MOTOROLA *SOLUTIONS*

VideoManager 15.1.8 - **Release Note**

Software updated in 15.1.8

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

Changes since 15.1.7

New role permissions

There are no new permissions in this release.

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-22803	Upgraded log4j library to version 2.17.1 to address another potential security vulnerability in the user import tool.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-22629	The device would occasionally restart when switching between internal and external (X-100 or X-200) video inputs.
VM-22702	The device would occasionally restart when attempting to record from some older, X-100 external cameras.
VM-22555	With the Android companion app over Bluetooth enabled & audio recording disabled in the device profile, the VB400 could fail to uploaded footage to Motorola Solutions VideoManager.
VM-22742	The device could restart when the Android companion app playback feature was used on footage that was also being uploaded to Motorola Solutions VideoManager over WiFi.
VM-22753	The device could restart when the Android companion app live-view feature was used in conjunction with Motorola Solutions VideoManager live-view over WiFi.
VM-22607	The device could restart when the Android

	companion app live-view feature was used on recent revisions of the VB400.
VM-21599 VM-22301	The device could fail to reconnect to the Android device running the companion app after the connection was repeatedly lost and regained.
VM-22610	When the device was configured to power down when idle and also connect to an Android device running the companion app, it could fail to power down correctly after pairing with the Android device.
VM-22137	The device would report itself as fully charged in Motorola Solutions VideoManager when the battery charging was only temporarily suspended due to high temperature.
VM-22659	A device with automatic pre-recording enabled could fail to indicate that it was pre-recording after being manually shutdown, then restarted to make a recording, and then that recording stopped.
VM-22726	On recent revisions of the VB400, on initiating recording on a previously powered-down device, the recording LED could erroneously go out for several seconds after the device completed starting up.
VM-22744	On a previously powered-down device restarted using a hold gesture, the starting up indication on the LEDs could fail to be removed after the start up completed.
VM-22732	On a previously powered-down device that was in hush mode at the time of the shutdown, the recording LED could erroneously come on after a subsequent recording was started and stopped, and then hush mode deactivated.
VM-22738 VM-22723 VM-22720	On recent revisions of the VB400, an active WiFi connection could occasionally stall, or more rarely, cause the device to hang and eventually restart.

Software updated in 15.1.7

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

Changes since 15.1.6

New role permissions

There are no new permissions in this release.

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-22746	Upgraded log4j library to version 2.16.0 to address another potential security vulnerability in the user import tool.

Software updated in 15.1.6

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

Changes since 15.1.5

New role permissions

There are no new permissions in this release.

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-22721	Upgraded log4j library to version 2.15.0 to address a potential security vulnerability in the user import tool.

Software updated in 15.1.5

- VB400 firmware

Changes since 15.1.4

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-20377	Support has been added for the latest revisions of the hardware.
VM-22434 VM-22393	The X-100 or X-200 button could become unresponsive for periods lasting several seconds.
VM-21521	All buttons on the device could become unresponsive after exiting hush mode.
VM-22547 VM-22576	The device could restart instead of cleanly stopping recording when storage space is

	exhausted and overwrite mode is not enabled.
VM-22649	The device could take a long time to reconnect to Motorola Solutions VideoManager after performing a factory reset.
VM-22566	The device could restart after connecting to Motorola Solutions VideoManager if a previous failure had caused a video file to be truncated.

Software updated in 15.1.4

- Motorola Solutions VideoManager for Windows
- Motorola Solutions VideoManager for CentOS Linux
- EdgeController firmware

Changes since 15.1.2

New feature: User editability based on role tiers

There are new permissions which provide additional controls over which users can edit which other users. By default, an administrator now cannot edit another user who has a higher tier role. There are additional permissions, which can be used to enforce the rule that administrators cannot edit users or assign roles at the same tier as themselves.

New role permissions

Permission	Section	Notes	On upgrade, granted to
Edit user in same tier	User permissions/user	-	roles with any user edit permission
Assign roles at same tier	User permissions/user	-	roles with any user edit permission
Edit user in higher tier	User permissions/user	-	System administrator

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-22513	User import tool could not retrieve members of nested groups from Active Directory.
VM-22540	Ensure that role tier rules about which admins can users to which tier of roles cannot be bypassed by adding a user to a group containing a higher tier role.
VM-22646	The UI for initiating email password resets

	appeared to be non-responsive.
VM-22622	Exports of very long continuous composite clips used to fail.
VM-22522	Updated the Azure SDK used to access Azure Blob storage to version 12.14.
VM-22524	Updated a dependent library which had a CVE. This CVE was not a security risk to customers.

Software updated in 15.1.2

- Motorola Solutions VideoManager for Windows
- Motorola Solutions VideoManager for CentOS Linux
- VB400 firmware
- VT50 / VT100 firmware
- EdgeController firmware
- DockController firmware

Changes since 15.0.7

New feature: User import from Active Directory
The user import tool can now be used to import data directly from a local Active Directory.

New feature: Flexible Login Options
The login system has been made more flexible. It is now possible to configure multiple OAuth2 login providers. You can now enable multiple different modes of authentication at the same time (e.g. OAuth2 and Windows Passthrough). You can make some login methods "advanced" so that they are not presented to all users initially. You can hide login methods so that you can only login with a particular method if you know the correct login URL. You can bookmark the page for a particular login method.

The old "login mode" setting has been removed, as the new settings provide a superset of the functionality that login mode provided. On upgrade, the login configuration should match the previously configured login mode, so no configuration changes should be necessary.

