VIDEOMANAGER EX 16.2.4 RELEASE NOTE

Software updated in 16.2.4

- Motorola Solutions VideoManager EX for Windows
- Motorola Solutions VideoManager EX for CentOS Linux
- VB400 firmware
- EdgeController firmware
- DockController firmware
- User Import Tool

Changes since 16.2.1 & 16.1.1

Enhancement: Playback of pre-record footage without audio

When the device profile "Record audio" option is set to "Yes (except during pre-record)", the device now records silence rather than no audio at all when pre-recording. This fixes issues with playback in the SmartControl mobile application, and with compatibility of footage exported from VideoManager EX. [AZMV-1210]

New role permission

Permission	Section	Notes	On upgrade, granted to
Allow streaming	Device permissions/Mobile app	-	System administrator

Minor enhancements and bug fixes (Motorola Solutions VideoManager EX)

Issue Id	Summary
AZMV-3389	It was not possible to specify a web server public address using certain top level domain names.
AZMV-860	The ability of the user to enable/disable live streaming from the mobile app is now permission controlled.
AZMV-1613	The first-time setup UI now allows the administrator to provide a web server SSL certificate during initial setup. SSL is enabled by default.

AZMV-3154	Auditing of configuration changes would sometimes fail with exceptions in the log.
AZMV-2823	Grid core servers would restart unnecessarily when in standby mode.
AZMV-1090	Only the first clip of an unsaved incident containing M500 footage could be played.
AZMV-102	Accessibility: All buttons now have text compatible with screen readers.
AZMV-718	Accessibility: Toggle buttons now work correctly with screen readers.
AZMV-3232	Accessibility: All hyperlinks are now labeled so that they work with screen readers.
AZMV-1575	New filter options have been added to the Manage Exports page.
AZMV-1576	The My Exports/Manage Exports page now limit the number of exports that they display.
AZMV-2019	Security improvement: All XML handling has been protected against XXE attacks.
AZMV-2222	Redacted video was rendered incorrectly if a "full screen" brightness was applied.
AZMV-2521	It was possible to save a M500 device profile even if it had certain validation errors.
AZMV-3240	When editing the "Auto change owner" for a DockController, the save button did not always appear.
AZMV-3243	When importing certain hi-res videos, the duration of the video would change on import.
AZMV-1589 AZMV-2198	Updated out-of-date libraries.
AZMV-409	While editing an incident it was possible to click on disabled actions using the keyboard.
AZMV-868	The web server no longer restarts and thus users are no longer logged out when the web server address configuration is edited.
AZMV-4182	'Recording policy' option was erroneously displayed in the device profile editor for VB-200/300 and VT-50/100 device profiles.
AZMV-4185	When performing a bulk fetch of videos, the confirmation message was incorrectly formatted.
AZMV-4188	The filespace dialog incorrectly allowed object storage to be selected for a temporary import filespace.
AZMV-1336	Video preparations cannot be created for multi-stream M500 videos.
AZMV-2128	System would attempt to auto upgrade M500s even if no default firmware was selected.

SW-3988	A default owner can now be configured for M500s. This user will own all footage recorded by the M500 which is not associated with a specific operator.
SW-4267	Video metadata overlay is now always shown by default when playing M500 videos.
AZMV-2364	Configured Wireless Mic Status Text flag was not being passed to M500.
SW-4241	Scheduled reports which cross a year boundary were run with the wrong end date when using a custom report schedule.
SW-4018	The live location of an M500 can now be displayed on the Tactical View (if licensed).
SW-709	The Tactical View has had various improvements to make it work better when displaying large numbers of devices.
SW-4198	The size of the M500 RATF (record after the fact) buffer is now configurable in the M500 device profile.
SW-4197	The system now records more frequent GPS fixes for M500 devices, increasing the fidelity of mapping for M500 videos.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
SW-4059	MXP600 radios did not maintain their Bluetooth connection to the VB400 if WiFi was enabled or disabled.
AZMV-4223 AZMV-2834	The device could restart when saving edited media fields in VB Companion or VB SmartControl.
AZMV-3346	The device would sometimes take 5 mins longer than is usual to complete a firmware upgrade.
AZMV-659	Security update: conversions to safe APIs have been made to address potential security issues.
AZMV-2594	Security update: use latest version of OpenSSL.

