

## **VII. COOPERATIVE AGREEMENT**

### **EXTENSION OF AWARD TO MITN PURCHASING COOPERATIVE**

The City of Sterling Heights is a member of the MITN Purchasing Cooperative consisting of many cities, townships, counties and other governmental agencies throughout Michigan. If your company is awarded item(s) referenced in the bid, the cooperative governmental entities may wish to use this contract and will use a purchase order for the item(s) awarded in this bid following minimum order requirements set forth in the bid document. Each entity will provide their own purchase order and delivery location(s) and must be invoiced separately to the address indicated on the purchase order. Please check appropriate box and complete information as required.

If an award is made to Advanced Lighting & Sound  
(Company) it is agreed that  
the contract will be extended to the MITN Purchasing Cooperative under the  
same prices, terms, and conditions.

Signature of Company Representative \_\_\_\_\_

Our company is **NOT** interested in extending the contract.

Company Advanced Lighting & Sound

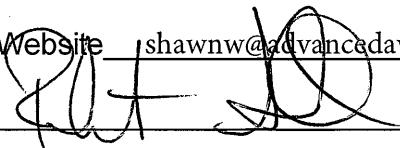
Address 1026 Maplelawn Dr

City/State/Zip Troy, MI 48084

Representative/Title Shawn Watts - VP of Sales & Integration

Telephone/Fax 248-817-2092 Fax 248-817-2093

E-Mail Address/Website shawnw@advancedavl.com www.advancedavl.com

Signature 

This form **must** be completed and returned with your bid.

All pricing bid shall be inclusive of setup and configuration of new equipment with training. Setup, configuration and training will not be paid as a separate line item and shall be included in the unit pricing bid for the equivalent switcher unit proposed. The City will provide cabling, however if the vendor has preferred cabling that is required for the use of the equipment bid it shall be listed within your bid submittal. Please attach additional pages as necessary with your bid.

Please include all warranty information and optional extended warranty terms and conditions. The City is interested in continued support and service plans available. Pricing and service plan details, if offered through your agency, shall be bid as alternate options in addition to the base bid submitted. Please specify if the equipment bid meets the feature and description as provided within the tables below. If features and descriptions cannot be met, please describe in full detail the exception to the feature listed herein. Please attach additional pages as necessary.

**A. Tricaster 2 (TC2) Elite or Equivalent (This unit has been discontinued, See attached specs)**

Feature	Description	Meets Y/N
Video Input	32 x simultaneous external video inputs, supporting any combination of compatible sources in resolutions up to UHD at frame rates up to 60fps (2160p 59.94)	
Network Video Input	32 x IP inputs via NDI®, resolution-independent, with support for key and fill	
SDI Video Input	8 x 3G/HD/SD-SDI connections supporting video input in any combination of standard formats, resolutions, and frame rates 1080p: 59.94, 50, 29.97, 25 • 1080i: 59.94, 50 • 720p: 59.94, 50, 29.97, 25 • 576i 50 • 480i 59.94	
Conference Calling	Support for up to 32 simultaneous Pan-Tilt-Zoom (PTZ) robotic cameras via serial and network protocols, including RS232, RS422 and IP, with integrated controls and preset system	
Video Output	Configurable for up to 8 independent HD or 2 UHD video mix outputs, with simultaneous delivery via IP and SDI	
Network Video Output	48 x IP outputs via NDI® (HD and SD sessions only) • 8 x video mix outputs in resolutions up to 1080p at frame rates up to 60fps (1080p 59.94) or 2 x UHD video mix outputs at up to 60 frames per second (2160p 59.94) • 8 x direct IP source outputs via NDI® translation of local SDI inputs or 2 x upconverted UHD outputs at up to 60 frames per second (2160p 59.94) • 4 x direct IP source outputs via NDI® translation of media players, with support for embedded alpha channel • 15 x direct IP source outputs via NDI® translation of media buffers, with support for embedded alpha channel	

	<ul style="list-style-type: none"> <li>• 3 x Multiviewer outputs (if 3 monitors are connected). 4K support on 2x Multiviewer outputs while the 3rd outputs in HD</li> <li>• 1 x User Interface with dedicated multiviewer</li> <li>• 1 x teleprompter output (LiveStory™ Creator)</li> <li>• 8 x selectable IP outputs via internal NDI® matrix router</li> </ul>	
SDI Video Output	8 x 3G/HD/SD-SDI connections, optionally configurable for: <ul style="list-style-type: none"> <li>• 8 x independent 3G/HD/SD video mix outputs supporting standard NTSC and PAL formats, resolutions, and frame rates<sup>3</sup></li> <li>• 2 x UHD video mix output via 3G-SDI quad-link grouping, supporting frame rates up to 60fps (2160p 59.94)</li> </ul>	
Stream Output	2 x resolution-independent streaming video outputs, independently configurable, with simultaneous stream recording. Support for SRT streaming has been enabled.	
Multiviewer Output	4 x multiviewer outputs supporting standard display resolutions, using any combination of available connections. Support for 4K on 2x DisplayPorts <ul style="list-style-type: none"> <li>• 1 x HDMI</li> <li>• 3 x DisplayPort</li> </ul>	
Mix/Effect Buses	8 x M/E buses supporting video re-entry <ul style="list-style-type: none"> <li>• 1 x Mix/Effect channel per bus with support for up to 4 sources</li> <li>• 4 x KEY layers per bus</li> <li>• 9 x memory slots per bus</li> </ul> 1 x PREVIZ configuration and preview bus	
DSK Channels	4 x DSK channels	
Media	5 x media players <ul style="list-style-type: none"> <li>• 4 x DDR</li> <li>• 1 x Sound</li> </ul> 15 x media buffers <ul style="list-style-type: none"> <li>• 10 x animation buffers with GIF support</li> <li>• 5 x graphic buffers</li> </ul>	
Keyers	Integrated LiveMatte™ chroma and luma keying technology on all source channels and M/E buses <ul style="list-style-type: none"> <li>• 32 x input keyers</li> <li>• 4 x media player keyers</li> <li>• 8 x M/E keyers</li> <li>• 1 x PREVIZ keyer</li> <li>• 15 x buffer keyers</li> </ul>	
COMPs	Integrated video composition engine on the switcher and each M/E bus to create, store, and apply layer configurations and DVE-style motion sequences <ul style="list-style-type: none"> <li>• 16 x configurable COMP presets per bus</li> </ul>	
Virtual Sets	Integrated LiveSet™ technology with 30+ live virtual sets and box effects included	
Data Link	Integrated DataLink™ technology enabling real-time, automated data input from internal and external sources,	