New feature: OAuth2 User Mapping
When using OAuth2, the user name in OAuth2 no longer needs to match the username in Motorola Solutions VideoManager. You can select the field from the OAuth2 claim which is mapped to the Motorola Solutions VideoManager user (so you could use, for example, username or email address). Each VideoManager user how has an optional unique field called "Authentication ID"; you can choose to map the OAuth2 claim to the Authentication ID of the user in Motorola Solutions VideoManager. The user-import tool allows the Authentication ID to be imported, if required.

New feature: OpenID connect support
When using OAuth2 to for single-signon login to Motorola Solutions VideoManager, it should now be possible to use most OpenID Connect providers (e.g. Okta, Google, etc.).

New feature: Incident export profile access control

You can now restrict access to a specific incident export profile to specific groups or users. This replaces the "selectable" option for export profiles. Administrators with the "use any export profile" permission can still use any export profile.

New feature: Redaction object tracking

When redacting an incident, there is now an option to make the editor "track" a redacted object or face automatically. This reduces the amount of manual position adjustment required when creating redactions.

New role permissions

Permission	Section	Notes	On upgrade, granted to
Edit user authentication ID (supervised/any)	User permissions/user	(2 permissions)	System administrator
Search by bookmarked videos only	Video Permissions/Video	-	Any role with video search permission

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-21496	Recording of audio can now be disabled in device profiles for VT50 / VT100 and VB400 devices.
VM-22132	Metadata and footage transfers from sites and EdgeControllers running older software did not work.
VM-21774	The audit log deletion policy can now do an annual purge of audit log data as required in some jurisdictions.
VM-21965	Help files for non-English languages can now be imported on the Language admin page.
VM-21309	You can now bulk select multiple videos and add them to an existing incident.
VM-21099	You can now disable the use of websockets in the UI - previously this was only possible via the advanced settings file.
VM-21705	The sensitity of peer-assisted recording can now be configured in VB400 device profiles.
VM-21708	Peer-assisted recording can now be configured to stop triggering recording on other cameras a fixed time after recording is started.
VM-21745	The VB400 device profile now allows you to set up Bluetooth connection to MOTOTRBO radios.
VM-21775	HTTP notifications can now include the GPS location of the device and/or a link to retrieve a

	live stream of the GPS location.
VM-21672	When using central manager, the video advanced search language now allows you to filter based on whether videos have been "fetched" or not.
VM-21964	The video advanced search language now allows you to filter based on whether videos have been "bookmarked" or not.
VM-21311	Audit records relating to videos now include a clickable link to the video details page in the audit trail view.
VM-22338	The login method configuration page was incorrectly reporting some valid user name regular expressions as invalid.
VM-21654	There is now a setting to control whether videos are offloaded from devices starting with the oldest or the newest video. Some VMS integrations require this setting to be adjusted.
VM-21662	Video Search: The ability to search for bookmarked footage is now permission controlled.
VM-21825	Security improvement: Media resources like videos and thumbnails now always require a valid session cookie for HTTPS access.
VM-21801	You can now search for users by email address or authentication ID as well as by name.
VM-21830	The service works correctly with the latest version of Genetec Security Center (this integration requires a licence).
VM-22402	When accessing video files for export, the system will now wait up to 30 minutes, to improve compatibility with storage systems which offload files to cold storage.
VM-22231	The user bluetooth pairings dialog now shows which type of radio device each pairing is associated with.
VM-22265	An OAuth2 realm can now be configured so that logging out of Motorola Solutions VideoManager performs an OAuth2 application logout.
VM-22131	The reliability of connections to directly connected USB devices has been improved.
VM-22270	The system no longer "freezes" if an obsolete filespace is broken. However, background file moves are paused.
VM-22152	The export profile editor had the wrong label beside the check box which makes the profile the "default" profile.
VM-21969	The device list did not show the progress of footage downloaded for each device when using a non-English language pack.
VM-22406	The helper script required for running manage-service tool configuration scripts is now built into Motorola Solutions VideoManager.
VM-21741	Pages which display extracts from the audit log will no longer show errors even if the audit log is very large and slow to query.
VM-21497	Video playback now automatically pauses if you switch to another browser tab. In the past,

	switching tab could cause the video player to show the incorrect playback position.
VM-22250	Evidence export failed if an export contained a video clip followed by an audio clip or a binary file.
VM-22413	The audit report ignored the "location" filter, if one was specified.
VM-22133	The video bulk edit button was displayed even when user lacked the corresponding permission.
VM-22080	It is now possible to manually set a GPS location for an imported video.
VM-21899	Incident sort by time did not take effect immediately if clips are grouped by recording.
VM-21734	If a device fails to complete upgrade, it now automatically transitions from the "awaiting boot of new firmware" state to the "unknown" state in the device list after 20 minutes.
VM-22022	When displaying TLS certificates in the UI, the labels for the O and OU fields of the names were thw wrong way round.
VM-21568	If a grid worker cannot connect to the grid master server, the Windows service no longer restarts, thus ensuring that Windows doesn't give up auto restarting the service.
VM-21831	Deleting a WiFi profile did not make the profile disappear immediately from the list.
VM-21858	H.265 recording on VB400 can now be enabled in the device profile. This is an experimental feature which must be enabled in the experimental features page before use. Due to the resource requirements of H.265 playback, it is recommended that you discuss this feature with your support provider before enabling it.
VM-21466	The bundled version of Postgres has been upgraded to version 13.3.
VM-22055	If you edit the grid master configuration, the system will now prompt you to restart the service if required.
VM-22098	Video Metadata Overlay configuration page sometimes falsely claimed that the overlay was too long.
VM-22151	Error handling in the video player has been improved in the case where the server encounters I/O errors reading the file.
VM-22048	It was possible to create two users with the same touch assign ID under certain circumstances.
VM-22241	Filenames output by the user import tool "export" option have been fixed to ensure they can be re-imported into another system using the user-import tool without renaming.
VM-22238	Unrelated logging data has been removed from the "users added and removed" box on the user import page.
VM-22107	Downloaded device logs now include the serial number of the device in the filename.
VM-22122	The download button on the video details page sometimes failed for corrupt videos.