Minor enhancements and bug fixes (DockController)

Issue Id	Summary
AZMV-533	Factory reset now erases all data, including previous logs.
AZMV-3139 AZMV-3143 AZMV-3145	Security update: various enhancements have been made to harden the security and reliability of the platform, and to improve diagnostics.

AZMV-2213 AZMV-3570	
AZMV-2594	Security update: use latest version of OpenSSL.
AZMV-533	Factory reset now erases all data, including previous logs.

Minor enhancements and bug fixes (EdgeController)

Issue Id	Summary
SW-3182 SW-2878 SW-2885 SW-2883 SW-2879 SW-2886 SW-2881 SW-2882 SW-2880 SW-2877 SW-3905 AZMV-2594	Security update: Various libraries (including OpenSSL) have been updated to address security issues.

Software updated in 16.2.1

- Motorola Solutions VideoManager EX for Windows
- Motorola Solutions VideoManager EX for CentOS Linux
- User Import Tool

Changes since 16.1.0

Feature: VB SmartControl is usable without a licence

The VB SmartControl mobile app can now be used without a licence. The VB Companion settings page has been renamed to the Mobile App settings page and now contains separate sections for VB SmartControl and VB Companion (which still requires a licence). The VB400 device profile now requires the specific type of mobile app in use to be configured. Other minor change to permission names and configuration screens have been made to accommodate both applications. [AZMV-70]

Feature: Photo capture

In the device profile, you can now specify that the creation of a bookmark should cause the capture of a still image. When this profile option is enabled (and a bookmark gesture is configured), then every time the bookmark button is pressed, an associated image will be

produced. These images are represented as separate media items in the media pages in Motorola Solutions VideoManager EX. [SW-2456,AZMV-426]

New role permissions

The permissions under Device permissions/Mobile App were previously visible only to customers with a VB Companion licence and are now visible to all customers. These permissions have been renamed to say "Mobile App" instead of "VB Companion".

Permission	Section	Notes	On upgrade, granted to
View/Edit Tactical VideoManager EX settings	Advanced permissions/Settings	2 permissions	System administrator
Request a device state capture	Device permissions/Device	-	Roles with "Download device audit logs" permission
Download device configuration	Device permissions/Device	-	System administrator

Minor enhancements and bug fixes (Motorola Solutions VideoManager EX)

Issue Id	Summary
SW-2944	Added support for multiple string user-defined field type.
AZMV-1567	Added maximum length specification for text user-defined fields.
AZMV-105	Accessibility: All table columns now have headers.
AZMV-200	Accessibility: All inputs now have an associated screen-reader compatible label.
AZMV-1425	The BlueTooth MAC address prefix setting for devices would allow invalid prefixes to be configured which prevent Bluetooth from working correctly on VB400 devices.
AZMV-1342	Grid workers could not connect if the configured grid password contains non-ASCII characters.
AZMV-1001	Security fix: Upgrade ua-parser-js library used by web UI.
AZMV-1615 AZMV-1616	Security improvement: The theme resources page no longer allows files to be uploaded with the wrong extension.
AZMV-1618	Security improvement: When configuring theme resource files, the system examines the file to check it is of the expected type.
AZMV-1625	Security improvement: Prevent XXE attacks when processing XML files.