	including webpages, spreadsheets, scoreboards, databases, RSS feeds, watch files, XML, CSV, ASCII and more	
Macros	<p>Record, store, edit and automate commands and user-configured operation sequences</p> <ul style="list-style-type: none"> <li>• Attach to control panel buttons, keyboard shortcuts, hotspots, MIDI and X-keys® buttons or GPI triggers</li> <li>• Attach to internal events and state changes, including audio, media playback, tally and specific switcher actions</li> <li>• Supports control via web-based interface</li> </ul>	
Recording	<p>Recording Capabilities (maximum recording capabilities depend on storage performance, network bandwidth and video format)</p> <ul style="list-style-type: none"> <li>• 8 x configurable MIX output channels for HD or 2 x for UHD</li> <li>• 8 x physical SDI inputs</li> <li>• 4 x DDR's</li> <li>• 3 x streaming encoders</li> <li>• 32 x configurable inputs</li> <li>• Support for growing file playback from DDR's</li> <li>• Instant Replay capability on each input</li> <li>• Ability to record alpha channel</li> </ul>	
Storage	<p>4TB Media Storage (4 x 1 TB SSD in RAID 0)</p> <ul style="list-style-type: none"> <li>• Quantity varies by format, resolution and file specification</li> <li>• Supports recording to external storage via 7 USB 3.2 type A, and 1 USB 3.2 type C, 1 USB 2.0 2(Gen2, Type A)</li> <li>• Supports shared storage integration and third-party partner solutions</li> </ul>	
Grab	Grab full resolution, deinterlaced still images from external video sources and outputs	
Export	Export video and image files to social media, FTP, local or external volumes, and network servers, with optional transcoding	
Audio	16 external audio inputs supporting 8 channels each Integrated multi-channel audio mixer with support for 8-channel audio, DSPs and 4x8x8 audio input routing	
Local Audio Input	<ul style="list-style-type: none"> <li>• 8 x SDI embedded</li> <li>• 1 x Balanced XLR stereo pair (Line)</li> <li>• 3 x Balanced 1/4" stereo pairs (Line)</li> </ul>	
Network Audio	<ul style="list-style-type: none"> <li>• Native support for network audio input and output via NDI®</li> <li>• Embedded audio supported for all NDI®input and output video signals</li> <li>• Integrated support for Dante™ networking protocol from Audinate®</li> <li>• Support for AES67 protocol via compatible WDM audio drivers</li> </ul>	
Supported Media File Formats	Import, store, and play back multimedia files, with optional transcoding, including:	

	<ul style="list-style-type: none"> <li><b>Video:</b> AVI, DV, DVCPro, DVCProHD, FLV, F4V, H.263, H.264, MOV, MKV, MJPEG, MPEG, MP4, WMV, WebM, and more</li> <li><b>Image:</b> PSD, PNG, TGA, BMP, JPEG, JPEG-XR, JPEG2000, EXR, RAW, TIF, WebP, and more</li> <li><b>Audio:</b> AIFF, MP3, WAV, and more</li> </ul>	
Monitoring	Support for up to 4 multiviewer displays with configurable workspaces and viewports. Support for 4K on 2 multiviewers while the other 2 multiviewers output in HD.	
Signal Monitoring	Integrated waveform and vectorscope, full field rate with digital calibration, color preview and support for ITU-R Rec. 709	
Processing	<ul style="list-style-type: none"> <li><b>Video:</b> Floating Point YCbCr +A 4:4:4:4</li> <li><b>Audio:</b> Floating Point, 96 kHz</li> </ul>	
Latency	Processing Latency: ~1.0-1.5 frames Practical Throughput Latency: 4 frames	
A/V Standards	<ul style="list-style-type: none"> <li>UHD video conforms to SMPTE 2036 (UHDTV1 using Square Division Quad Split)</li> <li>3G-SDI video conforms to SMPTE 424M (Level A)</li> <li>HD-SDI video conforms to SMPTE 292M</li> <li>SD video conforms to SMPTE 259M and ITU-R BT.656</li> <li>Analog audio levels conform to SMPTE RP-155</li> </ul>	
Tally	Support for hardware tally via HD15 GPI connector, network tally via NDI®, and Blackmagic Design® SDI tally standard	
Genlock	Genlock input supporting SD (Bi-level) or HD (Tri-level) reference signals	
GPI	Supports GPI signals via JLCooper Electronics eBox GPI interface	
MIDI	Support for standard MIDI protocol enabling third-party device control	
System Drive	250GB SSD	
NIC	<ul style="list-style-type: none"> <li>1 x 10 GbE NIC</li> <li>1 x 1 Gigabit NIC</li> </ul>	
System Physical	3RU chassis with 700W redundant PSU and multi-tiered hardware and software fail-safe <ul style="list-style-type: none"> <li>19.0 x 5.25 x 21.12 in (48.3 x 13.34 x 53.65 cm) with rack ears attached</li> <li>34 lbs (15 kg)</li> </ul>	

Please list exceptions if feature descriptions cannot be met (attach additional pages as required):

The TC2 Elite has been discontinued with no units available. This has been replaced with the Tricaster Vizion 16 I/O that will be the requirements of SHTV and bid requirements.