VM-22392	The browser back button did not work if you were auto logged out and then you logged back in again.
VM-22160	It was only possible to configure a single DNS server in the device static IP address configuration page.
VM-22197	Ensure that the audit log does not contain keys to 3rd party mapping providers.
VM-21833	Ensure that the audit log does not contain WiFi passwords.
VM-21834	The name of a duplicated WiFi profile contained "(copy)" and this could not be overridden with a language pack.
VM-21995	In the device profile editor, you can no longer assign "toggle safety mode" and "exit safety mode" actions to the button on the X-100.
VM-22165	The system was incorrectly auditing the creation of a new export profile before the save button was pressed.
VM-21731	The equipment report can now be run every "N" hours, not just every hour.
VM-22161	Auditing of webserver SSL certificate updates has been improved.
VM-21740	Auditing of scheduled report edits has been improved.
VM-21832	The audit message produced when you delete a WiFi profile has been made clearer.
VM-21920	Auditing of language file import and delete has been added.
VM-22149	Edits to the DVD export defaults were audited with the wrong audit entry type.
VM-22162	Deletion of an export profile was audited with the wrong audit entry type.
VM-22358	Various minor improvements were made to improve the clarity of audit messages related to configuration changes.
VM-22356	The streaming/RTSP password is now redacted in the audit log when it is changed.
VM-22348	The wrong audit event type was used when auditing a change to the number of days in the "Playback Policy" screen.
VM-21802	We now limit the rate at which API key authentication is audited to prevent clients which use sessionless auth from generating excess audit information.
VM-21961	Playback has been improved for videos encoded with unusually long GOP lengths.
VM-21816	The permissions of the default System User, System Supervisor and System Manager roles have been made more consistent.
VM-21799	Improved thumbnail and playback support for videos recorded by certain Canon digital cameras.
VM-21996	The file move API for initiating explicit file move operations no longer mixes up filespaces if they share a common path prefix.

VM-22384	The video player was occasionally reporting a unexpected playback error when you got to the end of a video.
VM-21805	The effective permissions page now includes the role assignment tier of the user.
VM-21962	Security improvement: The Jetty webserver has been updated to the latest version.
VM-22378	Security improvement: HTTP basic authentication can, by default, no longer be used to authenticate against the API.
VM-22376	Security improvement: Help pages are now served with secure headers like "Content-Security-Policy".
VM-22298	Security improvement: Web page requests now include the "Referrer-Policy" header in the response.
VM-22308	Security updates: many internal libraries have been updated to the latest versions to eliminate potential vulnerabilities.
VM-22340	Security updates: ensure that the cookie created to validate completion of file downloads is created with the SameSite attribute.
VM-21569	If encounter a duplicate touch assign ID while editing a user, the error message displayed now tells you the current owner of the touch assign ID.
VM-21933	Failed logins resulted in non-existent login sessions being reported in the live stats.
VM-22203	When using sessionless authentication to access the API, retrieval of videos and incidents could fail with 500 errors.
VM-22256	Creation of a metadata file is now enabled by default on new evidence export profiles.
VM-20974	Thumbnails were poorly rendered after editing the bounds of a composite incident clip.
VM-22287	The save button did not appear immediately after importing an incident export profile.
VM-22252	Logging out via the web page is now audited.
VM-22303	Visiting the login page no longer causes anything to be written to your browser's local storage.
VM-21840	Formatting of connection errors has been fixed on the status page shown when you connect a monitor to an EdgeController.
VM-21728	"Companion Services App" has been renamed to "VB Companion Services".
VM-21671	The term "anonymous link" has been replaced with the term "incident link" in the user interface.
VM-22158	If the download of the application CSS file was truncated due to network issues, it was possible to see pages in the web interface which were only intended to be seen by administrators. These pages did not reveal any information nor allow bypassing of any security features.

VM-22087	Imported videos can now be owned by groups instead of users.
VM-21815	All permissions which allow "privilege escalation" are now marked with a red exclamation mark in the role permissions editing panel.
VM-21679	Websocket timeout exceptions caused by disconnecting web browsers are no longer logged as errors with stack traces in the system logs.
VM-22192	Added support for retrieving the path of a video file through the API, as required by file move PowerShell scripts.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-21594	Recording of audio can now be disabled.
VM-21138	The Motorola radio integration has been extended to support the MOTOTRBO radio model.
VM-21906	H.265 recording can now be enabled for limited revisions of the hardware. It is recommended that you discuss this feature with your support provider before enabling it.
VM-21704	The approximate maximum distance of devices that trigger Peer assisted recording can now be configured.
VM-21707	The length of time that devices advertise their recording status for Peer assisted recording can now be configured.
VM-21780	The battery status LED will now be orange at 5% of charge remaining and red at 1%. If the battery critical alarm is enabled, it will trigger at 1%. Contact support if you need to modify these levels or the behaviour of the alarms at each level.
VM-20377	Support has been added for the latest revisions of the hardware.
VM-21911	It is now possible to limit eligible devices when pairing TETRA radios. The default settings filter using the name of the radio. If you have changed the name of your radios, you may need to configure this feature to be able to pair with them. Contact support if you are considering using this feature.
VM-19822	If a device detects that it has partial USB connectivity, it will now restart in an attempt to recover.
VM-21958	In some circumstances, devices could unexpectedly restart while uploading footage if the file signing functionality was enabled in Motorola Solutions VideoManager.
VM-22135	It was possible for very short files to be generated containing no video frames when GPS was enabled.
VM-22111	Devices could become unable to connect to Motorola Solutions VideoManager after performing a pairing with a HolsterAware peripheral.
VM-22003	The pair peripheral gesture could fail to have any effect if a device was previously manually shutdown and restarted.