AZMV-855	Upgraded the AWS SDK version from 1 to 2.20.12
VM-23686	DockControllers occasionally appeared as Configured & Connected even when they have disconnected.
VM-24070	Editing of user group membership does is not always audited.
VM-23822	Some media properties were always showing in the media properties editor, even when they should have been hidden by visibility conditions.
VM-23752	Show in transcription Editor' and 'Show in incidents' toggle buttons of user-defined fields did not replicate correctly from CVM to Site.
VM-23834	File digest information was not transferred from site to central manager for M500 footage recorded at site.
VM-23957	Antivirus scan failed when using cloud OPSWAT Antivirus integration.
AZMV-1303	If the grid system UI was used to generate a random password, it could sometimes create a password with non-ASCII characters which would prevent grid workers from connecting.
AZMV-853	Security fix: HTTP cookies are now marked as "secure" when using an HTTPS forward proxy.
AZMV-157 AZMV-357 AZMV-573 AZMV-605 AZMV-1563	Security fix: upgrade server components with known CVEs.
AZMV-1001 AZMV-1562	Security fix: upgrade Javascript components with known CVEs.
VM-23876	Pressing enter when configuring authentication realms popped up an unexpected dialog.
SW-2944	Added support for multiple string user-defined field type.
AZMV-1567	Added maximum length specification for text user-defined fields.
AZMV-105	Accessibility: All table columns now have headers.
AZMV-200	Accessibility: All inputs now have an associated screen-reader compatible label.
AZMV-1425	The BlueTooth MAC address prefix setting for devices would allow invalid prefixes to be configured which prevent Bluetooth from working correctly on VB400 devices.
AZMV-1342	Grid workers could not connect if the configured grid password contains non-ASCII characters.

AZMV-1001	Security fix: Upgrade ua-parser-js library used by web UI.
AZMV-1615 AZMV-1616	Security improvement: The theme resources page no longer allows files to be uploaded with the wrong extension.
AZMV-1618	Security improvement: When configuring theme resource files, the system examines the file to check it is of the expected type.
AZMV-1625	Security improvement: Prevent XXE attacks when processing XML files.

Software updated in 16.1.1

- Motorola Solutions VideoManager EX for Windows
- Motorola Solutions VideoManager EX for CentOS Linux
- VB400 firmware

Changes since 16.1.0

DockController firmware

The version of the DockController firmware included in Motorola Solutions VideoManager EX
has been reverted to 15.2.0.

Minor enhancements and bug fixes (Motorola Solutions VideoManager EX)

Issue Id	Summary
AZMV-3389	It was not possible to specify a web server public address using certain top level domain names.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
AZMV-2914	It was not possible to connect to WiFi networks that used a passphrase longer than 31 characters.

Software updated in 16.1.0

- Motorola Solutions VideoManager EX for Windows
- Motorola Solutions VideoManager EX for CentOS Linux
- VB400 firmware
- DockController firmware
- User Import Tool

Changes since 16.0.1

New feature: Multiple web server addresses

You can now configure the web server to listen on multiple TCP ports and to expose different functionality on each port. You can also configure a different SSL certificate on each port. This is intended to support network configurations where customers do not want the Motorola Solutions VideoManager EX web application to be accessible on the same network that their devices or sites use to connect.

Each listen address can be configured to allow "web", "device" or "Central VideoManager EX" traffic or a combination of these. You can also configure separate public addresses for web, device and Central VideoManager EX requests so that devices and DockControllers are configured to connect to a different URL from the URL used for creating incident link URLs.

The listen addresses used for devices which use certificate-based authentication (such as the M500) are also configured via this new UI, replacing the old configuration page for this listen address.

Note that some customers received this feature in a previous release.

New feature: Automatic recording

The VB400 can now be configured to start recording automatically. There are two variations of this feature. You can configure the device to always be recording when it is not docked, or you can configure it to automatically start recording once when it is undocked. In the former case, the operator cannot stop recording with a gesture. In the later case, control of recording is otherwise unaffected.

These features can be enabled in the device profile by changing the new "Recording policy" setting from the default of "Controlled by gesture" to either "While not docked", or "Start once on undocking, then gesture controlled".

Enhancement: Safety mode on undock and Automatic pre-record

In previous releases, if both "Enter safety mode if idle after undocking" and "Pre-record" with "Always pre-record when not charging" are enabled in the device profile, then the VB400 would not enter safety mode, because pre-recording starts, making the device non-idle. This behaviour has changed. Now with these 2 features enabled, pre-recording will not start immediately on undocking, to allow the device to enter safety mode if it otherwise remains idle.