This unit will meet and exceed the specifications of the TC2 Elite

Additional documentation will be included.

## B. Tricaster 1 (TC1) Pro or Equivalent

Feature	Description	Meets Y/N
Video Input	16 x simultaneous external video inputs, supporting any combination of compatible sources in resolutions up to 4K UHD at frame rates up to 60fps (2160p 59.94)	Y
Network Video Input	16 x IP video inputs via NDI™, resolution-independent, with support for key and fill	Y
SDI Video Input	4 x 3G/HD/SD-SDI connections supporting video input in any combination of standard formats, resolutions, and frame rates2 • 1080p: 59.94, 50, 29.97, 25 • 1080i: 59.94, 50 • 720p: 59.94, 50, 29.97, 25 • 576i 50 • 480i 59.94 1 Optionally supports up to 16 simultaneous 3G/HD/SD-SDI video inputs or quad-link 3G-SDI video inputs (4K UHD) via network integration with NewTek NC1 conversion modules 2 Available frame rates determined by session video standard (NTSC or PAL)	Y
PTZ	Support for up to 16 simultaneous Pan-Tilt-Zoom (PTZ) robotic cameras via serial and network protocols, including RS232, RS422 and IP, with integrated controls and preset system	Y
Skype TX	<ul style="list-style-type: none"> <li>Native support for up to 2 simultaneous Skype® video call inputs via Skype TX software integration, including tally and Talk Back communication</li> <li>Must be able to be configured with Teams or Zoom functionality</li> </ul>	Y
Video Output	Configurable for up to 4 independent video mix outputs, with simultaneous delivery via IP and SDI	Y
Network Video Output	IP video output via NDI, optionally configurable for: • 4 x independent video mix outputs • 1 x 4K UHD video mix output	Y
SDI Video Output	4 x 3G/HD/SD-SDI connections, optionally configurable for: • 4 x independent 3G/HD/SD video mix outputs • 1 x 4K UHD video mix output via 3G-SDI quad-link grouping	Y
Stream Output	3 x resolution-independent streaming video outputs, independently configurable, with simultaneous stream archive	Y
Multiviewer Output	3 x multiviewer outputs supporting standard display resolutions • 1 x DisplayPort (v1.4a) • 2 x HDMI™ (HDMI™ v2.1)	Y
Mix/Effect Buses	4 x M/E buses supporting video re-entry <ul style="list-style-type: none"> <li>1 x Mix/Effect channel per bus with support for up to 4 sources</li> <li>4 x KEY layers per bus</li> <li>9 x memory slots per bus 1 x PREVIZ configuration and preview bus</li> </ul>	Y
DSK Channels	4 x DSK channels	Y

Media	5 x media players • 2 x DDR • 2 x GFX • 1 x Sound 15 x media buffers • 10 x animation buffers • 5 x graphic buffers 30 x clip players (available for use as transitions or media depending on function)	Y
Keyers	Integrated LiveMatte™ chroma and luma keying technology on all source channels and M/E buses • 16 x input keyers • 4 x media player keyers • 4 x M/E keyers • 1 x PREVIZ keyer • 15 x buffer keyers	Y
COMPs	Integrated video composition engine on the switcher and each M/E bus to create, store, and apply layer configurations and DVE-style motion sequences • 16 x configurable COMP presets per bus	Y
Virtual Sets	Integrated LiveSet™ technology with 30+ live virtual sets and box effects included	Y
Data Link	Integrated DataLink™ technology enabling real-time, automated data input from internal and external sources, including webpages, spreadsheets, scoreboards, databases, RSS feeds, watch files, XML, CSV, ASCII and more	Y
Macros	Record, store, edit and automate commands and user-configured operation sequences • Attach to control panel buttons, keyboard shortcuts, hotspots, MIDI and Xkeys® buttons or GPI triggers • Attach to internal events and state changes, including audio, media playback, tally and specific switcher actions • Supports control via web-based interface • Variables support allowing operators to use logic in macros to deliver complex productions more easily	Y
Recording	16x configurable video recording channels • 16x NDI® recordings • 4 x QuickTime® archival video recorders • 3x H.264 distribution video recorders (multiple profiles) • 1 x MP3 audio recorder	Y
Storage	2TB internal media storage • 2 x 2TB Media Drive • Capacity varies by format, resolution and file specification • Supports recording to external storage via USB 3.0 and eSATA • Supports shared storage integration and third-party partner solutions	Y
Grab	Grab full-resolution, deinterlaced still images from external video sources and outputs	Y
Export	Export video and image files to social media, FTP, local or external volumes, and network servers, with optional transcoding	Y
Audio	Integrated multi-channel audio mixer with support for quad-channel audio, DSPs and 4x4x4 audio input routing	Y
Local Audio Input	4 x SDI embedded 1 x Balanced XLR stereo pair (Line) 3 x Balanced 1/4" stereo pairs (Line)	Y
Local Audio Output	4 x SDI embedded 1 x Balanced XLR stereo pair 1 x Balanced 1/4" stereo pair 1 x Stereo 1/4" (phones)	Y