VM-20010	Devices could unexpectedly restart during long recordings or pre-recordings.
VM-21977	In rare circumstances devices could unexpectedly restart when GPS was enabled.
VM-21875	In rare circumstances devices could unexpectedly restart when entering safety mode with WiFi and GPS enabled.
VM-21896	It could become impossible to exit safety mode without docking the device.
VM-21904 VM-21905	It was possible for the device user interface to become inoperable if there was an unexpected failure when entering safety mode.
VM-21828	Devices would become inoperable if directly upgraded from firmware versions < V14.4.0 to >= V15.0.0. Although this issue has been fixed in the latest firmware, Motorola Solutions VideoManager currently continues to require upgrading via the intermediate V14.6.7 firmware version.
VM-21849	With the prerecording alarm and peer assisted recording enabled, the device could incorrectly continue the pre-recording alarm after a manual shutdown and restart.
VM-21850	The device could fail to indicate that it was in standby mode after being undocked.
VM-21385	With pre-record enabled, it was possible for very short recordings to contain only audio and no video frames.
VM-21823 VM-21919 VM-22204	The connection to the Android companion app could fail to come up when required if the device had previously restarted unexpectedly or with pre-recording, WiFi streaming & Bluetooth companion app connectivity enabled.
VM-21748	Android companion app live streaming would not work if the app was first left on the video list page for more than 5 minutes.
VM-21749	The device could restart if live view was requested in Motorola Solutions VideoManager while Android companion app live-streaming was active.
VM-22414 VM-22417	With the Android companion app functionality enabled and the device powered off, the device could fail on a start-up triggered by initiating recording.
VM-21771	The connection to TETRA radios would sometimes be made in an incorrect mode, preventing the triggering of recording on a radio emergency.
VM-21772	The time between connecting to a TETRA radio and initiating recording due to an emergency has been reduced.
VM-19580	Devices could occasionally restart unexpectedly when recording was initiated when the device was turned off, and WiFi was enabled.
VM-21788	Devices would occasionally restart unexpectedly when a WiFi connection was lost while recording.
VM-21822	Hush mode would not activate correctly on a X-100/X-200 external camera.
VM-22386 VM-22390	The X-100/X-200 external camera could fail to connect when attached, requiring a force-reset of the device to recover.

VM-22418	
VM-22429	If the device powered off due to low battery with the X-100 attached, it was sometimes possible to power the device on again without docking first.
VM-21794	Security update: use latest version of OpenSSL.

Minor enhancements and bug fixes (VT50 / VT100)

Issue Id	Summary
VM-22498	The device would restart periodically if audio recording was disabled in the device profile.
VM-22167	On some hardware revisions, double-clicking on a button could cause spurious flashes of the red LED.

Software updated in 15.0.7

- VT50/VT100 firmware

Changes since 15.0.6

Minor enhancements and bug fixes (VT50 / VT100)

Issue Id	Summary
VM-21596	Recording of audio can now be disabled (requires V15.0.8 Motorola Solutions VideoManager).
VM-22037	Support has been added for the latest revision of the hardware.
VM-21252	Devices would sometimes fail to reconnect to Motorola Solutions VideoManager on being upgraded.

Software updated in 15.0.6

- VB400 firmware

Changes since 15.0.5

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-22037	Support has been added for the latest revision of the hardware.

Software updated in 15.0.5

- Motorola Solutions VideoManager for Windows

- Motorola Solutions VideoManager for CentOS Linux
- EdgeController firmware

Changes since 15.0.4

New role permissions

There are no new permissions in this release.

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-21852	For some customers, media playback and thumbnails would stop working after a while, requiring a server restart.
VM-21842	DockController assignment groups could not be configured in a central manager system which has sites with DockControllers.
VM-21848	The system now prevent the upgrade of a VB400 running old firmware (older than 14.4.0) from upgrading to any firmware version other than V14.6.7 (see known issues).
VM-21856	VB400 firmware for V14.6.7 is now bundled in order to help with upgrade of VB400s running old firmware (see known issues).
VM-21829	An error would be shown if you tried to create a new WiFi profile and set it to the default at the same time.

Software updated in 15.0.4

- Motorola Solutions VideoManager for Windows
- Motorola Solutions VideoManager for CentOS Linux
- VB400 firmware
- EdgeController firmware
- DockController firmware

Changes since 15.0.3

New feature: Scheduled report retention limits

The system now limits how many old reports are kept for each scheduled report. Once the limit is reached, an old report will be deleted shortly after a new report is created. On upgrade, existing scheduled reports are configured to keep at most 50 old reports.

New feature: Role assignment tiers

In order to provide more control over which roles an administrator can assign to users, each role now has a configurable "role assignment tier". An administrator cannot assign a role to a user if the tier of

the role is higher than the tier of the administrator's role. This can be used to restrict which roles an administrator can assign. If all roles are left at the highest tier (the default), then the behaviour of the system is unchanged by the addition of this feature.

