply for load sharing redundancy, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	8 input card	<i>15.00000</i> <i>8</i>	<i>EA</i> <i>ex</i>	<i>\$1585<sup>00</sup></i>	<i>\$12,680<sup>00</sup></i>

Comm Code	Manufacturer	Specification	Model #
43221701	<i>FOA A</i>	<i>Attached</i>	<i>MFR-1650IA</i>

**Extended Description :**

Part # CF-NK-13G, 8 input card option that provides support for 8 additional video inputs, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	16 input connector (1 for 2 input cards)	7.00000 3	EA	15.35	<del>107.45</del> 107.45

Comm Code	Manufacturer	Specification	Model #
43221701	For A	see attached	MFR-5000

Extended Description :  
Part # CF-NK-13G-RC, 16 input connector (1 for 2 input cards) or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	8 output card	6.00000 3	EA	15.85 <sup>00</sup>	47.55 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	For A	Attached	MFR-16500

Extended Description :  
Part # CF-NK-O3G, 8 output card, for 8 additional video outputs, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	16 output connector (1 for 2 output cards)	<del>3.00000</del> 1 ea	EA	15.85 <sup>00</sup>	<del>47.55<sup>00</sup></del> 15.85 <sup>00</sup>

3170<sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	FOR A	HVS-100 DI-A	

**Extended Description :**

Part # CF-NK-03G-RC, 16 output connector 9 1 for 2 output cards) or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
9	Carbonite Extreme Second Switcher Upgrade	1.00000	EA	1800 <sup>00</sup>	1800 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	FOR A		MFR-GPI

**Extended Description :**

Part # CF-EX-2NDSWR-UPG, Carbonite Extreme Second Switcher Upgrade

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
10	Ethernet Enabled 40 Button and LCD Display Cntrl Panel	1.00000	EA	1800 <sup>00</sup>	1800 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	FOR A	Attached	MFR-40RU

**Extended Description :**

Part # RCP-ME, Ethernet Enabled 40 Button and LCD Display Cntrl Panel or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
11	Ethernet enabled Q series 17 LCD Button Cntrl Panel	1.00000	EA	995 <sup>00</sup>	995 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	Fo: A		HVS-2000 MT D

Extended Description :  
Part # RCR-QE, Ethernet enabled Q series 17 LCD Button Cntrl Panel, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
12	Carbonite Commissioning-1 day	1.00000	EA	1500 <sup>00</sup>	1500 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	Fo: A	TS-ONS-TS	TS-ONS-TS

Extended Description :  
Part # Carbonite-COM-1DAY, Carbonite Commissioning-1 day, travel included, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
13	Carbonite Operations Training-1 Day	1.00000	EA	1500	1500 <sup>00</sup>

Comm Code	Manufacturer	Specification	Model #
43221701	for A		TS - TT

**Extended Description :**

Part # CARBONITE-OTR-1DAY, Carbonite Operations Training-1 Day travel included, or equal

**SCHEDULE OF EVENTS**

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
1	Technical Questions Due	2015-09-28

EBA1600000001	<b>Document Phase</b> Final	<b>Document Description</b> Ross Carbonite 2s 2 M/E TV Pro d Swtcher	<b>Page 8</b> of 8
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**ADDITIONAL TERMS AND CONDITIONS**

See attached document(s) for additional Terms and Conditions



Configuration Tally Sheet (for better comparison) Retail \$98,622.00 WV EBA Bid Price \$77,960.00

1 each HVS-2000 Type A Includes: =

HVS-2240OU –

HVS-2000MU –

HVS-2000PSM

HVS-2000PSO

"Hanabi" 2 Full M/E Switcher with HVS- 2240OU 24 Button Operation Unit (External GUI NOT included), 24 HD/SDSDI inputs, 18 outputs (16 HD/SD-SDI plus 2 HDMI), Frame Synchronizer on each input,, Maximum 48 Inputs, 22 Outputs (via 6 option slots), Per Full M/E- 4 Keyers with dual chroma Key/2.5D DVE,. System includes 4 FLEXaKEY(r), 4 image stores/900 frame clip player, Dual 16 channel built In Multi Viewer, Macro Function, PC application control, 18 Aux buses, 4 pair capable MELite(R) transitions. Integrated ONStage(r) capabilities. Midastouch system GUI capability is included however Touch screen appliance to be purchased separately. Package includes redundant power supplies for the main control panel and main frame.

1 each HVS-2000 MTD External display for midas touch screen. Display includes HDMI interface port and 2 meter HDMI and USB cables

1 each HVS-100DI-A 4 SDI Input Card with 4 x F/S and x resize engine

1 each HVS-100DO Additional 2 HD-SDI Output Card with Downconverted SD-SDI outputs 256x256

1 each MFR-5000 8RU Routing Switcher Main Frame; Configuration from 16x16 up to 128x128. Can mix video, audio and data in a single frame.

8 each MFR-16SDIA 16 Digital Video Input Card (HD/SDI SD-HD- 3G-4K)

3 each MFR-16SDO 16 Digital Video Output Card (HD/SDI SD-HD- 3G-4K)

1 each MFR-PS Redundant Power Supply

1 each MFR-CPU Redundant CPU Card

1 each MFR-40RU 40 Button Remote Control Unit

1 each MFR-GPI Interface Expansion Unit, applicable to all MFR Main Frames

1 each TS On Site Installation and Technical Support, Price per Day; Air Travel and Hotel accommodations NOT included.

1 each TS Training Price per Day; Air Travel and Hotel accommodations NOT included.

## INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.

A pre-bid meeting will not be held prior to bid opening.

A NON-MANDATORY PRE-BID meeting will be held at the following place and time:

A MANDATORY PRE-BID meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. **VENDOR QUESTION DEADLINE:** Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are non-binding. Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: Monday, September 28, 2015

Submit Questions to: **Stephanie Gale**  
2019 Washington Street, East  
Charleston, WV 25305  
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)  
Email: [stephanie.l.gale@wv.gov](mailto:stephanie.l.gale@wv.gov)

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.
6. **BID SUBMISSION:** All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile. The bid delivery address is:

Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

**SEALED BID:**

**BUYER:** Stephanie Gale

**SOLICITATION NO.:** CRFQ EBA1600000001

**BID OPENING DATE:** Tuesday, October 6, 2015

**BID OPENING TIME:** 1:30pm

**FAX NUMBER:** 304-558-3970

In the event that Vendor is responding to a request for proposal, and chooses to respond in a manner other than by electronic submission through wvOASIS, the Vendor shall submit one original technical and one original cost proposal plus convenience copies of each to the Purchasing Division at the address shown above. Additionally, if Vendor does not submit its bid through wvOASIS, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

**BID TYPE:** (This only applies to CRFP)

Technical

Cost

- 7. BID OPENING:** Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

**Bid Opening Date and Time:** Tuesday, October 6, 2015 @ 1:30pm

**Bid Opening Location:** Department of Administration, Purchasing Division  
2019 Washington Street East  
Charleston, WV 25305-0130

- 8. ADDENDUM ACKNOWLEDGEMENT:** Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

9. **BID FORMATTING:** Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.
10. **ALTERNATES:** Any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.
11. **EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.
12. **COMMUNICATION LIMITATIONS:** In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.
13. **REGISTRATION:** Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.
14. **UNIT PRICE:** Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.
15. **PREFERENCE:** Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Vendor Preference Certificate form has been attached hereto to allow Vendor to apply for the preference. Vendor's failure to submit the Vendor Preference Certificate form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.
16. **SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the

same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

**17. WAIVER OF MINOR IRREGULARITIES:** The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

**18. ELECTRONIC FILE ACCESS RESTRICTIONS:** Vendor must ensure that its submission in wvOASIS can be accessed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately opened and/or viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening if those documents are required with the bid.

## GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.
  
2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
  - 2.1. **"Agency" or "Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
  - 2.2. **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.
  - 2.3. **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
  - 2.4. **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
  - 2.5. **"Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.
  - 2.6. **"Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
  - 2.7. **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
  - 2.8. **"Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. **CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

**Term Contract**

**Initial Contract Term:** This Contract becomes effective on \_\_\_\_\_ and extends for a period of \_\_\_\_\_ year(s).

**Renewal Term:** This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to \_\_\_\_\_ successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed \_\_\_\_\_ months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

**Delivery Order Limitations:** In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

**Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within \_\_\_\_\_ days.

**Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within \_\_\_\_\_ days. Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional \_\_\_\_\_ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed \_\_\_\_\_ months in total. Automatic renewal of this Contract is prohibited.

**One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

**Other:** See attached.



4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.
5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.
  - Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.
  - Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.
  - Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.
  - One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.
6. **PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.
7. **EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.
8. **REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

**BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

**PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of \_\_\_\_\_. The performance bond must be received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

**LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable.

**MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

**INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

**Commercial General Liability Insurance:** In the amount of \_\_\_\_\_ or more.

**Builders Risk Insurance:** In an amount equal to 100% of the amount of the Contract.

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

**LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

**9. WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

**10. LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

**11. LIQUIDATED DAMAGES:** Vendor shall pay liquidated damages in the amount of

\_\_\_\_\_ for \_\_\_\_\_.

This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

- 12. ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Award Document, upon receipt.
- 13. FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.
- 14. PAYMENT:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.
- 15. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 16. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
- 17. TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
- 18. APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.
- 19. COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable law.
- 20. PREVAILING WAGE:** Vendor shall be responsible for ensuring compliance with prevailing wage requirements and determining when prevailing wage requirements are applicable.

- 21. ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.
- 22. MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary, no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.
- 23. WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.
- 24. SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.
- 25. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.
- 26. WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.
- 27. STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.
- 28. BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.
- 29. CONFIDENTIALITY:** The Vendor agrees that it 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/default.html>.

- 30. DISCLOSURE:** Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code §§ 29B-1-1 et seq. and the competitive bidding laws found West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq.

If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. A legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Additionally, pricing or cost information will not be considered exempt from disclosure and requests to withhold publication of pricing or cost information WILL NOT BE HONORED.

Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

- 31. LICENSING:** In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor 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, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.
- 32. ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to 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 Vendor.

**33. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid or offer also 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. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

**34. PURCHASING CARD ACCEPTANCE:** The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

**35. VENDOR RELATIONSHIP:** The relationship of the Vendor to 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 Solicitation 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, etc. 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.

- 36. 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 and hour laws.
- 37. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.
- 39. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.
- 40. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.



- Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at [purchasing.requisitions@wv.gov](mailto:purchasing.requisitions@wv.gov).

**41. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

**42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS:** Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater.

For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

**43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL:** In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a “substantial labor surplus area”, as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

**ADDITIONAL TERMS AND CONDITIONS (Construction Contracts Only)**

1. **CONTRACTOR'S LICENSE:** West Virginia Code § 21-11-2 requires that all persons desiring to perform contracting work in this state be licensed. The West Virginia Contractors Licensing Board is empowered to issue the contractor's license. Applications for a contractor's license may be made by contacting the West Virginia Division of Labor. West Virginia Code § 21-11-11 requires any prospective Vendor to include the contractor's license number on its bid. Failure to include a contractor's license number on the bid shall result in Vendor's bid being disqualified. Vendors should include a contractor's license number in the space provided below.

Contractor's Name: Lee Hartman + Sons, Inc

Contractor's License No. WV037465

The apparent successful Vendor must furnish a copy of its contractor's license prior to the issuance of a Award Document.

2. **DRUG-FREE WORKPLACE AFFIDAVIT:** W. Va. Code § 21-1D-5 provides that any solicitation for a public improvement contract requires each Vendor that submits a bid for the work to submit at the same time an affidavit that the Vendor has a written plan for a drug-free workplace policy. To comply with this law, Vendor must either complete the enclosed drug-free workplace affidavit and submit the same with its bid or complete a similar affidavit that fulfills all of the requirements of the applicable code. Failure to submit the signed and notarized drug-free workplace affidavit or a similar affidavit that fully complies with the requirements of the applicable code, with the bid shall result in disqualification of Vendor's bid. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

2.1. **DRUG-FREE WORKPLACE POLICY:** Pursuant to W. Va. Code § 21-1D-4, Vendor and its subcontractors must implement and maintain a written drug-free workplace policy that complies with said article. The awarding public authority shall cancel this contract if: (1) Vendor fails to implement and maintain a written drug-free workplace policy described in the preceding paragraph, (2) Vendor fails to provide information regarding implementation of its drug-free workplace policy at the request of the public authority; or (3) Vendor provides to the public authority false information regarding the contractor's drug-free workplace policy. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

3. **DRUG FREE WORKPLACE REPORT:** Pursuant to W. Va. Code § 21-1D-7b, no less than once per year, or upon completion of the project, every contractor shall provide a certified report to the public authority which let the contract. For contracts over \$25,000, the

public authority shall be the West Virginia Purchasing Division. For contracts of \$25,000 or less, the public authority shall be the agency issuing the contract. The report shall include:

- (1) Information to show that the education and training service to the requirements of West Virginia Code § 21-1D-5 was provided;
- (2) The name of the laboratory certified by the United States Department of Health and Human Services or its successor that performs the drug tests;
- (3) The average number of employees in connection with the construction on the public improvement;
- (4) Drug test results for the following categories including the number of positive tests and the number of negative tests: (A) Pre-employment and new hires; (B) Reasonable suspicion; (C) Post-accident; and (D) Random.

Vendor should utilize the attached Certified Drug Free Workplace Report Coversheet when submitting the report required hereunder. Pursuant to W. Va. Code 21-1D-2(b) and (k), this provision does not apply to public improvement contracts the value of which is \$100,000 or less or temporary or emergency repairs.

4. **AIA DOCUMENTS:** All construction contracts that will be completed in conjunction with architectural services procured under Chapter 5G of the West Virginia Code will be governed by the AIA A101-2007 and A201-2007 or the A107-2007 documents, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein.
5. **SUBCONTRACTOR LIST SUBMISSION:** In accordance with W. Va. Code § 5-22-1, The apparent low bidder on a contract for the construction, alteration, decoration, painting or improvement of a new or existing building or structure valued at more than \$250,000.00 shall submit a list of all subcontractors who will perform more than \$25,000.00 of work on the project including labor and materials. This provision shall not apply to any other construction projects, such as highway, mine reclamation, water or sewer projects. Additionally, if no subcontractors who will perform more than \$25,000.00 of work are to be used to complete the project, it will be noted on the subcontractor list.
  - a. Required Information. The subcontractor list shall contain the following information:
    - i. Bidder's name
    - ii. Name of each subcontractor
    - iii. License numbers as required by W. Va. Code § 21-11-1 et. seq.
    - iv. Notation that no subcontractor will be used to perform more than \$25,000.00 of work, when applicable
  - b. Submission. The completed subcontractor list shall be provided to the Purchasing Division within one business day of the opening of bids for review. Failure to submit the subcontractor

list within one business day after the deadline for submitting bids shall result in disqualification of the bid.

c. Substitution of Subcontractor. Written approval must be obtained from the State Spending Unit before any subcontractor substitution is permitted. Substitutions are not permitted unless:

- i. The subcontractor listed in the original bid has filed for bankruptcy;
- ii. The subcontractor in the original bid has been debarred or suspended; or
- iii. The contractor certifies in writing that the subcontractor listed in the original bill fails, is unable, or refuses to perform his subcontract.

**6. GREEN BUILDINGS MINIMUM ENERGY STANDARDS:** In accordance with § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July 1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

**ADDITIONAL TERMS AND CONDITIONS (Architectural and Engineering Contracts  
Only)**

- 1. PLAN AND DRAWING DISTRIBUTION:** All plans and drawings must be completed and available for distribution at least five business days prior to a scheduled pre-bid meeting for the construction or other work related to the plans and drawings.
- 2. PROJECT ADDENDA REQUIREMENTS:** The Architect/Engineer and/or Agency shall be required to abide by the following schedule in issuing construction project addenda. The Architect/Engineer shall prepare any addendum materials for which it is responsible, and a list of all vendors that have obtained drawings and specifications for the project. The Architect/Engineer shall then send a copy of the addendum materials and the list of vendors to the State Agency for which the contract is issued to allow the Agency to make any necessary modifications. The addendum and list shall then be forwarded to the Purchasing Division buyer by the Agency. The Purchasing Division buyer shall send the addendum to all interested vendors and, if necessary, extend the bid opening date. Any addendum should be received by the Purchasing Division at least fourteen (14) days prior to the bid opening date.
- 3. PRE-BID MEETING RESPONSIBILITIES:** The Architect/Engineer shall be available to attend any pre-bid meeting for the construction or other work resulting from the plans, drawings, or specifications prepared by the Architect/Engineer.
- 4. AIA DOCUMENTS:** Contracts for architectural and engineering services will be governed by the AIA document B101-2007, as amended by the Supplementary Conditions for the State of West Virginia, in addition to the terms and conditions contained herein when procured under Chapter 5G of the West Virginia Code.
- 5. GREEN BUILDINGS MINIMUM ENERGY STANDARDS:** In accordance with West Virginia Code § 22-29-4, all new building construction projects of public agencies that have not entered the schematic design phase prior to July 1, 2012, or any building construction project receiving state grant funds and appropriations, including public schools, that have not entered the schematic design phase prior to July 1, 2012, shall be designed and constructed complying with the ICC International Energy Conservation Code, adopted by the State Fire Commission, and the ANSI/ASHRAE/IESNA Standard 90.1-2007: Provided, That if any construction project has a commitment of federal funds to pay for a portion of such project, this provision shall only apply to the extent such standards are consistent with the federal standards.

**CERTIFICATION AND SIGNATURE PAGE**

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Lee Hartman & Sons, Inc  
(Company)

[Signature] Larry F. Cox Area Manager  
(Authorized Signature) (Representative Name, Title)

304-397-4100 304-397-4101 10-5-2015  
(Phone Number) (Fax Number) (Date)

**ADDENDUM ACKNOWLEDGEMENT FORM  
SOLICITATION NO.:**

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.


Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:  
(Check the box next to each addendum received)

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6  |
| <input type="checkbox"/> Addendum No. 2            | <input type="checkbox"/> Addendum No. 7  |
| <input type="checkbox"/> Addendum No. 3            | <input type="checkbox"/> Addendum No. 8  |
| <input type="checkbox"/> Addendum No. 4            | <input type="checkbox"/> Addendum No. 9  |
| <input type="checkbox"/> Addendum No. 5            | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further 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.

Lee Hartmann & Sons, Inc  
Company

  
Authorized Signature

10-5-2015  
Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.





Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

**State of West Virginia  
 Request for Quotation**

**Proc Folder:** 135062

**Doc Description:** Addendum #1 - Ross Carbonite 2s 2 M/E TV Prod Switcher

**Proc Type:** Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2015-09-21	2015-10-08 13:30:00	CRFQ 0439 EBA1600000001	2

**BID RECEIPT LOCATION**  
 BID CLERK  
 DEPARTMENT OF ADMINISTRATION  
 PURCHASING DIVISION  
 2019 WASHINGTON ST E  
 CHARLESTON WV 25305  
 US

**VENDOR**  
 Vendor Name, Address and Telephone Number:

**FOR INFORMATION CONTACT THE BUYER**  
 Stephanie L. Gale  
 (304) 558-7023  
 stephanie.l.gale@wv.gov

Signature X FEIN # DATE

All offers subject to all terms and conditions contained in this solicitation

**ADDITIONAL INFORMATION:**

Addendum #1 issued to:

Provide technical questions and responses.

End of Addendum #1

BUYER TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	2 Mix Effect Live Broadcast TV Prod Switcher Router Chassis	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

Extended Description :

Part # C2S-224EX-96-001, Ross Carbonite 2s 2 Mix Effect Live Broadcast TV Production Switcher/Router chassis or equivalent

BUYER TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Redundant Power Supply	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

Extended Description :

Part # CF-NK-P3G Redundant Power Supply Extreme Frame or equivalent.