Network Audio	<ul style="list-style-type: none"> <li>Native support for network audio input and output via NDI</li> <li>Embedded audio supported for all NDI input and output video signals</li> <li>Integrated support for Dante™ networking protocol from Audinate®</li> <li>Support for AES67 protocol via compatible WDM audio drivers</li> </ul> <p>4 Requires Dante Virtual Soundcard license from Audinate (sold separately)</p> <p>5 Requires third-party virtual sound card license (sold separately)</p>	Y
Supported Media File Formats	<p>Import, store, and play back multimedia files, with optional transcoding, including:</p> <ul style="list-style-type: none"> <li>Video: AVI, DV, DVCPRO, DVCPROHD, FLV, F4V, H.263, H.264, MOV, MKV, MJPEG, MPEG, MP4, WMV, WebM, and more</li> <li>Image: PSD, PNG, TGA, BMP, JPEG, JPEG-XR, JPEG2000, EXR, RAW, TIF, WebP, and more</li> <li>Audio: AIFF, MP3, WAV, and more</li> </ul>	Y
Monitoring	Support for up to 3 multiviewer displays with configurable workspaces and viewports	Y
Signal Monitoring	Integrated waveform and vectorscope, full field rate with digital calibration, color preview and support for ITU-R Rec. 709	Y
Processing	Video: YCbCr + Alpha color space, using 4:2:2:4 Audio: Floating Point 96 kHz	Y
Latency	~1.0-1.5 frames	Y
A/V Standards	<ul style="list-style-type: none"> <li>4K UHD video conforms to SMPTE 2036 (UHDTV1 using Square Division Quad Split)</li> <li>3G-SDI video conforms to SMPTE 424M (Level A)</li> <li>HD-SDI video conforms to SMPTE 292M</li> <li>SD video conforms to SMPTE 259M and ITU-R BT.656</li> <li>Analog audio levels conform to SMPTE RP-155</li> </ul>	Y
Tally	Support for hardware tally via HD15 GPI connector, network tally via NDI, and Blackmagic Design® SDI tally standard	Y
Genlock	Genlock input supporting SD (Bi-level) or HD (Tri-level) reference signals	Y
GPI	Supports GPI signals via JLCooper Electronics eBox GPI interface	Y
MIDI	Support for standard MIDI protocol enabling third-party device control	Y
System Drive	250GB SSD	Y
NIC	1 x 10 Gigabit LAN 1 x 2.5 Gigabit LAN 1 x 1 Gigabit LAN	Y
USB	Front: 2 x USB 3.0 Type A Rear: 2 x USB 2.0 Type A 5 x USB 3.2 Gen2 Type A 1 x USB 3.2 Gen2x2 TypeC	Y
System Physical	2RU chassis with 500W PSU and multi-tiered hardware and software fail-safe	<ul style="list-style-type: none"> <li>19.0 x 3.5 x 19.57 in (48.3 x 8.9 x 49.7 cm) with rack ears attached</li> </ul>

Please list exceptions if feature descriptions cannot be met (attach additional pages as required):

The TC1Pro does not meet the requirements of the needs for SHTV for the required number of video I/O's without the addition of the NC2IO for added I/O.

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# TriCaster® Vizion

## One Sheet & Technical Specifications

### Vizionary video production with unprecedented versatility

TriCaster® Vizion is the latest evolution of this renowned video mixing tool that has been used and trusted by broadcasters, sports networks and live event producers for decades. Offering the latest in IP connectivity, configurable SDI I/O, powerful switching, audio mixing and state of the art graphics, TriCaster Vizion is built for the future. Now with exciting new AI features and industry leading graphics capabilities with TriCaster Graphics powered by Viz Flowics.

The future proofing isn't limited to features; TriCaster Vizion is the first software and hardware TriCaster that is available to purchase with a perpetual or subscription license with a choice of two different hardware platforms offering the ultimate in production and budget flexibility – equipping your network, team or enterprise for whatever the future may hold.

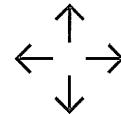
#### Future-proofed features



TriCaster Vizion is built with both powerful new and roadmap production tools, harnessing the power of AI to create amazing content. With 44 live inputs, up to 16 configurable SDI inputs / outputs, 4 media players, 8 MEs as well as enhanced remote production tools like Live Call Connect, it's the perfect solution for sophisticated, multi-camera productions by broadcasters, media publishers and stadiums,

#### Reliable Versatility

Vizion puts the power firmly in the user's hands with a choice of 5 different hardware configurations to suit any production requirement and budget. Offering unmatched production versatility with up to 16 configurable 12G SDI input / output options, TriCaster Vizion utilizes industry-leading providers HP and Matrox devices.



#### Production Protection



We care about your productions and support is a fundamental part of the TriCaster Vizion solution including a 3-year hardware warranty. Subscriptions come with Professional tier support as standard including 24/7 phone support and a dedicated Customer Success Manager. Perpetual systems will include 1-year of standard support.