New role permissions
There are no new permissions in this release.

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-21724	Motorola Solutions VideoManager did not previously work on Linux if IPv6 is disabled.
VM-21698	In the VB400 device profile, you can now configure the system to disable hush mode while recording.
VM-21525	Asset import now supports importing of ASF files containing WMV3 video.
VM-21411	The equipment report can now be scheduled to run more frequently than once per hour.
VM-21747	The manage-service tool can now be used to run configuration scripts.
VM-21495	Added support for Firefox 68 ESR and 78 ESR browsers.
VM-21489	In the VB400 device profile, it is now possible to configure audio recording with lossless PCM instead of AAC.
VM-21628	The "restricted" checkbox and panel for a video is now hidden if the user does not have permission to edit restriction and does not have permission to view restricted videos.
VM-21687	The Web API now supports manual requests to relocate individual video files to specific filespaces.
VM-21793	The import system config function would save some imported settings before the user pressed confirm.
VM-21499	The buttons on the video player in the incident editor overlapped at some screen widths.
VM-21508	Validation in the VB400 device profile has been improved to require the correct gestures when using HolsterAware devices.
VM-21716	Replication of certificates from central manager to site did not always happen immediately after importing a certificate.
VM-21713	Replication of certificates from central manager to site failed if you reimported a previously deleted certificate.

VM-21530	Timestamps on imported files are now preserved even if the file requires conversion during import.
VM-21481	The text on the login page button for logging in by OAuth2 was not configurable using a language pack.
VM-21327	Automatic imports were not immediately started when an automatic import profile was created nor stopped when an automatic profile was deleted.
VM-21779	Audit log deletion policy was not included in system config import/export feature.
VM-21778	Configuration import now rejects files exported from systems running a different version.
VM-21375	1/4 speed playback now works when playing composite clips.
VM-21592	Export profile "encrypt downloads" toggle is no longer available if the export location is configured to an output directory.
VM-21701	The UI for configuring DockController security has been made clearer: it now explicitly refers to "802.1x".
VM-21797	Auditing has been improved when using the import/export system config function.
VM-21589	The management report now includes imported files in its counts of "media items".
VM-21473	It was possible to initiate an upgrade of a device that was not docked using "bulk upgrade".
VM-21388	It was not possible to delete an import profile if there was a failed import job associated with the profile.
VM-21537	The API for retrieving audit log entries now allows filtering to an exact date and time, not just by date.
VM-21523	File transfers to Azure uploads are now retried before reporting a failure if there is an error during a transfer.
VM-21640	In the devices page filter on a central manager, the "Reset filter" button now checks the "include remote devices" option.
VM-21527	A manually initiated server restart is now audited against the user who initiated it.
VM-21528	Editing of the advanced settings file through the Web UI is now audited.
VM-21454	The service logs no longer fill up with unwanted entries if you upgrade a VB400 in service required mode.
VM-20565	Fixed some issues with the dynamic update of the lists of videos on the dashboard.

VM-21603	Editing email properties did not always take effect until the server was restarted.
VM-21619	It is now possible to complete installation using an unsupported web browser.
VM-21491	Security update: use latest version of ffmpeg.
VM-21395	Updated many internal libraries to the latest version, including some security updates.
VM-21487	Updated bundled Java JRE to version 11.0.11+9
VM-21337	Updated to the latest JQuery library, which includes some security fixes.
VM-21372	The Content-Security-Policy header now includes a form-action directive (a minor security issue).
VM-21564	The management report can now be internationalised using a language pack.
VM-21696	Support was added for future device serial number ranges.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-21695	Support has been added for the new profile option allowing hush mode to be disabled while recording.
VM-21538	Support has been added for the new profile option allowing audio recording with lossless PCM instead of AAC.
VM-21518	Support has been added for showing the status of connected HolsterAware peripherals in the Android companion app.
VM-21322	In some circumstances, the battery level shown in the Android companion app could be misleadingly out of date.
VM-21464	When configured in shutdown when idle mode the device could fail to start up in response to use of the Android app.
VM-21389	The TETRA radio connection could occasionally be interrupted if the radio is configured in Trunk Mode (TMO).
VM-21647	The device could fail during a long-running recording, especially when recording in the dark.
VM-21609	The device could fail to start up after powering off due to low battery.

VM-20725	There were several issues affecting Bluetooth connectivity when combinations of the
VM-21675	Android companion app, HolsterAware peripherals and the TETRA radio integration are used
VM-21608	at the same time, and more rarely when the Android companion app is used alone in
VM-21597	Bluetooth mode.
VM-21546	
VM-21529	
VM-21492	
VM-21453	
VM-21438	
VM-21427	
VM-21418	

Minor enhancements and bug fixes (DockController)

Issue Id	Summary
VM-21769 VM-21782	Support has been added for new types of RFID card.

Minor enhancements and bug fixes (EdgeController)

Issue Id	Summary
VM-21646	Security update: use the latest version of openssl.

Software updated in 15.0.3

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

Changes since 15.0.2

New feature: Video file signatures
When this feature is enabled, videos recorded on VB400 devices will be accompanied by a cryptographic signature generated by the VB400 which verifies the origin of the video. The signatures on videos include the X.509 certificate chain for the device which recorded them. The system will automatically issue X.509 certificates to VB400 devices which are used to prove the origin of the signature.