Permission	Section	Notes	On upgrade, granted to

Forget vehicle	Device permissions/vehicle	-	Roles with "forget device" permission
See vehicles at sites	Device permissions/vehicle	-	Roles with "see devices at site" permission
See forgotten vehicles	Device permissions/vehicle	-	Roles with "see forgotten devices" permission
Bulk-edit vehicles	Device permissions/vehicle	-	Roles with "bulk-edit devices" permission
Download vehicle audit logs	Device permissions/vehicle	-	Roles with "download device auto logs" permission

Minor enhancements and bug fixes (Motorola Solutions VideoManager EX)

Issue Id	Summary
SW-3830	The media filter 'operator' auto-complete box incorrectly only showed users with permission to operate vehicles.
SW-3827	The M500 device profile now allows the vehicle locale to be configured.
SW-3310	Officer preferences configured on an M500 are stored by VideoManager EX and applied when the same officer uses a different vehicle.
SW-3472	You can now manually override/control which version of firmware an M500 is using (although note that M500s cannot be downgraded).
SW-3802	DockControllers could be shown as "connected" even when they were "disconnected" if the DockController was awaiting an automatic upgrade.
SW-4079	Boundary service log files sometimes contained the SQLServer database password in cleartext on SQLServer systems not using integrated authentication.
SW-4008	Custom field import/replication to site did not correctly preserve "numeric" input fields.
SW-3955	Crytographic hashes were not replicated from site/EdgeController to the central manager for M500 footage.
SW-3653	If multiple M500s connected simultaneously, sometimes one of them would not appear as "connected" in the VideoManager EX UI.
SW-3954	You no longer need to restart the service if you import additional M500 vehicle licences.

SW-3848	The service now automatically restarts more reliably if it runs out of memory.
SW-4060	When operating with a backup core server, the mutex mechanism which ensures there is only one active core server can now recover from a database connection interruption.
SW-3832	The boundary service now connects to the Postgres database using the same address as the core service, preventing potential security issues.
SW-3701	Exports of VTT files were incorrectly escaping '<' & '>' characters.
SW-3837	The DockController details page is now more responsive and stable when the status of the DockController is changing.
SW-3909	Site congestion warnings (when uploads from a site are delayed) are now not displayed for disabled sites.
SW-3898	Pressing enter while editing a field in the Authentication realm dialog has an unexpected effect.
SW-3649	The media property edit dialog did not correctly apply "conditions" for user-defined fields.
SW-3548	The incident UI did not behave correctly if you attempted to share an incident with an invalid user name.
SW-3520	The system now displays a warning if you attempt to delete an M500 device profile which is in use.
SW-3495	The "show in summary" toggle was not displayed during the creation of a custom media field.
SW-3457	The "imports" page was previously visible (but was non functional) for users with permission to perform an import but not permission to manage imports.
SW-3411	If a vehicle is configured to use a deleted profile, this is now clearly indicated in the vehicle details page.
SW-2902	When deleting firmware, the space occupied by the firmware is now recovered immediately and is available for the import of new firmware.
SW-3104	Accessibility improvement: Date and date+time inputs now display a hint as to the expected format.
SW-3099	Accessibility improvement: when a field is required (as indicated with an asterisk), the form now also includes text to explain what the asterisk means.
SW-2848	Accessibility improvement: All action buttons now have screen-reader-compatible text associated with them.
SW-3025	The embedded Postgres database has been upgraded from Postgres 13.5 to

	Postgres 13.8.
SW-2878 SW-2885 SW-2883 SW-2879 SW-2886 SW-2881 SW-2882 SW-2880 SW-2877 SW-3728 SW-3558 SW-3489	Security update: Various libraries have been updated to address security issues.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
SW-3436	Support has been added for the new SmartControl mobile application.
SW-3790	Older revisions of the VB400 could experience a long delay on docking before footage started downloading.
SW-3560	The VB companion could fail to connect to the VB400 if the VB400 was in use without being docked for more than a day.
SW-3658	The VB companion could fail to playback footage recorded by the VB400 when non-standard recording settings were in use.
SW-3801	The VB400 could become unresponsive for a period if manually shut down while WiFi streaming was active.
SW-3182 SW-2878 SW-2885 SW-2879 SW-2881 SW-2882 SW-2877 SW-3905	Security update: Various libraries (including OpenSSL) have been updated to address security issues.

