



## NewTek IP Series Video Mix Engine

Rethink connectivity, creativity, and performance with the ultimate platform for modern video production: the NewTek IP Series Video Mix Engine. Powered by NewTek's industry-leading, software-driven live production technology, the Video Mix Engine is the nucleus of your interconnected production workflow—where your network of systems, devices, applications, and sources converge for mixing, compositing, and delivery with incomparable configuration and control.

Envision your content and storytelling defined not by the limits of conventional production technology, but by your imagination and ingenuity. As the only solution to support hybrid SDI/IP, exclusively IP, 4K Ultra HD, and fully virtualized production, the Video Mix Engine empowers you to realize your unique vision in the production and delivery of broadcasts, performances, presentations, and events, and further in the monetization of content and production-oriented business ventures.

From installation to integration, connection to production, the possibilities with the Video Mix Engine and the NewTek IP Series are truly limitless.

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### About the NewTek IP Series

The NewTek IP Series is a transformative video ecosystem for interconnected production. Leveraging NewTek's innovative NDI® technology and proven software-driven live production approach, it accommodates even the most ambitious modern workflows, enabling legacy, contemporary, and emerging technologies to coexist seamlessly, and allowing video, audio, and data to be shared universally between systems and locations across your network infrastructure.

### At a Glance

- **SDI/IP Interoperability**  
Leverage current and future infrastructure investments to facilitate a gradual transition or immediate migration of your workflow.
- **4K UHD 60p**  
Deliver an immersive viewing experience with native support for true 4K Ultra HD resolution at 60 frames per second.
- **Virtualized Production**  
Maximize efficiency, flexibility, and productivity, interconnecting and interoperating with compatible technologies within a fully virtualized environment.
- **Scalable I/O**  
Customize your workflow with source and output channels independently configurable through software and expandable across the network.
- **Comprehensive Functionality**  
Advance your productions with unrivaled turnkey capabilities, including multi-source switching, multi-bus mix effects, audio mixing, media playback, graphics, data integration, and real-time visual effects.
- **Prolific IP-Based Workflow**  
Integrate with products from hundreds of manufacturers and developers via NDI®, and other IP standards to include SMPTE ST 2110.
- **Future-Proof**  
Rise to the challenges of today's productions and tomorrow's demands, with forward-thinking technology that accommodates growth, expansion, and progress.

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For more information, visit [www.newtek.com](http://www.newtek.com) or contact us at [sales@newtek.com](mailto:sales@newtek.com). International pricing and availability may vary.

# VMC1 Video Mix Engine Technical Specifications

<b>Video Input</b>	44 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)
<b>Network Video Input</b>	44 x IP inputs via NDI®, resolution-independent, with support for key and fill
<b>SDI Video Input</b>	4 x 3G/HD/SD-SDI connections supporting video input in any combination of compatible formats, resolutions, and frame rates
<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>Skype TX</b>	Native support for up to 2 simultaneous Skype® video call inputs via Skype TX software integration, including tally and Talk Back communication
<b>Video Output</b>	Configurable for up to 4 independent video mix outputs, with simultaneous delivery via IP and SDI
<b>Network Video Output</b>	35 x IP outputs via NDI® (HD and SD sessions only) <ul style="list-style-type: none"> <li>• 4 x video mix outputs in resolutions up to 1080p at frame rates up to 60fps (1080p 59.94)</li> <li>• 4 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>• 8 x selectable IP outputs via internal NDI® matrix routers</li> <li>• 1 x IP output via NDI® (4K UHD session)</li> <li>• 1 x 4K UHD video mix output at up to 60 frames per second (2160p 59.94)</li> </ul>
<b>SDI Video Output</b>	4 x 3G/HD/SD-SDI connections, optionally configurable for: <ul style="list-style-type: none"> <li>• 4 x independent 3G/HD/SD video mix outputs supporting standard NTSC and PAL formats, resolutions, and frame rates</li> <li>• 1 x 4K UHD video mix output via 3G-SDI quad-link grouping, supporting frame rates up to 60fps (2160p 59.94)</li> </ul>
<b>Stream Output</b>	2 x resolution-independent streaming video outputs, independently configurable, with simultaneous stream archive
<b>Multiviewer Output</b>	4 x multiviewer outputs supporting standard display resolutions, using any combination of available connections <ul style="list-style-type: none"> <li>• 1 x DVI</li> <li>• 1 x HDMI</li> <li>• 3 x DisplayPort</li> </ul>
<b>Mix/Effects (M/E)</b>	8 x M/E buses supporting video re-entry 1 x PREVIZ configuration and preview bus