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Carbonite 2S 2 M/E Live Production Switcher Panel ONLY	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**

Part # C2S-Panel Carbonite 2S 2 M/E Live Production Switcher Panel ONLY, 24 source button panel including 1 Power Supply, Source and Keyer Mnemonics, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	Redundant Power for Carbonite 2S Panel	2.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**

Part # C2S-Panel-REDPSU-EXT, Redundant Power for Carbonite 2S Panel, additional PSU External Brick type power supply for load sharing redundancy, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	8 input card	15.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**

Part # CF-NK-13G, 8 input card option that provides support for 8 additional video inputs, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	16 input connector (1 for 2 input cards)	7.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**

Part # CF-NK-13G-RC, 16 input connector (1 for 2 input cards) or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	8 output card	6.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**

Part # CF-NK-03G, 8 output card, for 8 additional video outputs, or equal

BILL TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	16 output connector (1 for 2 output cards)	3.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

Extended Description :  
Part # CF-NK-03G-RC, 16 output connector 9 1 for 2 output cards) or equal

BILL TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
9	Carbonite Extreme Second Switcher Upgrade	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

Extended Description :  
Part # CF-EX-2NDSWR-UPG, Carbonite Extreme Second Switcher Upgrade

BILL TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
10	Ethernet Enabled 40 Button and LCD Display Cntrl Panel	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**  
Part # RCP-ME, Ethernet Enabled 40 Button and LCD Display Cntrl Panel or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
11	Ethernet enabled Q series 17 LCD Button Cntrl Panel	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**  
Part # RCR-QE, Ethernet enabled Q series 17 LCD Button Cntrl Panel, or equal

INVOICE TO		SHIP TO	
CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 600 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
12	Carbonite Commissioning-1 day	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

**Extended Description :**  
Part # Carbonite-COM-1DAY, Carbonite Commissioning-1 day, travel included, or equal

CHIEF FINANCIAL OFFICER EDUCATIONAL BROADCASTING 124 INDUSTRIAL PARK RD		PURCHASING ADMINISTRATOR EDUCATIONAL BROADCASTING 800 CAPITOL ST	
BEAVER	WV25813	CHARLESTON	WV 25301-1223
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
13	Carbonite Operations Training-1 Day	1.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43221701			

Extended Description :  
 Part # CARBONITE-OTR-1DAY, Carbonite Operations Training-1 Day travel included, or equal

**SCHEDULE OF EVENTS**

Line	Event	Event Date
1	Technical Questions Due	2015-09-28

**SOLICITATION NUMBER: CRFQ EBA1600000001**

**Addendum Number: 1**

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The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

- | Modify bid opening date and time
- | Modify specifications of product or service being sought
- | Attachment of vendor questions and responses
- | Attachment of pre-bid sign-in sheet
- | Correction of error
- | Other

**Description of Modification to Solicitation:**

Addendum #1 issued to:

1. Provide technical questions and responses.

End of Addendum #1.

**Additional Documentation:** Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

**Terms and Conditions:**

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.



**Solicitation # CRFQ EBA1600000001 -- Ross Switching Equipment  
Questions and Answers**

**Question 1 of 1: I see on the solicitation that Ross will provide commissioning and training for the equipment, but can you please confirm whether or not the contractor is responsible for the physical installation of the equipment?**

**Answer 1 of 1: The contractor is NOT responsible for the physical installation of the equipment. Educational Broadcasting Authority personnel will be installing the equipment.**

**Steve Chapman  
WVEBA Purchasing Director**

**Reference: CRFQ EBA1600000001 Ross Switcher and Router**

**2<sup>nd</sup> Set of Questions and Answers**

**14 Questions Posed**

**September 28, 2015**

**Question 1:** Please define 24 input and 96 output requirements. As there are a number of other references that could be conflict:

**Answer to Question 1:** The switcher shall have 24 simultaneous inputs

All 96 crosspoints within the switcher shall be available for routing

- a. 3.2.2.5 Router shall have 64 inputs
- b. This is the minimum the frame will have installed
- c. 3.2.2.6 Router shall have 64 outputs
- d. This is the minimum the frame will have installed

**Question 2:** Is 144 in x 144 output a real requirement?

**Answer to Question 2:** Yes. As a minimum

- a. Is 64x64 acceptable?  
No. 64 is less than 144
- b. Is 128x128 acceptable?  
No. 128 is less than 144
- c. Is 256x256 acceptable?  
Yes, as long as it meets all other specifications

**Question 3:** Re: 3.2.2.6.1 Can Router SDI I/O be offered in groups of 16?

**Answer to Question 3 :** Yes, but all must be housed in the same frame

**Question 4: 3.2.1.6 Define “convert” between listed formats and frame rates.**

**Answer to Question 4:** Convert means conditioned in frame rate, aspect ratio, and other to allow mixing with other sources.

a. Does this really need 525 to 626 or 625 to 525 line conversion? In same frame?

Yes, and in the same frame-

b. Does this really mean 1080i to 720p or 720p to 1080i conversion? In same frame?

Yes, and also in the same frame. No patching to cross converters will be permitted

c. Is the requirement really SD to HD or HD to SD?

Both of these conversions, plus all formats listed in the specifications

**Question 5: 3.2.2.11 Define integrated?**

a. Integrated control is the requirement? Means system input and output

expandability is the real requirement?

**Answer to Question 5:** The router and both switcher panels shall be one system. All sources shall be available to all devices.

b. How important to keep mission critical, single points of failure separated?

Redundant power supplies and redundant signal paths are required-

(Placing the switcher/ mixer in the routing matrix is a risky point of failure)

**Question 6: 3.2.2.13.5 Digital video router compliant**

a. Does AES /EBU compliance mean that separate discreet digital audio should be possible in the router matrix? Or is embedded AES in the SDI stream the requirement?

**Answer to Question 6:** Router and switcher shall accommodate embedded audio

**Question 7: 3.3.2.1 Can switcher and router inputs and outputs be co shared among separate matrices, as long as there is a tight input and output interface? So long as the router can be controlled from the switcher surface...either from a GUI or switcher control surface?**

**Answer to Question 7:** All of the router inputs must be available on both switchers natively, having to set up inputs using a router control panel is unacceptable.

**Question 8: 3.3.4.1 What is the meaning of 96 available outputs? How does that compare to 3.2.2.6?**

**Answer to Question 8:** 96 is the number of available crosspoints, these shall be available on the router.

**Question 9. 3.3.7 What is the meaning one program bus and two mix/effects?...Is the three bus mixer/switcher...aka 3ME?**

**Answer to Question 9:** One Program Bus- One Preview Bus, then two Mix/Effects buses. The Program bus is not an M/E bus

**Question 10: With two max 16 image multiviewer (total 32 windows) how will the operation see more than 32 inputs and outputs?**

**Answer to Question 10:** Each director will build his own multiviewer, placing the items of interest on his viewer-

- a. How about a product that offers up to 64 image windows internally?
- b. With so many images, the resolution of each is reduced and clutter is a factor.
- c. Are 29 to 30 MV layouts really required?
- d. Yes, each show, each director, each special production task may require a different configuration

**Question 11:** 3.4.22 Why is there a limit of 6 frame syncs and format scalar and all reduced to zero with DVE are enabled?

**Answer to Question 11:** 6 Frame syncs are the minimum requirement. There are times when the processing power of the frame syncs can be better used in a DVE mode-

a. Is there a preference for all inputs to be FS? And all inputs to capture and hold a still image from recall video or USB transfer?

No, not all inputs are required or desired to be FS. All inputs must have a capture and store capability.

**Question 12:** 3.4.23 Why is there a requirement for a flat only PIP?

**Answer to Question 12:** 3D graphics will be generated externally

a. Would 2.5 and 3.0 DVE PiP and transitions be more desirable and practical in a producers show look?

This is subjective

**Question 13:** 3.6 Is the requirement for a dual switcher panel operate to share resources?

**Answer to Question 13:** Yes, all sources shall be available to all devices

**Question 14:** 3.12 Can a 6ME switcher matrix be substituted with dual assignable and configurable 2ME switcher control panels?

**Answer to Question 14:** No, there must be two independent switchers, sharing all sources and able to route to the same destinations.

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: EBA160000001**

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\_\_\_\_\_  
Lee Hartman & Sons, Inc  
Company  
\_\_\_\_\_  
Authorized Signature  
\_\_\_\_\_  
10-5-2015  
Date

**NOTE:** This addendum acknowledgment should be submitted with the bid to expedite document processing.  
Revised 6/8/2012

3G/HD/SD 2M/E Video Switcher  
**HVS-2000 "HANABI"**

**FOR.A**<sup>®</sup>  
INNOVATIONS IN VIDEO  
and AUDIO TECHNOLOGY

花火  
HANABI

3G/HD/SD 2M/E VIDEO SWITCHER  
**HVS-2000**

HANABI



# New generation HANABI series, HVS-2000 6M/E\* switcher launched

## HANABI V6 HVS-6M/E Engine

The new HVS-6M/E engine is a powerful 6 Video M/E machine and a game changer in today's video production switchers. Now with the power in our new HVS-6M/E technology, the V6MU engine can be used in a variety of applications.

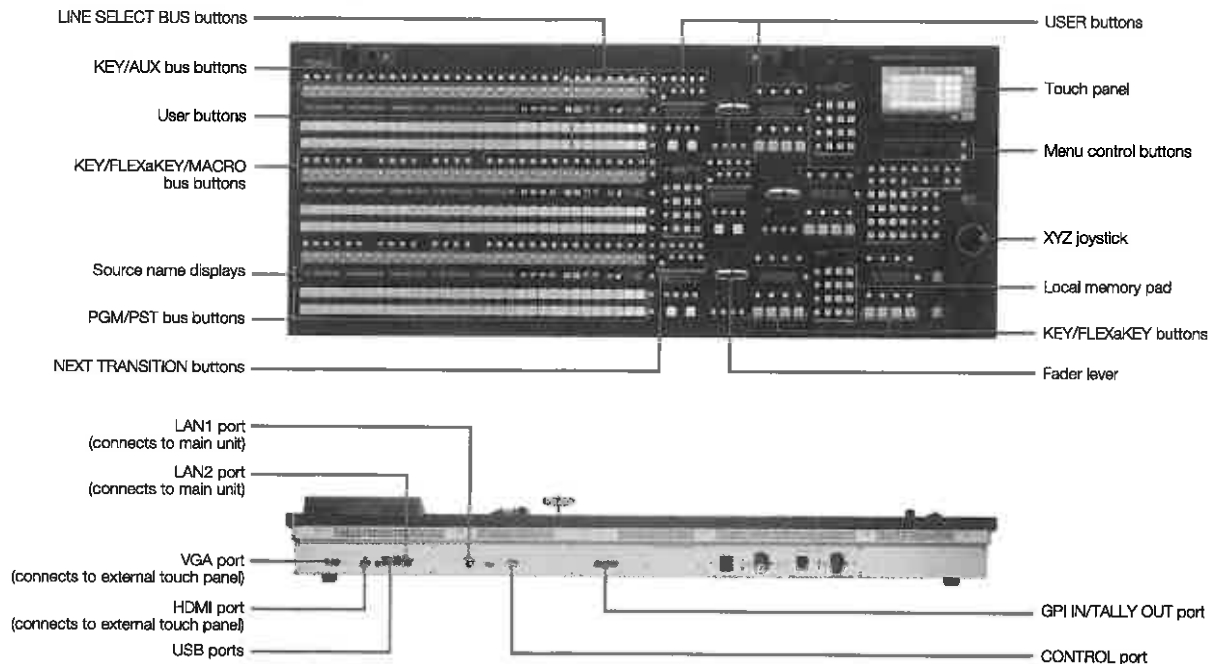
- Up stream transition effects
- Down stream transition effects
- Add the pure power of 6 real M/Es for multiple independent on-stage monitor display control or add multiple control panels to operate from a control room...each with mixes, wipes, keys, and DVEs including preview control.

