READ ME

Device Management

CPS and
Radio Management Suite

Release Notes

MOTOROLA SOLUTIONS

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MOTOROLA SOLUTIONS

CPS and Radio Management Suite

CPS and Radio Management Suite is our on-premises solution to radio fleet management.

1. Here's what's new in CPS and Radio Management

1.1. New Features for APX™ NEXT and APX™ N70

We've added support for the following features for both APX NEXT and APX N70 models:

Remote Monitor	Users may now take advantage of Remote Monitor or Radio Trace on a Trunking System. Just navigate to the Trunking System and enable the checkbox at **Features** > **Remote Monitor/Radio Trace** > **Enable**. Depending on your system type, you may also configure the transmit time via **Tx Base Time (sec)**.
RF Modem	Users may now switch to RF Modem Mode when connected to APX APAA. Navigate to Radio Wide or a Conventional Personality and select "APCO Project 25 Mode" under **Features** > **RF Modem**.
Silent Emergency	Users may now take advantage of Silent Emergency to transition into a discreet radio operation during emergency transmission. Just navigate to Emergency Wide and enable the checkbox at **General** > **Silent Alarm**. Optionally, you may also enable the colocated Disable Emergency Call and Unmute Option checkboxes.
Talkgroup Text Message	Users may now make use of talkgroup text messaging. Just navigate to the Conventional or Trunking System and select "Full Decode" at **Features** > **Group Text Messaging Service**.
6-Figure UTM Grid Reference	Now UTM formatted coordinates can be displayed alongside a 6-figure grid reference (100m square grid format). Just navigate to Radio Wide and enable the checkbox at **Location** > **Display 6 Figure UTM**. **Note:** APX NEXT and N70 models require the GPS H-option to make use of this feature.

1.2. Alias Update through DVR Support

Users can now perform an alias update through DVR. Just navigate to the Conventional Personality and select "Decode Only" under **Features** > **OTA Radio Alias Type** and enable the colocated checkbox, **OTA Radio Alias Update Enable**.

Note: To make proper use of this feature the subscriber must enable the use of radio aliases first. Navigate to Radio Wide and enable the checkbox at **User Information and Passwords** > **Radio Alias Enable**.

1.3. Two Additional Tx Power Levels Added

Two additional power levels (Medium-High and Medium-Low) have been provided to comply with FCC mandates. Users may choose to configure either **2** or **4 Power Levels** by navigating to Radio Wide and making a selection under **Transmit Power Levels** > **Number of Tx Power Levels**.

A specific power level may be strapped to either a Conventional Personality or a Trunking System. You may configure this under **Tx Options** > **Tx Power Level** or **Features** > **Tx Power Level**, for a Conventional Personality or Trunking System respectively.

Note: A menu item must be configured to make appropriate use of this feature. Navigate to Radio Ergonomics Configuration and add the "PWR" menu item under **Controls** > **Menu Items**.

1.4. Multiple Independent Codeplugs Support

We're happy to announce that we've added support for multiple independent codeplugs. Just navigate to **Radio Wide** and toggle the checkboxes under **Multi-Codeplug** > **Multi-Codeplug Enable** and **Multi-Codeplug Delete**.

This feature can be managed using the new tool located in the application ribbon at **Device** > **Multi-Codeplug**.

1.5. Device Based Authentication Now Prevents Logouts

We've made improvements to Device Based Authentication (DBA) to enhance user session management by preventing logouts. Just navigate to Radio Wide and select "Device Certificate" under **User Information and Passwords** > **User Log In Authentication Type**.

2. Resources

Below we have product training resources for the ASTRO 2024.3 software release.

PRODUCT TRAINING	
APX	ASTRO® 25 Subscriber Release 2024.3 Training for APX™ will be available at the launch of the release through Motorola's Learning Management System / LXP.
CPS RM	Training on the APX CPS and Radio Management will be available at the launch of the release through Motorola's Learning Management System / LXP. If you have generic questions about the Radio Management installation, deployment, supported operating systems or troubleshooting you can refer to the Radio Management System Planner available through Motorola's Learning Management System for more details.

3. Bug Fixes

This section highlights important customer-reported issues which have been addressed in **CPS and RM R35.00.00**.

3.1. Drag and Drop Fails if a Valid WACN Key is Not Loaded

Previously in CPS, when attempting to drag and drop a WACN Trunking System over to a target which did not have a valid system key loaded, the operation resulted in a failure to transfer the data.