## Technical Specifications

<b>Video Input</b>	44 x simultaneous external video inputs, supporting any combination of compatible sources in resolutions up to UHD at frame rates up to 60fps (2160p 59.94)
<b>Network Video Input</b>	44 x IP inputs via NDI®, resolution-independent, with support for key and fill
<b>SDI Video Input<sup>1</sup></b>	12G/3G/HD SDI connections supporting video input in any combination of standard formats, resolutions, and frame rates <sup>2</sup> <ul style="list-style-type: none"><li>• 2160p 59.94, 50, 29.97, 25</li><li>• 1080p: 59.94, 50, 29.97, 25</li><li>• 1080i: 59.94, 50</li><li>• 720p: 59.94, 29.97, 25</li></ul>
	<sup>1</sup> Up to 16 configurable ports depending on hardware version. These ports can be configured for input or output. Up to 8 ports support 12G signals.
	<sup>2</sup> Available frame rates determined by session video standard (NTSC or PAL)
<b>Video Output</b>	Configurable for up to 8 independent HD or 2 UHD video mix outputs, with simultaneous delivery via IP and SDI
<b>Network Video Output</b>	56 x IP outputs via NDI® (HD sessions only) <ul style="list-style-type: none"><li>• 8 x video mix outputs in resolutions up to 1080p at frame rates up to 60fps (1080p 59.94) or 2 x UHD video mix outputs at up to 60 frames per second (2160p 59.94)</li><li>• Up to 16 x direct IP source outputs via NDI® translation of local SDI inputs</li><li>• 4 x direct IP source outputs via NDI® translation of media players, with support for embedded alpha channel</li><li>• 15 x direct IP source outputs via NDI® translation of media buffers, with support for embedded alpha channel</li><li>• 3x Multiviewer outputs (if 3 monitors are connected). 4K support on 2x Multiviewer outputs while the 3<sup>rd</sup> outputs in HD</li><li>• 1x User Interface with dedicated multiviewer</li><li>• 1x Teleprompter output (LiveStory™ Creator)</li><li>• 8 x selectable IP outputs via internal NDI® matrix router</li></ul>
<b>SDI Video Output</b>	12G/3G/HD SDI connections, optionally configurable for: <ul style="list-style-type: none"><li>• 8 x independent 12G/3G/HD video mix outputs supporting standard NTSC and PAL formats, resolutions, and frame rates<sup>3</sup></li></ul>
	<sup>3</sup> Available frame rates determined by session video standard (NTSC or PAL)
<b>Audio</b>	44 channel integrated audio mixer with support for 8-channel audio, DSPs and 4x8x8 audio input routingSSD
<b>Local Audio Input</b>	<ul style="list-style-type: none"><li>• Up to 16 x SDI embedded</li></ul>
<b>Local Audio Output</b>	Up to 8 x SDI Embedded
<b>Network Audio</b>	<ul style="list-style-type: none"><li>• Native support for network audio input and output via NDI®</li><li>• Embedded audio supported for all NDI® input and output video signals</li><li>• Integrated support<sup>5</sup> for Dante™ networking protocol from Audinate®</li><li>• Support for AES67 protocol via compatible WDM audio drivers<sup>6</sup></li></ul>
	<sup>5</sup> Requires Dante Virtual Soundcard license from Audinate (sold separately)
	<sup>6</sup> Requires third-party virtual sound card license (sold separately)

<b>Media</b>	<p>5 x media players</p> <ul style="list-style-type: none"> <li>• 4 x DDR</li> <li>• 1 x Sound</li> </ul> <p>15 x media buffers</p> <ul style="list-style-type: none"> <li>• 10 x animation buffers with GIF support</li> <li>• 5 x graphic buffers</li> </ul>
<b>Keyers</b>	Integrated LiveMatte™ chroma and luma keying technology on all source channels and M/E buses <ul style="list-style-type: none"> <li>• 44 x input keyers</li> <li>• 4 x media player keyers</li> <li>• 8 x M/E keyers</li> <li>• 1 x PREVIZ keyer</li> <li>• 15 x buffer keyers</li> </ul>
<b>COMPs</b>	Integrated video composition engine on the switcher and each M/E bus to create, store, and apply layer configurations and DVE-style motion sequences <ul style="list-style-type: none"> <li>• 16 x configurable COMP presets per bus</li> </ul>
<b>Virtual Sets</b>	Integrated LiveSet™ technology with 30+ live virtual sets and box effects included
<b>DataLink</b>	Integrated DataLink™ technology enabling real-time, automated data input from internal and external sources, including webpages, spreadsheets, scoreboards, databases, RSS feeds, watch files, XML, CSV, ASCII and more
<b>Macros</b>	Record, store, edit and automate commands and user-configured operation sequences <ul style="list-style-type: none"> <li>• Attach to control panel buttons, keyboard shortcuts, hotspots, MIDI and X-keys® buttons or GPI triggers</li> <li>• Attach to internal events and state changes, including audio, media playback, tally and specific switcher actions</li> <li>• Supports control via web-based interface</li> </ul>
<b>Recording</b>	<ul style="list-style-type: none"> <li>• 8 x configurable M/E channels</li> <li>• Up to 16 x physical SDI inputs</li> <li>• 4 x DDR's</li> <li>• 3 x streaming encoders</li> <li>• Support for growing file playback from DDR's</li> <li>• Instant Replay capability on each input</li> <li>• 14 x total configurable inputs</li> </ul>
<b>Storage</b>	4 TB SSD Internal storage <ul style="list-style-type: none"> <li>• Supports recording to external storage via 7 USB 3.2 type A, and 1 USB 3.2 type C, 1 USB 2.0 2(Gen2, Type A)</li> <li>• Supports shared storage integration and third-party partner solutions</li> </ul>
<b>PTZ</b>	Support for up to 44 simultaneous Pan-Tilt-Zoom (PTZ) robotic cameras via serial and network protocols, including RS232, RS422 and IP, with integrated controls and preset system
<b>Conference Calling</b>	Support for multiple simultaneous video call inputs with Microsoft Skype™, Microsoft Teams™, Zoom Meetings™, Slack, Discord™, and Tencent™ software integration using the Live Call Connect feature,
<b>Grab</b>	Grab full resolution, deinterlaced still images from external video sources and outputs
<b>Export</b>	Export video and image files to social media, FTP, local or external volumes, and network servers, with optional transcoding
<b>Supported Media File Formats</b>	Import, store, and play back multimedia files, with optional transcoding, including: <ul style="list-style-type: none"> <li>• Video: AVI, DV, DVCPRO, DVCPROHD, FLV, F4V, H.263, H.264, MOV, MKV, MJPEG, MPEG, MP4, WMV, WebM, and more</li> <li>• Image: PSD, PNG, TGA, BMP, JPEG, JPEG-XR, JPEG2000, EXR, RAW, TIF, WebP, and more</li> <li>• Audio: AIFF, MP3, WAV, and more</li> </ul>
<b>Monitoring</b>	Support for up to 4 multiviewer displays with configurable workspaces and viewports. 4 outputs are via Display port connection
<b>Signal Monitoring</b>	Integrated waveform and vectorscope, full field rate with digital calibration, color preview and support for ITU-R Rec. 709

