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BT-VS/ETP-MKP1

Product Management

Nuremberg

25.03.2020

Release Letter

Product:	<i>Monitor Wall</i>
Version:	<i>10.00.0164</i>

This letter contains latest information about the above mentioned product.

1 General

Monitor Wall 10 displays video from Standard Definition (SD), High Definition (HD), 4K Ultra High Definition (UHD), and Megapixel (MP) cameras and encoders using H.264, H.265 or MPEG-4 encoding at up to 60 frames per second over IP networks on up to four HD or 4K screens.

Its scalable decoding technology and performance management architecture makes it easy for operators to simply connect cameras, regardless of resolution, bitrate, or frame rate. It automatically scales resources, distributing them over the connected streams to produce the best possible performance.

Existing installations of Monitor Wall can NOT be upgraded to this version due to a change in the licensing mechanism.

Changes since last release are marked in [blue](#).



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2 New Features

- Support of multi-channel Nvidia graphic adapters for high-performance multi-stream video decoding on up to four HD or 4K display screens.
- Independently configurable and switchable layouts.
- Full-screen and picture-in-picture modes for operators.
- Multiple region-of-interest cutouts from panoramic cameras from a single decoded stream, remotely controllable by clients.
- Flexible customizable text overlays.
- Video freeze detection and alerting.
- Secured and encrypted connections.
- Watchdog for fast recovery and high availability.
- Improved performance from latest Video SDK.
- JSON RPC API for easy integration.

3 Changes

- Introduction of a new licensing mechanism
Licenses from previous installations are not applicable to this new version.
Existing installations that upgrade to this version need to be re-licensed.

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4 Decoding performance

The tables below show the measured maximum values for reference hardware configurations, which provide a guideline for performance design but are not guaranteed under all circumstances.

There are dependencies that have an impact on the overall performance, especially when combining various streams and resolutions (for example, upscaling to monitor resolution and frame rate), and there is as well dependency on video content complexity. In an overload situation, Monitor Wall may drop frames to display overall video as smoothly as possible.

Note that the upscaling of video, for example SD or HD video to be displayed on a 4K UHD monitor, draws performance, reducing the decoding capabilities.

4.1 Reference Hardware: Z2 G4 workstation with Nvidia Quadro P620

Stream parameters	Bit rate	Display output mode	
		4x HD@60Hz	
Resolution @ frame rate	Mbps	H.264	H.265
3840x2160@30	32	6	
3840x2160@25	32		5
2992x1680@30	16	9	
1920x1080@60	12	10	10
1920x1080@30	8	24	15
1280x720@60	6	10	10
1280x720@30	4	34	26
768@x32@30	2	44	
512x288@30	1	48	



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4.2 Reference Hardware: Z4 G4 workstation with Nvidia Quadro P4000

Stream parameters	Bit rate	Display output mode	
		4x 3840x2160 (60Hz)	
Resolution @ frame rate	Mbps	H.264	H.265
3840x2160@30	32	8	
3840x2160@25	32		6
2992x1680@30	16	12	
1920x1080@60	12	10	10
1920x1080@30	8	22	20
1280x720@60	6	16	16
1280x720@30	4	28	22
768@x32@30	2	38	
512x288@30	1	45	

4.3 Reference Hardware: Z4 G4 workstation with Nvidia RTX4000

Stream parameters	Bit rate	Display output mode	
		4x 3840x2160 (60Hz)	
Resolution @ frame rate	Mbps	H.264	H.265
3840x2160@30	32	11	
3840x2160@25	32		8
2992x1680@30	16	18	
1920x1080@60	12	15	12
1920x1080@30	8	24	21
1280x720@60	6	17	15
1280x720@30	4	30	23
768x432@30	2	40	
512x288@30	1	46	



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5 Restrictions; Known Issues

- Keyboards KBD-DIGITAL and KBD-UXF are not supported.
- IP Matrix license is not supported.
- Analogue monitors are not supported.
- Alarms will not be signaled with a red border around the cameo if connection was established using CONNECT_PRIMITIVE.
- Using CONNECT_PRIMITIVE via TCP is not possible.
- CONNECT_PRIMITIVE does not support "first available" feature.
- Audio may remain audible despite layout change to other than single view.
- RCP+ command CONF_ALARM_CONNECT_TO_IP is not supported.
- Alarm connection does not support audio.
- Maximum password length is 19 characters.
- ONVIF 2.0 conformance is not yet provided with this firmware release. (Earlier ONVIF specifications do not include decoder support yet.)
- Audio level control is only possible with active speakers connected.



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6 System Requirements

Hardware	Management workstation Z4 G2 or Z4 G4
RAM	min. 8 GB
OS	Windows 10 (64 bit)
Graphic Card	Nvidia P620, P4000, or RTX 4000 (others refer to Video SDK 6.3)
Ethernet Card	1000 Mbps
Sound Card	Recommended
Free Memory (Installation)	200 MB

For configuration purposes:

- Configuration Manager 7.10 or newer

For operation purposes:

- Bosch Video Management System 4.5.5 or newer

For 3rd party software integration check with IPP.

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7 Previous Revisions

7.1 *New Features with version 8.01*

- An RCP message has been added to be sent whenever the decoder spots a FREEZE of the incoming video stream. This allows an external program to intercept this message and trigger controls of a supervisory safety system.

7.2 *Changes with version 8.01*

- An issue with multi-channel encoders VIDEOJET multi 4000 and VIP-X16XF-E under high load where connections have been dropped sporadically has been fixed.



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7.3 New Features with version 8.0

- Monitor Wall 8.0 now supports multiple monitors with separately configurable layout. The restriction that dual monitors are only possible in span mode has been solved.
- Reconnect last devices
Active camera connections are stored and automatically reconnected after reboot.
To avoid deadlock in case of an overload situation the automatic reconnect will be deactivated after VIP-XDHD was forced into reboot for 3 times within 10 minutes.
- TCP connections are supported.
- Discovery port is configurable.
- Cameo distance is configurable.
- Audio is supported in single view.
- The RCP+ command CONNECT_PRIMITIVE is supported.
- The number of decoders can be configured to match licensing in management systems.
The number of allowed decoders per monitor is calculated from the number of decoders divided by the number of monitors. Layout selection will be restricted to those with number of cameos not exceeding the number of allowed decoders per monitor by 20%.
- A video stretch mode allows using the full cameo space when accepting distortion.
- Resolutions up to 8 MP are supported but may fall back to I-frame-only display mode if system runs into performance issues.
- Cameo 1:1 selection added to allow 3x2 layout on a 16:9 or 16:10 monitor.
- Connection text displayed within empty cameo can be hidden.
- Hidden Web page added to reset password via our Service & Support.

7.4 Changes with version 8.0

- VideoSDK overlay icons are only displayed if metadata display is enabled.
- Addressing of the layout per monitor has changed and is now compatible with VJD-7000 with FW 54.8.0 and VIP-XDHD FW 1.8.0.



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7.5 New Features with version 5.01.0006

- Support for HD video with 720p and 1080p resolution.
- Support for latest H.264 and HD BVIP devices.
- Video smoothing capability has been added.
- System parameters can be set remotely via Configuration Manager.

7.6 Changes with version 5.01.0006

- Integration of MPEG-ActiveX 5.07 for improved HD support.
This MPEG-ActiveX version is dedicated for Monitor Wall 5.01 only and shall not be installed anywhere else. A released MPEG-ActiveX 5.10 is available and should be used instead.