3.2. OTAR ID May Become Read-Only After RM Migration

Previously in Radio Management, the **OTAR ID** column in Radio View became read-only after upgrading the client to R33.00.01 or later.

3.3. Configurable Preset Zone and Channel Resets After Codeplug Upgrade

Previously in CPS, the **Configurable Preset Zone and Channel** field became disabled when upgrading the codeplug version from R28, R29 or R30 to R31.00.00 or later.

3.4. Write Jobs Fail After RM Migration

Previously in Radio Management, some devices failed to Write successfully after upgrading the client to R33.00.01 or later.

3.5. Voice Announcement Converter Utility Fails

Previously in CPS, when attempting to convert a `.wav` file via the **Voice Announcement Converter Utility**, the operation would fail.

4. Known Issues

This section highlights issues that users of CPS or the Radio Management Suite may encounter, as well as potential workarounds (where possible) for those issues.

4.1. APX Radio Device May Not Enumerate Properly When Attached to PC

After connecting your radio to the PC via USB and scheduling a job, CPS may report: "*Could not find a radio connected to a USB port*". Please verify that the radio appears as "Motorola APX Series Radio" in the Windows® **Device Manager** under **Network adapters**. If the issue persists, please contact technical support at 1-800-MSI-HELP.

4.2. Attached ASK May Not Be Recognized by the PC

In the event that your Advanced System Key (ASK) cannot be recognized after installing CPS/RM, please remove the key, disable the *1-Wire* device driver from the **Device Manager** and reinstall it by reinserting the key into the USB port.

4.3. Exported Offline Job May Not Be Performed by Online DP

If a Read or Write job is imported into an online Device Programmer (DP) that has the radio connected and that DP was also used to export the same job through offline programming, the job may not be performed in the DP.

In this scenario, the user should not use offline (local) programming. Instead, the Read or Write job should be performed directly through updates from the RM Server, since the DP is now online. If this issue occurs, restarting the DP will allow the job to be completed. Please refer to the CPS Online Help for details.

4.4. Idle OTA Jobs Stuck at 99% May Need to Be Rescheduled

If your Over-The-Air (OTA) firmware download or Over-The-Air-Programming (OTAP) job execution is stuck at 99%, please cancel the job, reschedule a Read operation and repeat the job again.

4.5. Duplicate TTS Name Remains Invalid Even After Deletion

In CPS, a duplicated **TTS Zone Voice Control Name** remains invalid even after its duplicate is deleted. If this occurs, please attempt to rename the remaining invalid TTS Zone Voice Control Name to resolve this invalidity.

4.6. DP May Need to Be Restarted After Adding an Access Point

In RM, when adding a new access point to your network, the Device Programmer (DP) may not be able to program radios via that new access point if the DP is not subsequently restarted. Please refer to the CPS Online Help for details.

5. Installation Notes

SYSTEM REQUIREMENTS

Please refer to the **Radio Management System Planner** available through Motorola's Learning Management System for the system requirements for CPS and Radio Management.

⚠️ The CPS and RM Suite installation does not support Federal Information Processing Standards (FIPS) enabled on the target computer. Please refer to the **Radio Management System Planner** for details.

⚠️ CPS and Radio Management no longer support the Internet Explorer web browser. Also please uninstall the Microsoft Edge WebView2 Runtime application if it is not being used by other applications in your system.

⚠️ Touch screen functionality is not supported. If you are experiencing performance issues while using CPS and/or RM on a touch screen monitor, please disable the touch screen functionality and/or stylus capability.

SUPPORTED APX™ RADIO MODELS

APX 900	APX 4500 Li	APX 8500
APX 1000	APX 6000	APX 8500 MP
APX 1000i	APX 6000 Li	APX N30
APX 1500	APX 6000 XE	APX N50
APX 2000	APX 6500	APX N70
APX 2500	APX 6500 Li	APX NEXT
APX 3000	APX 7500	ATS 2500p
APX 4000	APX 8000	SRX 2200
APX 4000 Li	APX 8000 H	TXM 2000
APX 4000 XH	APX 8000 XE	TXM 3000
APX 4500	APX 8000 H XE	VX-P94

💡 If you have other product references, please review your cancellation notifications or contact your Motorola representative to inquire about retired or out-of-support models.

5.1. Installing

To install CPS as a standalone client, you must have administrative privileges on your application system and make sure to disable any virus scanning or firewall software which may interfere with the installation process.

1. Unzip the contents of the installation package to a directory on your local hard disk.
2. Navigate to the installation directory and run the *ApxFamilyCPS.exe* program.