The new HANABI will allow its users to win the video production race with all of its quality features and ease of operation.

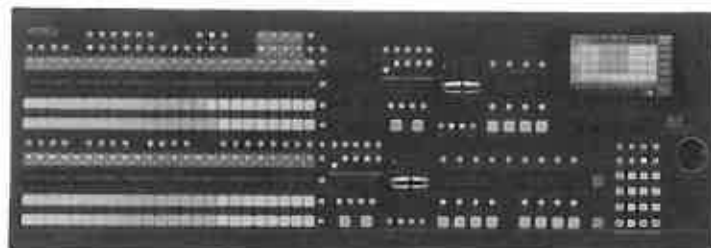
\* 6M/E capability: 2M/E + exclusive 4MELite™ with FLEXaKEY™



## HVS-3320OU control panel



## HVS-2240OU control panel





## Reasons to buy

### 1 Easy-to-use control panel

Offers enhanced usability and supports accurate control through color-coded button lights for specific material or button functions, a built-in 7-inch mini menu touch panel with thumbnail display, button/macro bus macro name display, and more. Direct input via a three-axis (XYZ) joystick, dials, and a keyboard. Several user-customizable buttons are available to assign as functions.



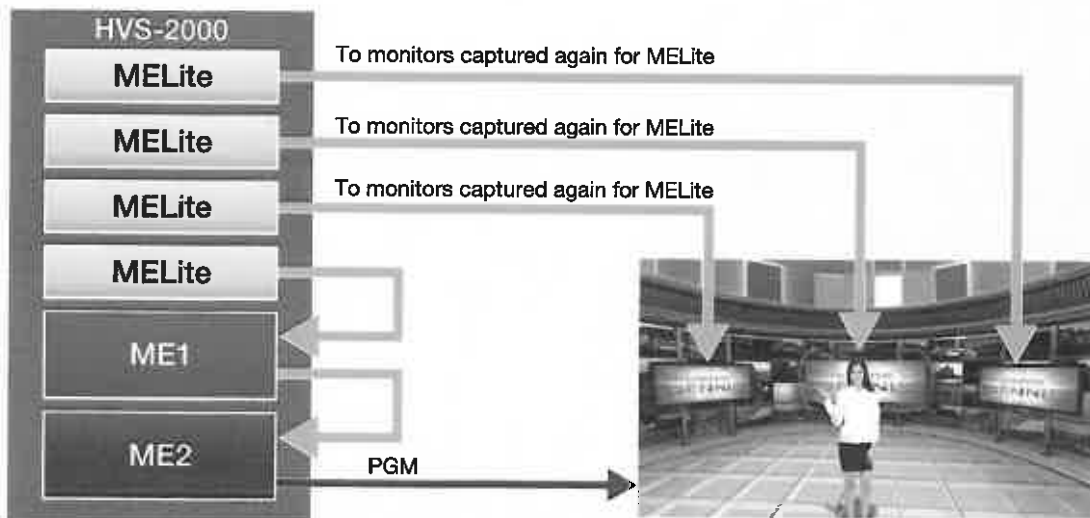
### 2 4 keyers per M/E, plus 4 FLEXaKEY per system

The four FLEXaKEY system can be freely assigned to M/E 1, M/E 2, or MELite™ (AUX output). When assigned to M/E 2, up to eight keyers (4 keys and 4 FLEXaKEY) can be combined. DVE is available for FLEXaKEY to generate multiple P-in-Ps. FLEXaKEY can also be assigned to an MELite bus and Advanced Aux as an upstream keyer, and to multiple AUX buses to change each with keying output. Useful in many scenarios.

### 3 6M/E performance—2M/E + 4 MELite, with FLEXaKEY architecture

In addition to two full M/E's, the switcher includes MELite. With cuts, mixing, wiping, and keying “all with preview” available from four MELite buses. Operators will enjoy the performance of 6M/E's in a single unit. MELite is ready for a broad range of scenarios, such as providing an independent “web cut” output, expanding an operation with multiple control surfaces, delegating M/E resource and even allowing a single operator from a single desk to easily control independent transitions on multiple monitors. Excellent for staging applications.

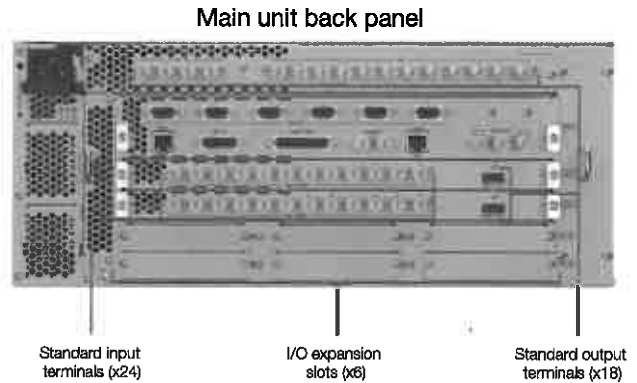
#### Example



## Reasons to buy

### 4 24 inputs/18 outputs standard, expandable to 48/18 or 40/22

Besides standard inputs and outputs, six expansion slots enable you to add optional I/O cards for easy in-field expansion. Easily incorporate an array of content from PC sources (such as PowerPoint, videos played on computers, webcam images, or Skype calling screens) and combine it with broadcast material. Even analog composite I/O can be added.



### 5 2.5D DVEs (total: 8 per system), 3D DVEs (total: 4; optional per system) up to 4 channels per M/E or MELite

2.5D DVEs enable free arrangement of P-in-Ps in a 3D space using global axes. Also combines exceptionally well with 3D content, as with virtual studios. Flying key, which moves titles with DVEs applied, is available from all DVEs and can be assigned to all resources in any M/E, whether PGM, PST, or KEY 1-4. P-in-Ps are available in a variety of other shapes besides standard shapes such as quadrilaterals, and can be used in live sports coverage, for example. The switcher's 3D DVEs include page turn and other warping effects.



### 6 Optional...3G and 4K upgrades

Systems supporting 3 Gbps 1080/59.94p or 50p and even 4K are a requirement today in many operations. Rest assured that the HVS-2000 is ready today or for your future upgrade plans.



## Applications

### Broadcasting environments/control rooms

The HVS-2000 can be the main switcher for: Broadcasting Stations/control rooms, cable TV stations, Internet television providers and satellite studios. The advanced features and programmability of HVS-2000 allow you to create high quality content without any compromise. FOR-A's quality and attention to detail ensures a reliable solution for live programming.



### Live staging / Event production

The combination of the HVS-2000 and its rich feature set makes it the best suited switcher for live applications where systems need to be set up temporarily in a short amount of time. MELite allows multiscreen staging with effects, including cuts, mix, wipe, keys and DVE. You can reduce the number of switchers and streamline system operation, keeping everything simple and easy for everyone.



### Mobile OB and Up-Link production trucks

The HVS-2000 is perfect for mobile video production or Up-Link applications in which space is limited. The HVS-2000 switcher offers a rich feature set perfect for live or recorded production. With integrated frame synchronizers and up to 4 multi viewers, the HVS-2000 can reduce the amount of equipment required in the truck. Using multiple control panels, the system can also provide an environment for several operators, each in charge of separate tasks, including a dual-feed operation.



## Main features

- 6M/E capability: 2M/E + exclusive 4 MELite with FLEXaKEY architecture
- 24 in/18 out standard (including 2 HDMI). Up to 48 in/18 out or 40 in/22 out (optional)
- 6 I/O expansion slots: HVS-100 series optional cards can be installed
- PGM, PVW and 2 CLEAN outputs per full M/E
- Multi format: HD/SD/HDMI/Analog/VGA (optional)
- 3G/4K Ready (S/W option)
- 4 x Keyers per M/E, and 4 x FLEXaKEYs (assignable to M/E or AUX)  
Up to 6 keyers to M/E1, up to 8 keyers to M/E2, and up to 4 keyers to AUX are assignable
- 8 x 2.5D DVE plus 4 x 3D DVE (Optional)
- 18 Auxiliary buses (2 HDMI, 12 SDI, 8 AUX transition, 6 MELite function)
- Control panel with LED, RGB, user-configurable color buttons and 7-inch touch mini menu GUI
- 4 multi-viewers (standard: 2, up to 4 MVs, and 64 windows)
- All inputs have FS with Still image store and capture
- 4 Still/Clip media player. 4-channel image store with access to pool of 900 frames/30 seconds of online clip playback, also includes HDD library of images
- All full ME keyers have chroma keys and ability to add 2 optional channels of advanced chroma keys
- Easy operation with Midas Touch™ master set up and configuration GUI
- ONStage™ mode for stage and multiscreen application
- Color corrector input, output, and bus lines (optional)

### Five key features for advanced operation

#### FLEXaKEY

Powerful quad FLEXaKEY allows the operator to place keyers in practical areas of the switcher:

- Add keys to traditional M/E resources to provide more graphic layers
- Add keys to AUX and multiply additional M/E's (MELite)
- Can also expand and multiply AUX bus transitions

The HVS-2000 V6MU engine is the only system that offers this kind of pure power and user flexibility.

#### MELite

This powerful, distinguishing and core feature allows a traditional AUX bus to transform into a full functional M/E with cuts, mixes, wipes, keys all with preview (MELite). The MELite is the building block to a real full-function 6M/E switcher and can be assigned upstream or downstream from main mix effects. Also, MELite allows operators to configure a 3M/E switcher with a 3 rows control surface that provides independent output with transitions to display sources on back monitors in the studio.

#### ONStage

Another exclusive feature of the switcher is ONStage, a newly developed technology designed specifically for staging events, such as house of worship or corporate events where multiple image magnification displays are used, each with independent transitions. This is the first switcher mode that allows operators to see mix, wipe, key and DVE changes with full preview control connected directly to the fader controller transition area. With ONStage, operators have more power and creativity in their video switching than ever before.