<b>Processing</b>	Video: YCbCr + Alpha color space, using 4:2:2:4 Audio: Floating Point, 96 kHz
<b>Latency</b>	Processing Latency: ~1.0-1.5 frames Practical Throughput Latency: 4 frames
<b>A/V Standards</b>	<ul style="list-style-type: none"> <li>12G-SDI video conforms to SMPTE ST 2082</li> <li>3G-SDI video conforms to SMPTE 424M (Level A)</li> <li>HD-SDI video conforms to SMPTE 292M</li> </ul>
<b>Tally</b>	Network tally via NDI®, and Blackmagic Design® SDI tally standard
<b>Genlock</b>	Genlock input per I/O board supporting SD (Bi-level) or HD (Tri-level) reference signals
<b>GPI</b>	Supports GPI signals via JLCooper Electronics eBox GPI interface
<b>MIDI</b>	Support for standard MIDI protocol enabling third-party device control
<b>System Drive</b>	500GB SSD
<b>NIC</b>	<ul style="list-style-type: none"> <li>1 x 10 GbE</li> <li>1 x 1 Gigabit NIC</li> </ul>
<b>System Physical</b>	1RU chassis with redundant 675W PSU, Tower chassis with 1x 1125W PSU <ul style="list-style-type: none"> <li>Tower - 17.5 x 15.2 x 6.65" / 44.5 x 38.6 x 16.89 cm - 27.8 lb / 12.6 kg</li> <li>1RU Rack - 25.7 x 17.2 x 1.7" / 65.4 x 43.8 x 43 cm - 26.7 lb / 12.1 kg</li> </ul>
<b>Operating Conditions</b>	<p>Temperature Range</p> <ul style="list-style-type: none"> <li><b>Operating:</b> 5° to 27°C (40° to 80°F)</li> <li><b>Non-Operating:</b> -40° to 60°C (-40° to 140°F)</li> </ul> <p>Humidity Range</p> <ul style="list-style-type: none"> <li><b>Operating:</b> 8% to 85% relative humidity, non-condensing, 35° C maximum wet bulb</li> <li><b>Non-operating:</b> 8% to 90% relative humidity, non-condensing, 35° C maximum wet bulb</li> </ul>
<b>Viz Flowics Basic Plan</b>	<p>4 Users</p> <p>5GB Asset Library</p> <p>1 Output</p> <p>1 Team</p> <p>Graphics Editor</p> <ul style="list-style-type: none"> <li>Timeline-based Animations</li> <li>Text Crawler</li> <li>Assets Library</li> <li>Custom Fonts</li> <li>140 ready-to-use free graphics</li> </ul> <p>Data Integrations</p> <ul style="list-style-type: none"> <li>Google Sheets Data Provider</li> <li>RSS / Atom Data Provider</li> <li>JSON REST Connector</li> <li>JSON WebSocket Connector</li> <li>Data Bridge</li> </ul> <p>Security – MFA</p> <p>Control API</p> <p>24/7 Live Chat &amp; Knowledge Base Support</p> <p>Viewer Engagement - X (Twitter) &amp; Instagram Search</p> <p>Viz Flowics runs in cloud, rendered locally via TriCaster Live Link.</p>

*Subject to change without notice.*



# TriCaster® Vizion

## Support Details



Subscription systems have Professional Support as part of subscription



Software upgrades for Vizion are only available to users with an active support plan



Perpetual systems will include 12 months of Standard Support. 1<sup>st</sup> year can be upgraded to Professional, additional years to be purchased, Standard or Professional.



Advanced hardware replacement can be bolted-on to any Support plan

Support Contact		Standard	Professional
		Incl. 1 <sup>st</sup> yr Perpetual	Incl. subscription
	24/7 Portal	✓	✓
	24/7 Live Chat	✓	✓
	24/7 Phone Contact		✓
Support Commitments	Response Time (Critical)	<4 Hours	<1 Hour
	Response Time (High)	<8 Hours	<2 Hours
	Response Time (Normal)	<24 Hours	<4 Hours
Support & Maintenance	Licensing & Software Updates	✓	✓
	Viz University	✓	✓
	Remote System Support	✓	✓
	Submit Feature Ideas	✓	✓
Global Support Knowledge	Self-Service Knowledge Base	✓	✓
	Vizrt Community Forums	✓	✓
3rd Line Technical	Availability	8*5	8*5
Bolt-Ons	Advanced Hardware Replacements	\$	\$

**Vizrt ProTek offers customers support over 2 tiers; Prime and Ultra. Choose the tier that provides the right support for you, at the right time**