All certificates are signed by a "root certificate" which is managed by Motorola Solutions VideoManager. This "root certificate" can be imported into the system or manually created. The "trust root" certificates for the system can be exported and imported, allowing the system to verify signatures from devices with certificates issued by another system, if this is desired.

The system verifies that the signatures and the certificates that they contain are trusted when files are downloaded, and audits the result of these checks (and displays this information in the video details page). A ZIP file can be downloaded for a video, containing the signature, the certificates for the signature and a short report containing verification information for the video.

New feature: Video fields permission control
You can now control which fields of a video/media item are visible in the video details page (and the large view) using permissions. All the fields of the video details now have corresponding entries in the "user-defined media fields" page and by editing the permission groups for the built-in fields, you can control which users can see these fields.

New role permissions

Permission	Section	Notes	On upgrade, granted to
View videos in large/gallery/list view mode	Video permissions/Video	(3 permissions)	Roles with permission to list or search videos
View/Edit Device Certificate Authorities	Advanced Permissions/Settings	(2 permissions)	System administrator

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-21588	Very occasionally the server could become unresponsive while live streaming from devices.
VM-21602	Default email templates for streaming notifications did not include a link to the live stream.
VM-21632	Notification emails were not sent at all on some systems.
VM-21570	The user import setting page freezes the browser after importing a very large number of users.
VM-21248	The ability to use the three different video list view options (large, gallery and list) is now permission controlled.
VM-21579	Notification emails for a "first time login" contained the wrong username.
VM-21550	User import tool would only import the first 20 members of each group when importing from Azure AD. [also in 14.6.10]
VM-21469	Device profiles now allow configuration of HolsterAware pool issue mode. [also in 14.6.9]
VM-21470	Device profiles now allow configuration of a "suppress recording after undocking" time. [also in 14.6.9]

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-21601	It was possible for the device to fail to complete a firmware upgrade if the battery life extender option is enabled.

Software updated in 15.0.2

- VB400 firmware

Changes since 15.0.1

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-21325	Support has been added for the latest revision of the hardware.

Software updated in 15.0.1

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

Changes since 14.6.7

New feature: Group by recording
An alternate way of displaying incident clips is now available where all the clips relating to a single recording are grouped together. This way of displaying incidents may be especially suitable for customers who chose to maintain multiple copies of the same recording within a single incident with different time ranges or redactions. The UI makes it easy to create a new copy of the clip with different redaction or time range. The entire system must be configured to display incidents in the new or the old way.

New feature: Improved notification system
The notifications panel on the dashboard now shows notifications for the following events:

- A new video has been downloaded for the logged in user
- A video or incident has been shared with the logged in user
- The logged in user has been made the owner of a video or incident
- An export created by the user completes

- An import created by the user completes

These users can view the list of affected videos/incidents/exports/imports with a single clip. The notification count can be reset by clicking on a button next to the notification. A count of outstanding notifications is shown in the navigation bar at the top of the screen, so it's always visible.

This feature makes it possible to implement workflows which require users to respond to the sharing or changes of ownership of videos or incidents.

New feature: Simple user import/export
The list of users can now be exported to a CSV file, edited and reimported. This provides a simple way to manage the list of users for customers who don't want to go through the complexity of setting up an automated user import.

New feature: Import grid workers
Customers using a grid of servers can now set up one or more servers to process imports. To make this work, the temporary folder where files to be imported are stored must be set to a network file share, accessible by both the main server and the import worker servers.

New feature: Login verification by email
Email can now be used as a form of two-factor authentication for additional security. The system can be configured so that when a user logs in, an email is sent to them, and they must click on a link in the email to complete the login process. This can be configured to be a mandatory requirement for all users, or this can apply only to users with a certain role. If email becomes unexpectedly unavailable, administrators can use the command line tools to get the URL link that they need to complete login or can disable the feature via the command line.

New feature: Hardware export acceleration
Customers using a grid configuration can now speed up their exports by using an export worker machine which has a suitable NVidia graphics card. With a suitably equipped server, the time taken to create an export can be halved. This option must be explicitly enabled on an export worker.

New feature: Incident clip captions
It is now possible to import a WebVTT subtitle file into an incident clip (in the redaction editor dialog) which will create captions on the video which are burned into the video when you export. These captions can also be exported so that they can be edited with a WebVTT editing tool and reimported.

New feature: Web configuration of redundant servers
It has been possible to configure a backup server for Motorola Solutions VideoManager for some time. In this release, it is now possible to configure and manage this without having to manually edit settings files. The Web UI can be used to convert a grid worker into a standby master machine and to set the config folder sharing which is necessary to make standby servers work properly. The UI also shows whether the backup server. Workers can now be configured to connect to a specific master machine or to connect to whichever master machine is actually active and the UI shows which workers are on or offline even if they are not currently active. Workers no longer need to be manually reconfigured if you add an additional standby server.

New feature: Configurable export title page

It is now possible to customize the contents of the export title page for each export profile using a template which can be used to hide fields or include field information from the incident.

New feature: Configurable incident clip field visibility

You can now assign incident clip fields (operator, device, duration, notes) to field permission groups and thus restrict which users can see these fields. These fields are visible to all users with permissions to view an incident by default on upgrade. You can now also control which field groups are visible when viewing anonymous incident links... by default all the fields are hidden when viewing an anonymous link.

New feature: Safety mode (VM-20695)

The new "safety mode" feature allows a VB400 to be powered down such that it cannot be powered up again except by using the exit safety mode gesture, or by docking the device. This is in contrast to a normal shutdown which allows power up on any event, including activating the recording start gesture.