#### P-MEM™

P-MEM is capable of saving and recalling full switcher set-up or series of operations on M/E, MELite and AUX. P-MEM can be used with macro functions and operators only need to push one button to perform a complex series of events.

#### Midas Touch

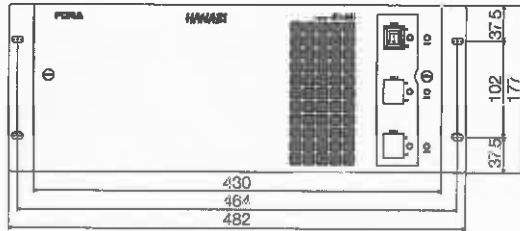
A new menu system that allows operators to easily configure and change system parameters, offering full system control, using both a built-in 7-inch touch panel (MiniMenu™) with thumbnail display and external monitor.

External view

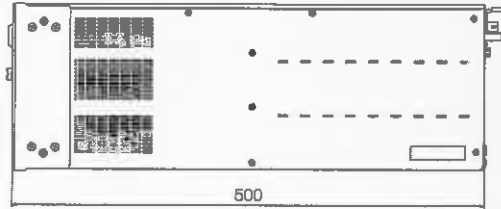
Main unit

Unit: mm

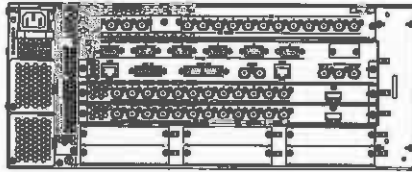
Front



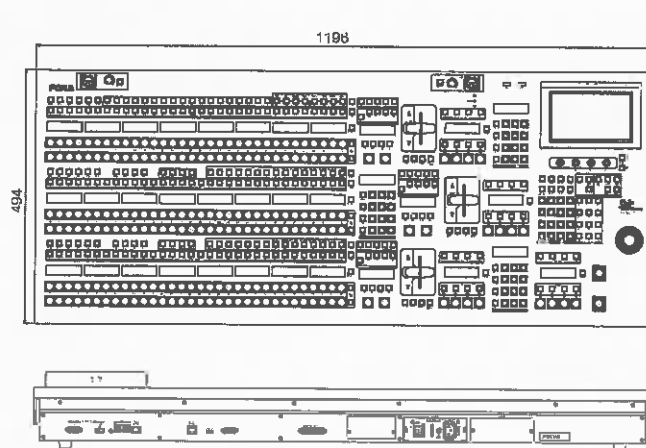
Side



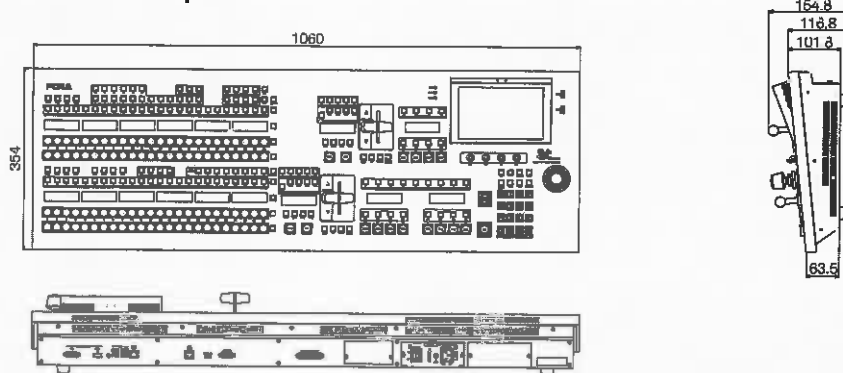
Rear



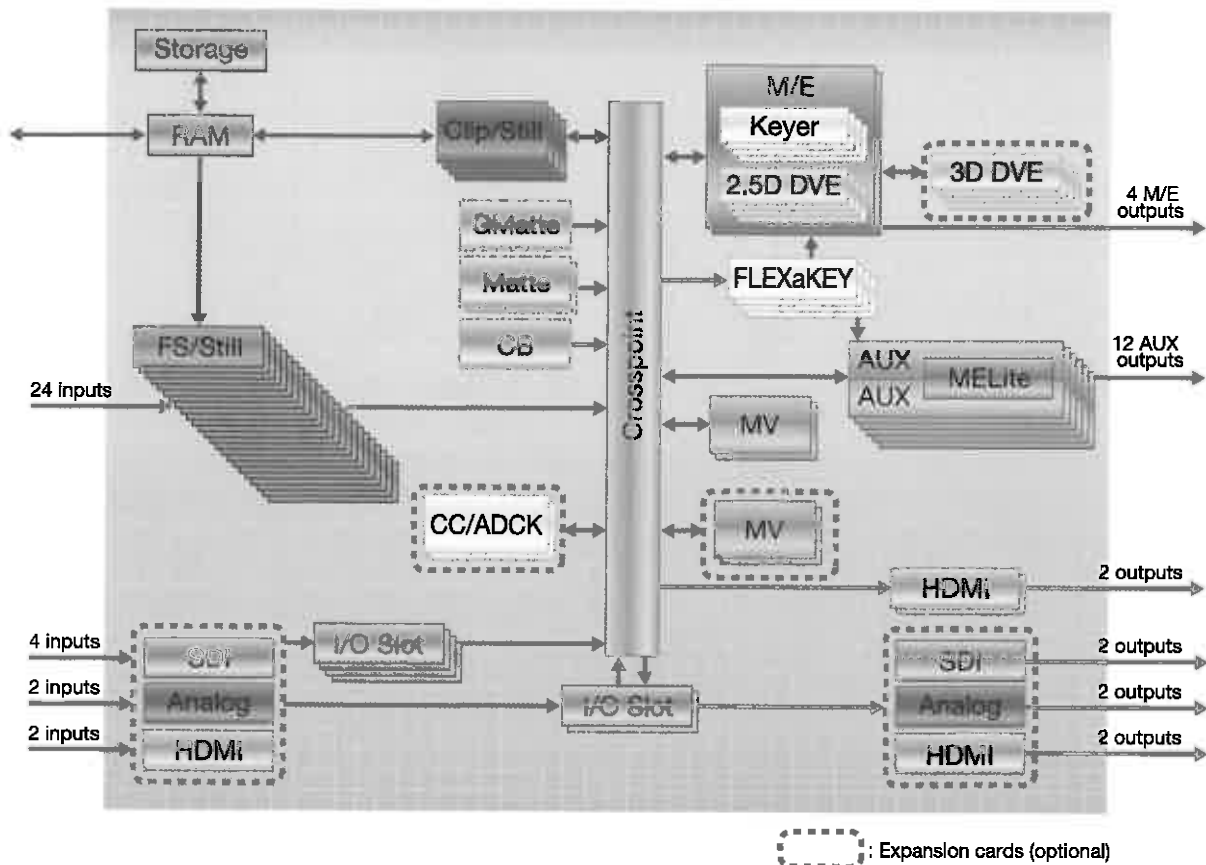
HVS-3320OU control panel



HVS-2240OU control panel



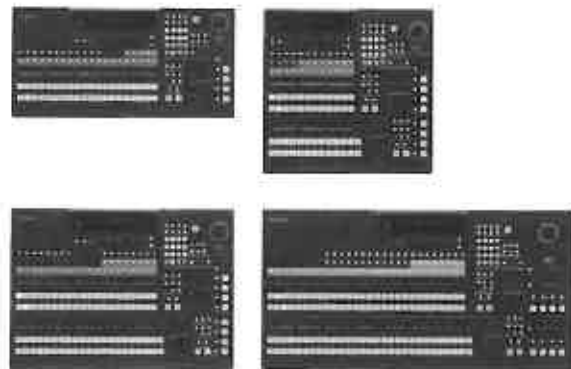
## Block diagram



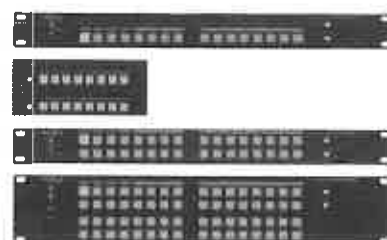
## Options

### Control panels

- Up to 3 control panels can be connected simultaneously.  
HVS-2000 dedicated control panels:  
HVS-3320OU, HVS-2240OU  
Other control panels\*:  
HVS-391OU/392ROU/392OU/392WOU  
\*Firmware modification required for use with the HVS-2000
- A single processing main unit can supply a dual operation.  
Able to share resources between two independent suites
- Link buses and keys in multilingual or a dual-feed production.  
Have the second language follow the primary language for simultaneous switching of on-screen text prepared for each screen



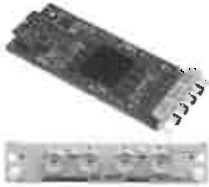
- Four types of AUX remote control panels available. Allows remote aux control or even a shotbox for user button control or macro recall  
HVS-AUX16A (16 buttons)  
HVS-AUX16B (16 buttons, tabletop model)  
HVS-AUX32A (32 buttons)  
HVS-AUX64A (64 buttons)
- Up to 12 AUX remote control panel connections  
(Planned for future support)



## HVS-2000 Options

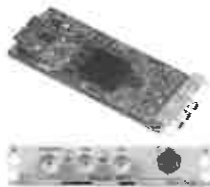
### Expansion cards

With the HVS-2000, you can add just the input and output formats and functions you need, in just the amount needed. The six I/O expansion slots enable support for additional HD/SD-SDI, analog component/composite, HDMI, and RGB connectivity. Other cards expand capabilities by adding four channels of 3D DVEs, two channels of multi-viewer display, color correction, or advanced chroma keying.



- **HVS-100DI-A:  
HD/SD-SDI Input Card**

4 channels of HD/SD-SDI output are possible using a single card. A frame synchronizer function for all inputs and re-size (expansion) function for 2 inputs are provided. SD images can be processed internally as HD images.



- **HVS-100AI:  
Analog Video Input Card**

2 channels of analog video signal input are possible using a single card. Input terminal 2 is a dedicated connector (conversion connector supplied). The user can select between analog composite and analog component (HD or SD) input for each input terminal.



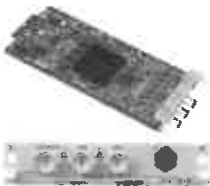
- **HVS-100PCI:  
PC (HDMI/VGA) Input Card**

HDMI and VGA terminals have been mounted onto a single card. 2 input channels are possible using both.