<b>DSK Channels</b>	4 x DSK channels
<b>Media</b>	4 x DDR 1 x Sound 15 x media buffers
<b>Keyers</b>	Integrated LiveMatte™ chroma and luma keying technology on all source channels and M/E buses
<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
<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, then trigger using any compatible control interface
<b>Recording</b>	12 x configurable video recording channels via IsoCorder™ technology <ul style="list-style-type: none"> <li>• 4 x QuickTime® archival video recorders</li> <li>• 8 x H.264 distribution video recorders</li> <li>• 1 x MP3 audio recorder</li> </ul>
<b>Storage</b>	12 x 3TB internal drive <ul style="list-style-type: none"> <li>• Capacity varies by format, resolution and file specification</li> <li>• Supports recording to external storage via USB 3.0 and eSATA</li> <li>• Supports shared storage integration to include NewTek Remote Storage</li> </ul>
<b>Grab</b>	Grab full resolution 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>Audio Mixer</b>	Integrated multi-channel audio mixer with support for 8-channel audio, DSPs and 4 x 8 x 8 audio input routing
<b>Local Audio Input</b>	4 x SDI embedded 1 x Balanced XLR stereo pair (Line) 3 x Balanced 1/4" stereo pairs (Line)

<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 support5 for Dante™ networking protocol from Audinate®</li> <li>• Support for AES67 protocol via compatible WDM audio drivers<sup>6</sup></li> </ul> <p><small>* Dante™ and AES67 require compatible virtual sound card licenses (sold separately)</small></p>
<b>Supported Media File Formats</b>	<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>
<b>Monitoring</b>	Support for up to 4 multiviewer displays with configurable workspaces and viewports
<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: Floating Point YCbCr +A 4:4:4:4 Audio: Floating Point, 96 kHz
<b>Throughput Latency</b>	~1.0-1.5 frames
<b>A/V Standards</b>	<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>
<b>Tally</b>	Support for hardware tally via HD15 GPI connector, network tally via NDI®, and Blackmagic Design® SDI tally standard
<b>Genlock</b>	Genlock input supporting SD (Bi-level) or HD (Tri-level) reference signals
<b>GPI</b>	Supports GPI signals via JLC Cooper Electronics eBox GPI interface
<b>MIDI</b>	Support for standard MIDI protocol enabling third-party device control
<b>System Drive</b>	120GB SSD
<b>NIC</b>	<ul style="list-style-type: none"> <li>• 2 x 10 Gigabit NIC</li> <li>• 2 x 1 Gigabit NIC</li> </ul>
<b>System Physical</b>	<ul style="list-style-type: none"> <li>• 2 x 10 Gigabit NIC</li> <li>• 2 x 1 Gigabit NIC</li> <li>• 3RU chassis with 500W redundant PSU and multi-tiered hardware and software fail-safe</li> <li>• 19.0 x 5.25 x 19.57 in (48.3 x 13.34 x 49.7 cm) with rack ears attached</li> <li>• 34 lbs (15 kg)</li> </ul>

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For complete technical specifications, please visit the IP Series page at [www.newtek.com](http://www.newtek.com).  
International pricing and availability may vary. Please email [sales@newtek.com](mailto:sales@newtek.com) for details.