## Program Features

Support Element	Warranty	Prime	Ultra
		Free	Optional
Hardware Warranty*	1 <sup>st</sup> yr		✓
Webform Support	✓		✓
Complimentary Vizrt University Classes	✓		✓
Priority Hardware Repair*		✓	✓
Chat Support 24x5		✓	✓
Remote Hardware Diagnostic Services			✓
1 Hour Telephone Support 24x7			✓
Priority Queue for Support Inquiries			✓
Advanced Hardware Replacement*			✓

✓ \*Vizrt ProTek warranty and returns

## VI. BID FORM

The undersigned hereby declares that the instructions and specifications have been carefully examined and that **STERLING HEIGHTS TELEVISION (SHTV) SWITCHER REPLACEMENT** will be furnished for the prices set forth in this bid. It is understood and agreed that all bids are **F.O.B. DESTINATION**, and that all bid prices shall remain in effect for at least ninety (90) days from the date of bid opening to allow for the award of the bid and that, if chosen the successful vendor, the prices bid will remain firm for a minimum of one year from date of award.

<u>Description</u>	<u>Unit Price</u>
A. TC2 Elite or equivalent (Vizion 16 I/O)	\$ <u>50,310.00</u>
B. TC1 Pro or equivalent	\$ <u>46,867.00</u>
C. Trade in Credit – TCXD8000 switcher with Tricaster8000CS	\$ ( <u>6,500.00</u> ) Vizion \$ ( <u>5,500.00</u> ) TC1Pro
<b>Alternate – Service Plan</b>	
A. Service Plan – A ( <i>bidder must provide full description</i> )	\$ <u>2,945.00</u> Vizion A \$ <u>5,335.00</u> TC1Pro A
B. Service Plan – B ( <i>bidder must provide full description</i> )	\$ <u>5,825.00</u> Vizion B \$ <u>5,335.00</u> TC1 Pro B

Delivery time after receipt of PO: Delivery 2 weeks, Install TBD and scheduled with SHTV

I hereby state that I have read, understand and agree to be bound by all the terms of this bid document. The undersigned certifies that he has downloaded all documents /addendums associated with this bid from the MITN website.

Company Advanced Lighting & Sound

Address 1026 Maplelawn Dr

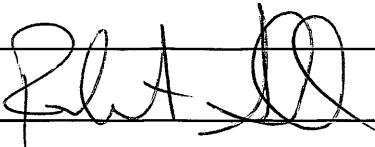
City/State/Zip Troy, MI 48084

Representative/Title Shawn Watts VP of Sales & Integration

Telephone/Fax 248-817-2092 Fax 248-817-2093

E-Mail Address/Website shawnw@advancedavl.com www.advancedavl.com

Terms N-30

Signature/Date  12-30-24

**Advanced Lighting & Sound**

Phone: 248-817-2092  
Fax: 248-817-2093  
1026 Maplelawn Drive  
Troy, MI 48084

**Quote**

No.: **19900**  
Date: 12/11/2024

Prepared for:  
Dan Rizek (586) 446-2479  
City of Sterling Heights  
40555 Utica Rd.  
P.O. Box 8009  
Sterling Heights, MI 48311-8009 USA

Prepared by: Shawn Watts  
Account No.: 649  
Phone: (586) 446-2740  
Fax: (586) 276-4062

Qty	Manuf	Item ID	Description	Sell	Total
<b>TRICASTER</b>					
1	Newte	TCVIZION16IO-R	TriCaster Vizion Tower with 16 SDI I/O	\$37,595.00	\$37,595.00
1	Newte	ZHW-HP-Z4-TCRACK	Rail Rack Kit for Vizion Tower	\$295.00	\$295.00
1	Newte	FCP-R	TriCaster Flex NDI 16 button crosspoint control panel with single ME row	\$9,495.00	\$9,495.00
1	Views	VX2776-4K-MHDU	27" 4K UHD Monitor	\$460.00	\$460.00
1	C2G	CG54324	15ft (4.5m) DisplayPort to HDMI Cable	\$43.00	\$43.00
1	ALS	Sales Discount	Sales Discount - TIC8000 to TCV	(\$5,000.00)	(\$5,000.00)
1	ALS	Sales Discount	Sales Discount - TIC8000CS trade in of control surface	(\$2,000.00)	(\$2,000.00)
1	Black	BMD-CONVMCSAUD4K	Mini Converter - SDI to Audio 4K	\$293.00	\$293.00
1	Focus	Scarlett 2i2 (4th Gen)	Scarlett 2i2 (4th Gen) USB PREAMP	\$199.00	\$199.00
1	ALS	System Program	Programming of technical systems - moving NewTek Chamber software to new system and testing	\$600.00	\$600.00
1	ALS	Shipping	Shipping Charge - TC Vizion and FCP Control Surface	\$500.00	\$500.00
1	ALS	Shipping	Shipping Charge - Return shipping for trade in TC8000 and TC8000CS	\$500.00	\$500.00
1	ALS	Install	Install Materials - Interconnect cabling, fasteners, misc	\$150.00	\$150.00
1	ALS	Labor	Installation Labor - Replace and integrate new Tricaster Vizion	\$680.00	\$680.00
<b>TRICASTER VIZION SUBTOTAL</b>					
\$43,810.00					
<b>TRICASTER SUPPORT A</b>					
<b>First Year Support</b>					
1	Newte	PTUFCP	ProTek Ultra for Flex Control Panel	\$1,145.00	\$1,145.00
1	Newte	SPROYR1TCV	Professional Support upgrade option for TriCaster Vizion for year 1	\$720.00	\$720.00
1	Newte	CC-TCVIONZAR	TriCaster Vizion Advanced Hardware Replacement	\$1,080.00	\$1,080.00
<b>TRICASTER SUPPORT A SUBTOTAL</b>					
\$2,945.00					