- **HVS-100DO:  
HD/SD-SDI Output Card**

2 channels of HD/SD-SDI output are possible using a single card. As down-converters are provided for all outputs, HD and SD images can be simultaneously output.



- **HVS-100AO:  
Analog Video Output Card**

2 channels of analog video signal input are possible using a single card. Output terminal 2 is a dedicated connector (conversion connector supplied). Select between analog composite and analog component (HD or SD) output for each output terminal.



- **HVS-100PCO:  
PC (HDMI/VGA) Output Card**

HDMI and VGA terminals have been mounted onto a single card. 2 output channels are possible using both.



- **HVS-2000DVE:  
Four-channel 3D DVE Expansion Card**

4 channels of 3D DVE output are possible using a single card. 12 total channels of DVEs are available, including 2.5D DVEs as standard. Includes effects such as page turn, ripple, and wave, as well as cropping with rounded corners.



- **HVS-2000MV:  
Multi-viewer 2ch Expansion Card**

Replicates the features of the standard multi-viewer and adds another 2 channels of multi-viewer display.



- **HVS-2000EX:  
Color Corrector / Advanced Chroma Keyer Card**

Adds 4 channels of chroma keying and 8 channels of color correction. Chroma keying can be applied to FLEXaKEY signals and color correction to source material or to video from AUX output.

## Software

Optional software introduces 3G-SDI and 4K format support or adds a switcher control interface.

- **HVS-2000ED:  
Editor Interface Software**

Enables switcher control using control commands that expand the editor interface. Can also be linked to OTC-1000 or GearLink™.

- **HVS-2000EXP3G:  
3 Gbps Expansion Software**

Introduces 3G-SDI format support, enabling the switcher to be used with 4K systems.

- **HVS-2000GUI:  
GUI software**

Intuitive GUI software allows HVS-2000 control and settings to be configured.

# Specifications

Video formats	1080/59.94i, 1080/50i, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/60 (NTSC), 625/60 (PAL)	
Video formats (optional)	1080/59.94p, 1080/50p (Level-A)	
Video inputs	HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x24 (FSs on all inputs)	
Video inputs (optional)	HVS-100DI-A: HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x4 (FSs on all inputs and resize engines on 2 inputs)	
	HVS-100AI: HD analog component, SD analog component, Analog composite	
	HVS-100PCI: HDMI*: XGA to WUXGA/HDTV (1080i), XGA to WXGA/HDTV (720p), VGA to XGA/SDTV (SD) RGB: XGA to WUXGA/HDTV (1080i), XGA to WXGA/HDTV (720p), VGA to XGA/SDTV (SD)	
	HVS-2000EXP3G: 3G-SDI: 3.0 Gbps	
Number of video inputs	Standard: SDI x24 / Max.: SDI x48 (with 6 HVS-100DI-A cards installed)	
Video outputs	HD-SDI: 1.5 Gbps, SD-SDI: 270 Mbps, 75Ω, BNC x16 (4 M/E outputs, AUX1 to 12), HDMI* x2	
Video outputs (optional)	HVS-100DO: HD-SDI: 1.5 Gbps, SD-SDI: 270 Mbps, 75Ω, BNC x4 (Downconverters on 2 outputs)	
	HVS-100AO: HD analog component, SD analog component, Analog composite	
	HVS-100PCO: HDMI*: SXGA to WUXGA/HDTV (1080i), SXGA to WXGA (720p), SVGA/SDTV (SD) RGB: SXGA to WUXGA/HDTV (1080i), SXGA to WXGA (720p), SVGA/SDTV (SD)	
	HVS-2000EXP3G: 3G-SDI: 3.0 Gbps	
Number of video outputs	Standard: HD-SDI x16, HDMI x2 / Max.: SDI x20, HDMI x2 (with 2 HVS-100DO cards installed)	
Signal processing	4: 2: 2: 4, digital component	
Quantization	HD/SD-SDI: 10-bit	
Effect	WIPE: 100 patterns (modification capability included) / 2.5D DVE: 30 patterns or more DVE WIPEs (modification capability included)	
Transition	Available controller: Fader controller, AUTO or CUT button / Type: MIX or WIPE (DVE included)	
Still/clip store	4 channels (with backup feature), Stores can hold up to 4 still pictures and 30 seconds of video, Frame memories in FS provided for all inputs are used for storage	
Keyer/FLEXaKEY	12 channels (4 keyers for each M/E, 4 FLEXaKEY) Bus keyer, Luminance keyer, Full keyer, Chroma keyer, Edge effect FLEXaKEY: can be assigned to AUX outputs	
Multi-viewer	Standard: 2 channels / Max.: 4 channels (64 windows), 2/4/5/7/9/10/11/13/16-way split views with title, tally, audio level meter, safety area, and border display	
Proc. Amp.	Equipped with all inputs/outputs	
Color correction	Standard: 4 channels (2 channels per each M/E) / Max.: 12 channels (optional) Correction mode: Balance, Differential, Sepia Clip mode: YPbPr, RGB	
Event memory	100 events (cross-fade transition available when loading events)	
Macro function	100 macros, max. 30 actions	
Genlock input	BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p or Tri-level sync: 0.6 Vp-p, 75Ω, BNC x1, loop-through (to be terminated with 75Ω terminator, if unused)	
System phase adjust	Horizontal: -1/2 H to +1/2 H	
Genlock output	BB: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p or Tri-level sync: 0.6 Vp-p, 75Ω, BNC x1	
I/O delay	HD: 1 H, SD: 1.7 H (minimum delay) 1 to 2 frames +minimum delay (when FS or re-size engine used) 2 to 3 frames +minimum delay (when FS or re-size engine plus DVE used) 3 to 4 frames +minimum delay (when FS or re-size engine plus output resize engine plus DVE used)	
External memory port	HVS-2240/3320OU: USB2.0 x6	
Interface	LAN1/LAN2: RJ-45 x2; MAIN and SUB both connected to an operation unit GPI IN: 15-pin D-sub (female) for 10 Inputs GPI IN/TALLY OUT: 25-pin D-sub (female) for 20 outputs RS-422*: 9-pin D-sub (female) x6 (for tally unit connection) ARCNET*: 75Ω, BNC x1, loop-through (to be terminated with 75Ω terminator, if unused.) HVS-2240/3320OU: RJ-45 x2, GPI IN/TALLY OUT 25-pin D-sub (female) x1 for 20 inputs/20 outputs	
Temperature/humidity	5°C to 40°C / 30% to 90% (no condensation)	
Power/consumption	HVS-2000: 100 V AC to 240 V AC ±10%, 50/60 Hz / 496 W (at 100 V to 120 V), 476 W (at 220 V to 240 V) HVS-2240OU: 100 V AC to 240 V AC ±10%, 50/60 Hz / 46 W (at 100 V to 120 V), 46 W (at 220 V to 240 V) HVS-3320OU: 100 V AC to 240 V AC ±10%, 50/60 Hz / 67 W (at 100 V to 120 V), 63 W (at 220 V to 240 V)	
Dimensions/weight	HVS-2000: 430 (W) x 177 (H) x 500 (D) mm / 18 kg (incl. optional cards: 30 kg) HVS-2240OU: 1060 (W) x 155 (H) x 354 (D) mm / 12 kg HVS-3320OU: 1196 (W) x 155 (H) x 494 (D) mm / 22 kg (incl. redundant power supply: 23 kg)	
Accessories	Operation manual (CD-ROM), AC cords, Rack mount brackets, Control cables	
Consumables (approx. time for replacement after an uninterrupted service at room temperature)	HVS-2000: Power unit (5 years), Cooling fan (5 years), 2.5" HDD (3 years) HVS-2240OU: Power unit (5 years), SBC battery (3 years), HVS-3320OU: Power unit (5 years), SBC battery (3 years)	
Options	HVS-100DI-A: HD/SD-SDI Input Expansion Card HVS-100AI: Analog Video Input Expansion Card HVS-100PCI: PC (HDMI/VGA) Input Expansion Card HVS-100DO: HD/SD-SDI Output Expansion Card HVS-100AO: Analog Video Output Expansion Card HVS-100PCO: PC (HDMI/VGA) Output Expansion Card HVS-2000PSM: Redundant Power Supply Unit for MU	HVS-2000PSO: Redundant Power Supply Unit for OU HVS-2000EXP3G: 3 Gbps Expansion Software HVS-2000MV: MultiViewer 2ch Expansion Card HVS-2000ED: Editor Interface Software HVS-2000GUI: Graphical User Interface Software HVS-2000EX: Color Corrector / Advanced Chroma Keyer Expansion Card HVS-2000DVE: 3D DVE 4ch Expansion Card

\*1 HDCP-Incompatible

\*2 For the tally unit connection or EDITOR port (BVS/DVS or GVG-200 protocols)