Minor enhancements and bug fixes (EdgeController)

Issue Id	Summary
SW-3182 SW-2878	Security update: Various libraries (including OpenSSL) have been updated to address security issues.

SW-2885	
SW-2883	
SW-2879	
SW-2886	
SW-2881	
SW-2882	
SW-2880	
SW-2877	
SW-3905	

Earlier changes

See the V16.0.1 release notes for earlier changes.

End-of-support (EOS) for VideoManager EX 15.0

VideoManager EX 15.0 (and earlier) are now at end-of-support, and VideoManager EX 16.2 is the recommended upgrade for customers with software assurance.

End-of-support for specific VideoManager EX software versions means that they are longer supported or serviced, and will not receive further security or feature updates.

Existing VideoManager EX 15.0 and earlier installations will continue to operate, but you should be aware that when you use software after its end-of-support, you are potentially exposing your organisation to security vulnerabilities.

Known issues

VB400 may not start automatic pre-recording after a factory reset
If a factory reset is performed on a VB400 multiple times, or only once while FIPS is enabled, and if the device is subsequently assigned with a device profile with automatic pre-record enabled, then pre-recording will not start. The problem can be worked around by power cycling the VB400. [SW-2977, SW-1750]

VB400 Bluetooth and Wifi are incompatible
WiFi streaming and download over WiFi cannot be used on a VB400 when it is configured to connect to the VB Companion App over Bluetooth.

VB400 Live-view for Android companion app does not work with X-100 or X-200
The Live-view for Android companion app feature does not currently work if the X-100 or X-200 external cameras are attached.

VB400 WiFi offload of footage can make X-100 or X-200 unreliable

If you configure the device to offload footage over WiFi, then in-progress offloads can sometimes cause the operation of an X-100 or X-200 external camera to be unreliable. It is not currently recommended to enable WiFi offload if using an external camera.

DockController assignment groups with overriden device settings

If you set up multiple DockControllers to share a single RFID reader, then you must ensure that all the DockControllers in the group share the same RFID assignment charge criteria (these can now be overridden for each DockController). If the charge criteria for the DockControllers in the group are not the same, then you may unexpectedly be unable to assign a device in some circumstances.

Large Numbers of Incident Clip Counts

The system performs poorly when more than 200 incident clips are created in a single incident. You should not create incidents with more than this many clips. Some functions may not work properly if this limit is exceeded, e.g. export may fail.

Upgrade notes

Internet Explorer support has ended

Internet Explorer is no longer a supported browser.

Postgres database upgrade

If you are using the bundled Postgres database server rather than Microsoft SQL Server, and you are upgrading a version earlier than 15.1.0, be aware that when this release is installed, the database must be upgraded to Postgres 13.3. Depending on the size of your database, this can be a time consuming process and it temporarily consumes a significant amount of disk space.

HTTP Basic Authentication Disabled

Some security analysts now consider the ability to authenticate HTTP requests with "Basic" authentication to be a security vulnerability. For this reason, the Motorola Solutions VideoManager EX web APIs no longer allow clients to use HTTP Basic authentication. If you directly access the API and you use Basic authentication then you should either switch to using HTTP Digest authentication, or you can re-enable Basic authentication by adding the following text to *Admin > System > Advanced Settings*:

```
api.key.basic.auth=true
```

You should only do this if you are satisfied this does not constitute a security risk in your environment.

Microsoft SQL Server TLS requirements

For installations which use Microsoft SQL Server as the Motorola Solutions VideoManager EX database, be aware that SQL Server must support TLS 1.2 encryption or the Motorola Solutions VideoManager EX service cannot connect to it. If you are using SQL Server 2012 and 2014 please ensure that you have the latest service packs installed to ensure TLS 1.2 compatibility.

Software assurance requirement for upgrade

In order to upgrade to this version from an older version, you must have software assurance coverage up to 14 February 2023. If you are upgrading from a version older than 10.2, then you must upgrade to 10.2 and install software assurance before installing this version.