**Quote**  
No.: **19900**  
Date: **12/11/2024**

<b>Qty</b>	<b>Manuf</b>	<b>Item ID</b>	<b>Description</b>	<b>Sell</b>	<b>Total</b>
<b>TRICASTER SUPPORT B</b>					
<b>Second Year Support</b>					
1	Newte	PTUFCP	ProTek Ultra for Flex Control Panel	\$1,145.00	\$1,145.00
1	Newte	SPRO2TCV	TriCaster Vizion Prof Support 2nd Year onwards	\$3,600.00	\$3,600.00
1	Newte	CC-TCVIONZAR	TriCaster Vizion Advanced Hardware Replacement	\$1,080.00	\$1,080.00
<b>TRICASTER SUPPORT B SUBTOTAL</b>					
<b>\$5,825.00</b>					

**Your Price:** **\$52,580.00**

**Total:** **\$52,580.00**

Prices are firm until 1/10/2025      Terms: Net 15

**Prepared by:** Shawn Watts, shawnw@AdvancedAVL.com

**Date:** 12/11/2024

**Accepted by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Disclaimer**

All prices quoted are valid for 30 business days. Please fax signed quote to 248-817-2093 or email to sales@go-als.com so that your order can be placed. Thank you for your business.

**Advanced Lighting & Sound**

Phone: 248-817-2092  
Fax: 248-817-2093  
1026 Maplelawn Drive  
Troy, MI 48084

**Quote**

No.: **19917**  
Date: 12/19/2024

Prepared for:  
Dan Rizek (586) 446-2479  
City of Sterling Heights  
40555 Utica Rd.  
P.O. Box 8009  
Sterling Heights, MI 48311-8009 USA

Prepared by: Shawn Watts  
Account No.: 649  
Phone: (586) 446-2740  
Fax: (586) 276-4062

Qty	Manuf	Item ID	Description	Sell	Total
<b>TRICASTER</b>					
			<b>NOTE: TC1 requires NC2IO to match current I/O configuration. This also does not include Live call for Virtual Meetings. This does not meet requested requirements.</b>		
1	Newte	TC1P2RUC-R	Tricaster 1 Pro 2RU	\$22,695.00	\$22,695.00
1	Newte	NC2I/O	NC2 Studio I/O Module	\$11,895.00	\$11,895.00
1	Newte	NC-HDBNC9-KIT	HD-BNC to BNC Cable Adapter Kit	\$499.00	\$499.00
1	Newte	FCP-R	TriCaster Flex NDI 16 button crosspoint control panel with single ME row	\$9,495.00	\$9,495.00
1	Views	VX2776-4K-MHDU	27" 4K UHD Monitor	\$460.00	\$460.00
1	C2G	CG54324	15ft (4.5m) DisplayPort to HDMI Cable	\$43.00	\$43.00
1	ALS	Sales Discount	Sales Discount- TIC8000 Trade in credit to TC1	(\$4,000.00)	(\$4,000.00)
1	ALS	Sales Discount	Sales Discount - TIC8000CS	(\$2,000.00)	(\$2,000.00)
1	ALS	Shipping	Shipping Charge - Return shipping of trade in TC8000 and TC8000CS	\$500.00	\$500.00
1	ALS	Shipping	Shipping Charge - Inbound shipping for TC1 and FCP	\$500.00	\$500.00
1	ALS	System Program	Programming of technical systems - moving NewTek Chamber software to new system and testing	\$600.00	\$600.00
1	ALS	Labor	Installation Labor - Replacement of Tricaster and Control Surface	\$680.00	\$680.00
<b>TRICASTER SUBTOTAL</b>					
					<b>\$41,367.00</b>
<b>TRICASTER SUPPORT A</b>					
			<b>First Year Support</b>		
1	Newte	PTUTC1P2RU	ProTek Ultra for TriCaster 1 Pro 2RU	\$2,745.00	\$2,745.00
1	Newte	PTUNC2I/O	ProTek Ultra for NC2 I/O	\$1,445.00	\$1,445.00
1	Newte	PTUFCP	ProTek Ultra for Flex Control Panel	\$1,145.00	\$1,145.00
<b>TRICASTER SUPPORT SUBTOTAL</b>					
					<b>\$5,335.00</b>
<b>TRICASTER SUPPORT B</b>					
			<b>Second Year Support</b>		
1	Newte	PTUTC1P2RU	ProTek Ultra for TriCaster 1 Pro 2RU	\$2,745.00	\$2,745.00
			<b>Lapsed Protek Ultra will required additional cost for Advanced Replacement.</b>		
1	Newte	PTUNC2I/O	ProTek Ultra for NC2 I/O	\$1,445.00	\$1,445.00
1	Newte	PTUFCP	ProTek Ultra for Flex Control Panel	\$1,145.00	\$1,145.00
<b>TRICASTER SUPPORT B SUBTOTAL</b>					
					<b>\$5,335.00</b>

**Quote**

No.: **19917**

Date: 12/19/2024

**Your Price:** \$52,037.00

**Total:** \$52,037.00

Prices are firm until 1/18/2025      Terms:

**Prepared by:** Shawn Watts, shawnw@AdvancedAVL.com

**Date:** 12/19/2024

**Accepted by:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Disclaimer**

All prices quoted are valid for 30 business days. Please fax signed quote to 248-817-2093 or email to sales@go-als.com so that your order can be placed. Thank you for your business.