\*3 For optional control panel connection

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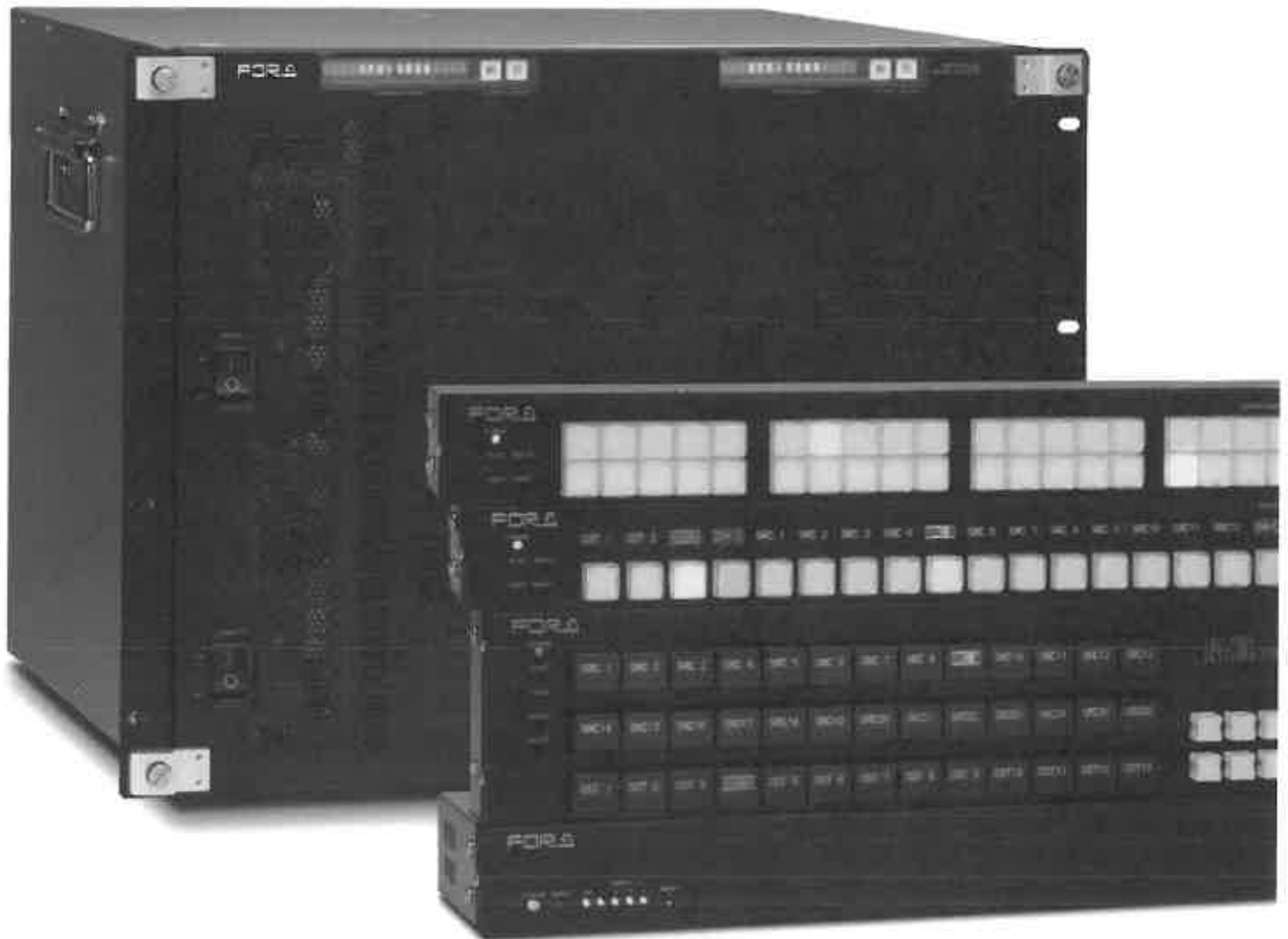
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3G/HD/SD/ASI/AES/RS-422 Routing Switcher  
**MFR-5000**

**FOR.A**<sup>®</sup>  
INNOVATIONS IN VIDEO  
and AUDIO TECHNOLOGY

3G/HD/SD/ASI/AES/RS-422 ROUTING SWITCHER  
**MFR-5000**





# 3G/HD/SD/ASI/AES/RS-422 Routing Switcher

The MFR-5000 Series is a group of multi-format routing switchers supporting 3G-SDI, HD-SDI, SD-SDI, ASI, AES and RS-422. Inside the 8 U case a matrix of up to 128 inputs/128 outputs can be configured. It offers expansive flexibility at the core of your system, such as tally connections with peripheral devices (video switchers and multi viewers) and automatic source name tracking.

## Multi-Format Support

Video input/output card

- MFR-16SDI/16SDIA:  
16-input card enables support for 3G/HD/SD-SDI and ASI
- MFR-16SDO:  
16-output card enables support for 3G/HD/SD-SDI and ASI

Audio input/output card

- MFR-16AESI:  
Input card for 16 stereo-pair (32 channels) AES/EBU
- MFR-16ADI:  
Input card with processing function for 16 stereo-pair (32 channels) AES/EBU
- MFR-16AESO:  
Output card for 16 stereo-pair (32 channels) AES/EBU
- MFR-16ADAO:  
Output card enables support for 2 SDI embedded audio, 8 stereo-pair (16 channels) AES/EBU and 8ch analog audio
- MFR-16AAI:  
Input card supported for 32 channels analog audio

RS-422 serial control I/O card

- MFR-16DTIO:  
RS-422 serial control input/output card compliant with the SMPTE 207M standard

## Outstanding Redundancy

Since routing switchers are the core of large video systems, we have engineered a variety of features to ensure full redundancy.

Redundancy Features

- CPU board redundancy (option): a secondary CPU board constantly monitors the operation of the primary board. If the secondary CPU board detects any faults, operation is immediately switched to the secondary CPU to allow for continuous operation without down time.
- Redundant power supply (option): in the rare event of a power supply problem, the second supply takes over to avoid any interruption of router function.
- Network redundancy (option): a secondary Ethernet connection provides back-up for system control. With CPU redundancy, each interface can also have a backup (for details see below).
- Direct control of main unit: the main unit has an LED display on the front. It can display settings and alarms.

Interface details

	Connector	Standard configuration	With redundant CPU installed
Ethernet	RJ-45	2	4
Serial	9 pin D-sub (male)	1	1
Alarm output	9 pin D-sub (female)	1	1
ARCNET	BNC	2	2

## Outstanding Maintainability

Designed for maintainability, all boards and power units can be accessed from the front without removing cables.

## Configuring Matrices (up to 128 Input/128 Output)

The input/output board has 16 channels and up to 8 boards can be installed together. As a result, matrices of up to 128 input/128 output can be configured.

## Various Crosspoint Control

A variety crosspoint control features are possible in addition to normal crosspoint switching.

- Salvo function
  - (1) Button-assigned Salvo: multiple crosspoints can be assigned to any button. Separate settings can be made for each remote unit.
  - (2) Main unit storage Salvo: multiple crosspoints can be stored on the main unit side and shared by all remote units.
- Take operation: after presetting crosspoints, press the Take button to change the set crosspoints.
  - (1) Mode-switching Take button: switches between take operation and usual operation (instant execution).
  - (2) Always Take button: always performs take.
- Link function: this can group and link multiple crosspoints.
- Level operation: level switching allows separate control over different subject types.
- Chop function: allows user to switch between two sources for a destination.
- Monitor out: enables output of any destination source to a dedicated monitoring channel.
- Prevention of incorrect operation:
  - Inhibit: Crosspoint, Source, Destination
  - Lock: Lock Other / Lock All / Lock Local

## Matrix Partition Function

One routing switcher can be virtually partitioned to build any theoretical hierarchy, creating possibilities for use in various operations.

Examples:

- 4K/8K capable routing switcher: simultaneous multiple crosspoints switching enables supporting 4K and 8K signals.
- Fully independent switching: a single unit can be used as multiple routing switchers by making multiple matrix partitions. This is effective when you wish to do multiple operations while avoiding source sharing.
- V/Key linking switcher: allows two inputs to be linked for routing of video and key signals together.
- 3D switcher: partition the matrix in two and control the left and right channels from a 3D source simultaneously.
- 4K/HD simul-switcher: provides simultaneous control of 4K and HD sources. Perfect feature for 4K/HD master control switching.

## SNMP Support

Remote monitoring by SNMP is supported and the router can easily be integrated into an SNMP monitoring system. In this way you can monitor the status of various items including: power source, fan, CPU, presence/absence of signals, crosspoint errors and more.

## Remote Control Units

We offer several types of remote control to suit your application. The number of units that can be connected is a maximum of 128, including the main unit. This lets you build a flexible control environment by the way you partition the matrix and make operation level settings.

### MFR-18RU:



- 1 U compact type
- 18 buttons: light in 3 colors (red/green/orange)
- Equipped with LCD display that can show source name and assigned functions for each button (7-color: red/green/yellow/blue/white/cyan/magenta)
- Any function can be assigned to any button
- Power source redundant (AC adapter)

### MFR-16RU:



- 1 U compact type
- 16 buttons: light in green only
- Any function can be assigned to the 16 buttons

### MFR-16RUD:



- 1 U compact type
- 16 buttons: lights in green only
- Any function can be assigned to the 16 buttons
- Equipped with a display showing status and setting menu display

### MFR-40RU:



- 1 U compact type
- 40 buttons: light in 3 colors (red/green/orange)
- Any function can be assigned to any button
- Power source redundant (AC adapter)

### MFR-16RUTA



- 2 U half size tabletop model
- 16 buttons: light in 3 colors (red/green/orange)
- Any function can be assigned to any button
- Equipped with OLED displays light in 7 colors (red/green/yellow/blue/white/cyan/magenta)

### MFR-39RU:



- 2 U type
- 39 buttons: 13 buttons in 3 rows. Buttons with LCD display that can show source names or assigned functions (7-color: red/green/yellow/blue/white/cyan/magenta)
- Apart from the main buttons, there are 10 function buttons that can be freely assigned (Light in 3 colors: red/green/orange)
- Equipped with display showing status and setting menu display
- Ideal as a main control unit covering the entire crosspoint set-up
- Power source redundant (AC adapter)

### MFR-16RUW:



- 1 U compact type
- 18 buttons: light in green only
- Any function can be assigned to the 18 buttons

### MFR-32RUW:



- 1 U compact type
- 34 buttons: light in green only
- Any function can be assigned to the 34 buttons

### MFR-64RUW:



- 1 U compact type
- 68 buttons: light in green only
- Any function can be assigned to the 68 buttons

### MFR-RULINK



- Option unit for remote MFR series operation
- 1 U half size
- Offers network-based remote control by setting the unit at the control-end

## Interface Expansion Unit

The interface expansion unit lineup includes two types to suit your specific application. The number of units that can be connected is a maximum of 128, including the remote control units.

### MFR-GPI: GPI Unit



Provides an interface for GPI control. This 1 RU sized unit is equipped with user-assignable GPI/O (128 channels) and 4 serial ports (9-pin D-sub male). It can be used for setting Input/Output and supports system configuration.

### MFR-TALM: Tally Manager



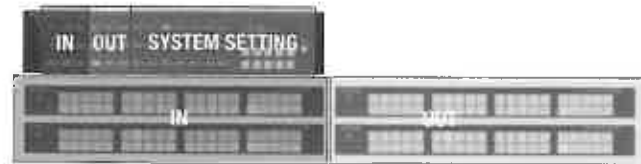
MFR-TALM is a device for performing central management of tally and material names of the MFR main unit and peripheral devices (such as video switchers and multi viewers). In the tally linking system like the one shown to the right (Fig. 1), MFR-TALM performs the tally calculation, which were originally performed by the MFR main unit, so that the tally linking can be speeded up.

### Supports Combinations of Multiple Remote Control Units

Multiple remote control units can be combined to make them function as a large scale control panel.