Data storage location change

The default data storage location is now c:\ProgramData\Motorola Solutions\VideoManager EX for a new installation. If you upgrade from a version of Motorola Solutions VideoManager EX older than 14.5.0, you will already have data stored in c:\ProgramData\Edesix\VideoManager EX. In this case, the system continues to use the data in c:\ProgramData\Edesix\VideoManager EX (which might include your database, configuration and/or filespace data), but all log files are written to c:\ProgramData\Motorola Solutions\VideoManager EX\pss-service-logs.

Central manager site upgrades

When upgrading a central manager installation, replication of certain configuration settings from the central manager to sites (including EdgeControllers) will not occur until those sites are upgraded.

If you use any of the "Shared configuration settings" - on the Auto-fetch settings page - to replicate configuration information to sites, then the site will use out-of-date configuration information until upgraded to the minimum required version for that setting. Configuration changes made on the central system will have no effect until the site is upgraded.

The following table shows the minimum required version of Motorola Solutions VideoManager EX running at the site in order for each shared configuration setting to replicate correctly.

Shared configuration setting	Minimum compatible site version
Keys	5.1.0

Roles & Password Rules	6.4.0
Users	14.5.0 **
User Groups	14.0.0
Device Profiles	6.4.1
Deletion policies	6.4.0
User-defined fields	14.1.0 if you enable playback reason auditing
	14.0.0 if you define any tag list fields
	6.4.0 otherwise
Device states and locations	10.0.0

** - users can be replicated to sites running 7.0.1 to 14.4.x, but an incompatibility warning will be shown and bluetooth pairing information will not be replicated.

Supported platforms

Motorola Solutions VideoManager EX is supported on the following platforms:

- Windows 10 Pro & Enterprise 64-bit
- Windows 11 Pro & Enterprise
- Windows Server 2012 Essentials, Standard & Datacenter *
- Windows Server 2012 R2 Essentials, Standard & Datacenter *
- Windows Server 2016 Essentials, Standard & Datacenter * **
- Windows Server 2019 Essentials, Standard & Datacenter * **
- Windows Server 2019 Essentials, Standard & Datacenter * **
- Windows Server 2022 Essentials, Standard & Datacenter * **

* Accessing the Motorola Solutions VideoManager EX web application from a web browser running on a Windows Server desktop is not supported. However, Windows Server can be used for running the Motorola Solutions VideoManager EX service.

** USB attached devices are not supported on Windows Server 2016 and later.

Supported browsers

The Motorola Solutions VideoManager EX web application is supported on the following browsers:

- Microsoft Edge 79+ (Windows 10/11)
- Chrome 48+ (Windows 10/11, MAC OS X v10.10)
- Firefox 68 ESR+ (Windows 10/11, Ubuntu 18.04+) *

The security settings of your browser may prevent some features of the Motorola Solutions VideoManager EX web application from working correctly. In particular, some browsers may silently prevent the download of files from the Motorola Solutions VideoManager EX web application. Adding Motorola Solutions VideoManager EX web application to the list of trusted websites will normally fix this.

Accessing the Motorola Solutions VideoManager EX web application from a web browser running on a Windows Server desktop is not supported.

* When using Firefox on Windows, you may need to run Windows Media Player once to install codecs before video playback will work. Firefox video playback only works if the operating system provides an MP3 codec. When using Firefox on Ubuntu, you must install a package which provides H.264 and AAC codecs for Firefox, e.g. libavcodec-extra.

Supported device firmware

We do not support assignment of devices running firmware older than version 6.0. These devices will still connect but only for the purposes of upgrading them.

Included device firmware

This release of Motorola Solutions VideoManager EX includes the following firmware:

VB400 firmware	**V16.2.2**
VB200 / VB300 firmware	**V14.4.4**
VT50 / VT100 firmware	**V15.2.3**
DockController firmware	**V16.2.3**

Supported radios

The VB400 Motorola radio integration features are supported in conjunction with the following models:

- Any TETRA Radio with Bluetooth hardware and MR19 software or higher with Bluetooth Connectivity and Bluetooth Radio Control features enabled.