New feature: Battery level in video metadata overlay (VM-21052, VM-21054)

The state of charge of the battery of a VB400 can now be configured to be shown (as a percentage) in the video metadata overlay.

New role permissions

Permission	Section	On upgrade, granted to
Can duplicate incident video clip	Incident permissions/Incident clips	System administrator
Can add new clip for recording in incident editor	Incident permissions/Incident clips	System administrator
Export users	User permissions/User	System administrator
Import users	User permissions/User	System administrator
Initiate immediate database backup	Advanced Permissions/Settings	System administrator
View/edit incidents (UI settings)	Advanced Permissions/Settings	System administrator
View system page in Companion App	Device Permissions/Companion App	System administrator

Minor enhancements and bug fixes (Motorola Solutions VideoManager)

Issue Id	Summary
VM-20751	In the deletion policy, you can now configure that all audit log entries are deleted automatically after a fixed period of time.

VM-21061	Motorola Solutions VideoManager now uses the Windows Trusted Root Certification Authorities list to validate server SSL certificates for outgoing HTTPS connections (e.g. to Box or S3).
VM-21022	In VB400 device profiles, you can now adjust how long a button must be held to activate the "hold" gesture for the button.
VM-20998	In VB400 device profiles, you can now configure the record lamp to be "solid green dimmed" while pre-recording.
VM-20979	You can now create audio redactions which "beep" out the audio rather than silencing it.
VM-20950	You can now play videos faster or slower than normal speed.
VM-18381	The video report now includes the SHA-256 hash of each video.
VM-20966	Users can now have multiple comma-separated touch assign IDs.
VM-18396	You can now bulk edit the sharing, owner and restriction fields for videos/media.
VM-18395	You can now bulk edit custom properties for videos/media (if licensed).
VM-21288	Devices which are not charging because their battery is not working are no longer available for touch assign and are shown with a different battery icon.
VM-20592	The import list can now be filtered.
VM-20593	There is a new "my imports" tab showing imports belonging to the logged in user.
VM-20591	You can now access the files imported by an import job by clicking "show results" on the import screen, or by clicking "search results" on the import details page or you can search videos by import signature.
VM-21185	The management report is now a CSV file rather than an HTML page, and it now includes information about recordings. Two redundant columns from the old report have been removed.
VM-21040	It is no longer mandatory for a device profile to have gestures for starting and stopping recording.
VM-21324	The user export report sometimes reported the same role multiple times for a user and sometimes omitted the user's Bluetooth address.
VM-20721	The device profile editor now supports configuring gestures for "safety mode".
VM-21002	Bulk video selection count disappeared when the user scrolled down the page to load more videos.
VM-21165	Device field trip report did not correctly apply a configured report start time, if specified.

VM-20853	Imports which fail during file upload did not appear in the list of failed imports.
VM-20981	The DockController screen will no longer allow you to downgrade a DockController if automatic upgrade would immediately re-upgrade to the default firmware.
VM-20881	The user "view bluetooth pairings" screen now shows which assigned device is currently using the user's pairings.
VM-21160	The "videos scheduled to be deleted" panel on the dashboard is now only shown if there are any videos scheduled to be deleted.
VM-20982	It is now possible to customize email templates for notifications.
VM-21189	The site list would incorrectly show sites which have been connected for more than 4 hours when you filter for sites "last seen > 4 hours ago".
VM-20644	Audio now plays correctly when playing videos recorded on Canon cameras.
VM-20921	If a server is currently operating as a standby server, the web UI on the server now indicates the status of the standby server.
VM-20552	When an operator is unable to assign a camera using an RFID touch assign, the audit record now includes additional diagnostic information.
VM-20559	The "show original" link on an incident video clip will now search for all the videos in the recording if the video for the clip is part of a multi-file recording.
VM-20678	If your grid system has multiple export workers, the system now does a better job of evenly distributing load across the workers when there are multiple exports running.
VM-21076	If an audit log read times out, the error message in the audit log page will now suggest to the user that creating an audit report is the right strategy.
VM-21082	Operator names were not correctly rendered on the export title page if they included Hebrew characters.
VM-20583	Operator names containing unicode characters will now display correctly in VB400 watermarks and metadata overlays.
VM-20790	The login page was not correctly displaying languages other than English.
VM-20782	It is now possible to rename the "System Administrator" role and change its description.
VM-20740	Various elements of the UI which could not be translated into other languages are now translatable.

VM-20875	If you delete a role, the warning displayed incorrectly counted the number of users associated with the role.
VM-20882	Banner warnings at the top of the web page were not always displayed when you refresh the page.
VM-20830	Users who don't have permission to edit DockController settings were unable to view the touch assign, bandwidth rule and device settings in the DockController details page.
VM-21287	The battery symbol for an assignable device now has a tag symbol if the device is currently available for touch assign, or a check mark if the device is sufficiently charged, but is not enabled for touch assign.
VM-21186	The live stats device status pie chart now distinguishes between assignable devices based on whether they are touch assignable and whether they are charging. The device list can now be filtered based on the charge status of devices.
VM-20594	You can now force the system to perform an immediate database backup (if you are using the bundled Postgres database).
VM-21035	The installer no longer installs a bundled copy of TeamViewer.
VM-21364	The performance of composite clip playback has been improved for clips containing 1080p videos.
VM-20972	The "Advanced Settings File" page has been renamed to "Advanced Settings".
VM-20925	In database backup options, it was not possible to edit the number of hours that backups are retained for.
VM-20942	It was not possible to do a bulk transform (rotate/flip) of videos.
VM-20920	All imports, export and download operations (e.g. of roles, export profiles, reports, etc.) are now audited.
VM-20760	All add/edit/deletion operations which change settings are now audited.
VM-20922	You can now enable full auditing for an API key which will cause all API interactions performed with the API key to be audited.
VM-20598	The "database mutex" is now enabled by default on SQLServer installations, thus eliminating a configuration step required when setting up a redundant pair of servers.
VM-20817	The "Report time" field in report metadata CSV files now says "Day starts at" to better reflect its meaning.
VM-21251	Editing the device for a downloaded video before that video had been deleted from the camera could cause a download error.