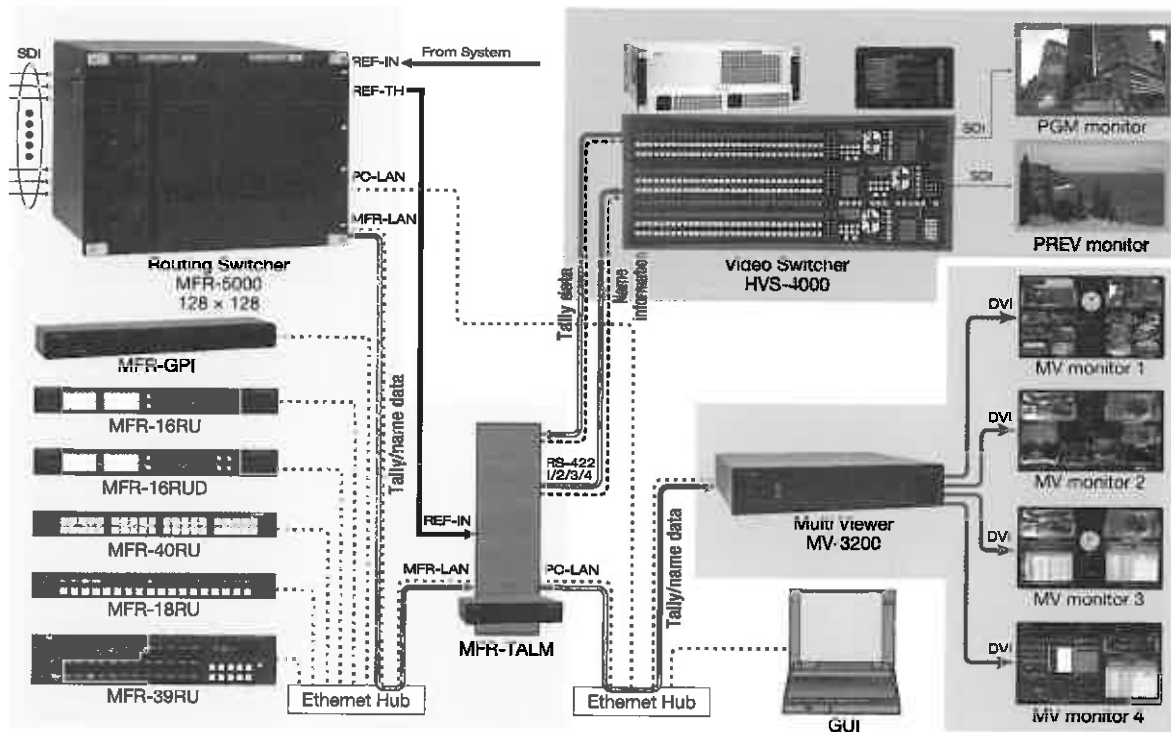
Combination example:

- For 128 x 128 full control + system settings:  
MFR-40RU x 4 + MFR-39RU x 1



## System Links with Other Products

The MFR-5000 enables tally linking with FOR-A's video switcher HANABI Series and multi viewer MV Series. And when switching between sources on the MFR-5000 side, the source name displayed by the video switcher or multi viewer can also change automatically. It supports TSL and Harris protocol, enabling linkage with 3<sup>rd</sup> party equipment.





## MFR-5000 Specifications

Video format	3G: 1080/60p, 1080/59.94p, 1080/50p HD: 1080/60i, 1080/59.94i, 1080/50i, 1080/30p, 1080/30PsF, 1080/29.97p, 1080/29.97PsF, 1080/23.98p, 1080/23.98PsF, 1080/25p, 1080/25PsF, 1080/24p, 1080/24PsF, 720/60p, 720/59.94p, 720/50p SD: 625/60, 625/50
Matrix size	Min. 16 x 16 to Max. 128 x 128 + monitor out x 4 Number of input slots: 8, Number of output slots: 8 (Expandable on a 16-channel basis)
Video input	
MFR-16SDI	SDI input card: 75Ω, BNC x 16 (max. 8 cards)
MFR-16SDIA	Compliant with the following (75Ω, BNC) - SMPTE424M (2.97 Gbps, 2.97/1.001 Gbps) - SMPTE292M (1.485 Gbps, 1.485/1.001 Gbps) - SMPTE259M (270 Mbps) - DVB-ASI
Cable Equalization	3G/HD-SDI: 100 m (5C-FB cable (Belden 1694A)) SD-SDI: 200 m (5C-2V cable (Belden 8281))
Video output	
MFR-16SDO	SDI input card: 75Ω, BNC x 16 (max. 8 cards) Compliant with the following (75Ω, BNC) (Auto relocking) - SMPTE424M (2.97 Gbps, 2.97/1.001 Gbps) - SMPTE292M (1.485 Gbps, 1.485/1.001 Gbps) - SMPTE259M (270 Mbps) - DVB-ASI
Monitoring output	3G/HD/SD-SDI, DVB-ASI: 75Ω BNC x 4 (Auto relocking not supported)
Audio input	
MFR-16ADI	AES/EBU audio input card with SRC (max. 4 cards) - BNC x 16 (16 stereo pairs, 32 channels) - 75Ω BNC - Sampling Frequency: 32 kHz, 44.1 kHz, 48 kHz, 96 kHz
MFR-16AAI	Analog audio input card with A/D converter (max. 4 cards) - 25-pin D-sub (female) x 4 (16 stereo pairs, 32 channels) - Balanced or unbalanced, 600Ω or high impedance - Sampling frequency: 48 kHz
MFR-16AESI	AES/EBU audio input card (max. 8 cards) - BNC x 16 (16 stereo pairs, 32 channels) - 75Ω BNC
Audio outputs	
MFR-16ADAO	Embedded/AES/Analog audio output card (max. 8 cards) AES/EBU (synchronous only) - BNC x 8 (8 stereo pairs, 16 channels) - 48 kHz Embedded audio (1080/59.94i or 1080/60i) - BNC x 2 (8 stereo pairs, 16 channels) - Unbalanced, 48 kHz Analog audio - 25-pin D-sub (female) x 1 (4 stereo pairs, 8 channels) - Balanced or unbalanced, less than 100Ω, 48 kHz
MFR-16AESO	AES/EBU audio output card (max. 8 cards) - BNC x 16 (16 stereo pairs, 32 channels) - 75Ω BNC

RS-422 data input/output	
MFR-16DTIO	RS-422 data input/output card (max. 8 cards) Data rate: max. 115.2 kbps 9-pin D-sub (female) x 16
Reference input	BB: 0.429 Vp-p (NTSC) / 0.45 Vp-p (PAL) or Tri-level Sync: ±0.3 Vp-p 75Ω BNC x 2, loop-through (terminate with 75Ω terminator, if unused.)
Interfaces	
MFR-LAN	10/100/1000 Base-T, RJ-45 x 2 (for connecting up to 128 RU/GPI units.) (Second LAN port used in redundant CPU configuration)
PC-LAN	10/100 Base-TX, RJ-45 x 2 (for PC operation) (Second LAN port is used in the redundant CPU configuration)
ARCNET1/ARCNET2	Unused
SERIAL	RS-232C/RS-422 (internal switch), 9-pin D-sub (male) x 1
ALARM	9-pin D-sub (female) x 1 (input: reset, output: power, fan alarm)
Temperature/humidity	0°C to 40°C / 30% to 85% (no condensation)
Power	100 VAC to 240 VAC ±10%, 50/60Hz IN x 2
Consumption	128 x 128 input/output, dual CPU/redundant power unit (maximum configuration): 490 VA (485 W) at 100 to 120 VAC 484 VA (469 W) at 220 to 240 VAC
Dimensions	480 (W) x 354 (H) x 402.7 (D) mm, EIA 8 RU
Weight	50 kg (with full options)
Accessories	Operation manual, Setup guide, AC cable with retaining clip, Rack mount brackets, Power switch faceplate
Consumables	Power supply unit: Replace every 5 years Fans P-1426, P-1429, P-1430, P-1431: Replace every 4 years
Options	- MFR-16RU: Remote control unit (16 buttons) - MFR-16RUD: Remote control unit (16 buttons, LCD display) - MFR-16RUTA: Remote control unit (16 buttons, OLED display) - MFR-16RLW: Remote control unit (18 buttons) - <b>MFR-16RU: Remote control unit (18 buttons, LCD display)</b> - <b>MFR-32RUW: Remote control unit (34 buttons)</b> - MFR-39RU: Remote control unit (39LCD buttons, 10 buttons, menu display) - MFR-40RU: Remote control unit (40 buttons) - MFR-64RUW: Remote control unit (68 buttons) - MFR-GPI: GPI unit - MFR-TALM: Tally manager - MFR-CPU: Redundant CPU card - MFR-PS: Redundant power supply unit - MFR-16SDI/16SDIA: 16 SDI input card - MFR-16SDO: 16 SDI output card - MFR-16ADI: Digital audio input card with SRC - MFR-16AAI: Analog audio input card with A/D converter - MFR-16ADAO: Audio output card with D/A converter - MFR-16AESI: AES audio input card (AES/EBU 16 stereo pairs) - MFR-16AESO: AES audio output card (AES/EBU 16 stereo pairs) - MFR-16DTIO: Data Router card (9-pin D-sub x 16, RS-422)



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(Sakura R&D)

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# State of West Virginia VENDOR PREFERENCE CERTIFICATE

Certification and application\* is hereby made for Preference in accordance with **West Virginia Code, §5A-3-37**. (Does not apply to construction contracts). **West Virginia Code, §5A-3-37**, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the **West Virginia Code**. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,  
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,  
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. **Application is made for 2.5% vendor preference for the reason checked:**  
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. **Application is made for 5% vendor preference for the reason checked:**  
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**  
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**  
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7.  **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules.**  
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Lee Hartman Sons, Inc.

Signed: [Signature]

Date: 10-5-2015

Title: Area Manager

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

**MANDATE:** Under W. Va. Code §5A-3-10a, 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: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

**EXCEPTION:** The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. 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.

**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.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-20-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"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 exceeds five percent of the total contract amount.

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Lee Hartman + Sons, Inc.

Authorized Signature: [Signature] Date: 10-5-2015

State of WV

County of Putnam to-wit:

Taken, subscribed, and sworn to before me this 5<sup>th</sup> day of October, 2015

My Commission expires Sept 24, 2023

NOTARY PUBLIC [Signature]

*Purchasing Affidavit (Revised 07/01/2012)*