VM-21047	You can now configure the video metadata overlay to include the device name rather than the device serial number.
VM-20637	Multi-line text playback reason fields and incident deletion reason fields are now correctly displayed.
VM-20945	Improved display of "scheduled deletion date" for videos which are ready for immediate deletion.
VM-21292	The "large icon" video list now displays progress information when videos are being uploaded from sites/EdgeControllers.
VM-21247	TETRA radio integration is now a full feature and no longer needs to be enabled in the "preview feature" admin page.
VM-21180	Admin pages now refer to the Android application used with the VB400 as the "VB Companion" rather than the "Companion App".
VM-20564	The video lists on the dashboard now always have a "show more" button.
VM-21391	VB300 videos sometimes failed to play when using audio double consent and pre-record.

Minor enhancements and bug fixes (VB400)

Issue Id	Summary
VM-20694	The TETRA radio integration required a device profile override to work.
VM-21019	The TETRA radio integration now supports the MXP600 radio model.
VM-20651	The TETRA radio integration did not work when used in conjunction with HolsterAware peripherals.
VM-20672	Peer assisted recording did not work then used in conjunction with the TETRA radio.
VM-20671	WiFi features would not work if a device was connected to a TETRA radio.
VM-20656	The audit log messages associated with TETRA radio connections have been improved.
VM-20655	The device could fail after the connection to a TETRA radio was lost and regained.
VM-20670	The device could fail while connected to a TETRA radio if a manual shutdown was requested.
VM-20664	The device could fail to shutdown when idle (if configured to do so) after the TETRA radio integration was enabled in a previous assignment.
VM-20995	When the Android companion app is used at the same time as the TETRA radio integration,

	incomplete pairing of the TETRA radio could prevent the app from connecting.
VM-20690	The TETRA radio integration could remain enabled even after the device was assigned using a profile with the feature disabled.
VM-20862	If a new recording was triggered shortly after triggering a manual shutdown while recording, the device could erroneously shutdown again.
VM-20806	The audible recording alarm could persist after a manual shutdown and restart.
VM-20996	The LEDs on the device did not always show the correct status after performing a manual shutdown, then activating manual pre-recording - or when automatic pre-record is enabled, waking the device with any button.
VM-21158 VM-21126 VM-20236	The device would not always show the idle blink LED notification when it is powered on and ready to record.
VM-21093	The device could fail to correctly recognise the type of battery installed when operated in a very low temperature environment.
VM-21095	The device could fail to correctly recognise the type of battery installed for a period after a firmware upgrade.
VM-21079	The device would not correctly enter "shipping mode" (with an isolated battery) if undocked immediately after requesting a factory reset.
VM-21256	In rare circumstances with GPS enabled the device could fail when stopping a recording.

Minor enhancements and bug fixes (DockController)

Issue Id	Summary
VM-14532	The DockController logs could grow too large to be downloaded.

Earlier changes

See the V14.6.x release notes for earlier changes.

Known issues

Poor VT50 / VT100 live view performance with Chrome hardware acceleration
In some environments, if you use the Google Chrome browser and you have hardware acceleration enabled in Chrome, the live view window may not show frames at the correct rate when streaming from VT50 / VT100 devices. If you suffer from this problem, you should disable "Use hardware acceleration when available" in Chrome Settings Advanced System options and streaming should then work correctly.

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 overriden 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 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 advanced settings file entry "api.key.basic.auth=true" if you do not consider this to be a security risk.

Microsoft SQL Server TLS requirements

For installations which use Microsoft SQL Server as the Motorola Solutions VideoManager database, be aware that SQL Server must support TLS 1.2 encryption or the Motorola Solutions VideoManager 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 10 September 2021. 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 for a new installation. If you upgrade from a version of Motorola Solutions VideoManager older than 14.5.0, you will already have data stored in c:\ProgramData\Edesix\VideoManager. In this case, the system continues to use the data in c:\ProgramData\Edesix\VideoManager (which might include your database, configuration and/or filespace data), but all log files are written to c:\ProgramData\Motorola Solutions\VideoManager\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 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 is supported on the following platforms:

- Windows 8.1 Pro & Enterprise 64-bit
- Windows 10 Pro & Enterprise 64-bit
- 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 * **
- Ubuntu 18.04, 20.04

* Accessing the Motorola Solutions VideoManager 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 service.

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

Supported browsers

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

- Microsoft Edge 79+ (Windows 10)
- Chrome 48+ (Windows 7/8.1/10, MAC OS X v10.10)
- Firefox 68 ESR, 78 ESR (Windows 10, Ubuntu 18.04, 20.04) *

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

Accessing the Motorola Solutions VideoManager 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.

** When using Internet Explorer, audio is not supported on Device live view page.

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 includes the following firmware:

VB400 firmware	**V15.1.8**
VB200 / VB300 firmware	**V14.4.4**
VT50 / VT100 firmware	**V15.1.1**
DockController firmware	**V15.1.0**

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.