5.2. Uninstalling

To uninstall the CPS standalone client, use **Start** > **Control Panel** > **Programs and Features** on your Windows® system. You can then select the APXFamilyCPS R35.00.00 in the program list and click *Uninstall.*

> 💡 For additional instructions on installing/uninstalling the CPS/Radio Management Suite, please refer to the **Radio Management System Planner** available through Motorola's Learning Management System.

5.3. Notes on Upgrading Radio Management

Due to SQL Server compatibility restrictions, there is a version upgrade order to follow when upgrading to the latest version of the CPS and RM client. Please reference to the following upgrading scheme prior to upgrading your client:

- **R14.00.00 or older (RM 1.x)**: If you are currently on R14.00.00 or older, please first upgrade your RM to R17.00.00 prior to upgrading to the latest release.

- **R15.00.01**: If you are on version R15.00.01, please first upgrade your RM to R15.00.02 and subsequently to R32.00.00 prior to proceeding to the latest release.

- **R16.00.00 to R26.00.00**: If you are currently on any version between R16.00.00 and R26.00.00, please first upgrade your RM to R32.00.00 prior to upgrading to the latest release.

After upgrading RM, we recommend that you rebuild indexes to improve performance. Please perform the following steps:

1. Launch the **RM Server Utility**.
2. Go to **RM Database Management** in the left-menu.
3. Under **Advanced Operations**, click *Rebuild Indexes*.

> To learn more, visit the **Database Settings** page in the APX™ CPS Online Help

> 💡 For complete database migration and deployment procedures for the Radio Management Suite, please refer to the **Radio Management System Planner** available through Motorola's Learning Management System.

6. Important Programming Notes

6.1. General Programming

The following section describes helpful programming recommendations as well as additional information regarding the configuration and usage of the CPS and RM programming tools.

6.1.1. Voice Announcements Must be Copied Before Zones in a Drag and Drop

When performing Drag and Drop on a Zone with Voice Announcements, please make sure to either upload the Voice Announcement files or Drag and Drop the Voice Announcement node prior to the Zone.

6.1.2. Read or Write May Fail if Device is Connected to PC via a USB 3.0 Port

A wired Read or Write operation may fail intermittently when using a USB 3.0 (i.e. SuperSpeed USB, denoted by *SS*) port. If this issue occurs, please try using a USB 2.0 port or hub instead.

6.1.3. Concurrent Programming Requires Unique IP Addresses

When using concurrent programming (Gang Programming) in Radio Management, each radio must have a unique IP address.

To learn more, visit the **Introduction to Radio Management** page in the APX™ CPS Online Help.

6.1.4. Use Batch Programming for More than 16 Radios

If you wish to program more than 16 radios in a single session, we recommend that you use batch programming.

6.1.5. Modifying Codeplug Data Outside of RM

If you have modified codeplug data outside of Radio Management (e.g. with CPS), we recommend that you schedule a Read job from Radio Management to update the corresponding template in the database.

6.1.6. Configuring TCP Port for POP25

When configuring Programming over Project 25 (POP25) in Radio Management to upgrade radio firmware over the air, it is necessary for the Device Programmer host machine to have connectivity to the Group Data Gateway (GDG) and the Provisioning Manager (PM), in addition to the Presence Notifier (i.e. PN, UNS, ARS or IMW) and the Packet Data Gateway (PDEG). In order for the Device Programmer to be able to communicate with the GDG and the PM, the source TCP port must be configured using the following command in the **Command Prompt**:

```
netsh int ipv4 set dynamicport tcp start=<range1> num=<range2>
```

where `<range1>` is greater than the value **52152** and
`<range2>` is equal to the value of the expression: (**64510** − `<range1>`)

6.1.7. Changing the Location of the RM Server

If you are moving the location of the Radio Management Server, please make sure that the target location is accessible by the network services. If you experience issues, please contact technical support at 1-800-MSI-HELP.

6.1.8. Excel Worksheet Header Format for Importing Codeplug Data

When importing codeplug data with a Microsoft® Excel worksheet file (`.xls` or `.xlsx`) into Radio Management, the header must appear twice in order for the data to get imported correctly.

6.1.9. Templates In-Use Also Reflects Radios with Pending Changes

The **In-Use (Radios)** column (seen in the *Template View* of RM) represents the total number of radios referencing a given template. This number also includes any radios that were previously referencing the template but currently have changes that are still pending. Once those pending changes have been written to the radio, the reference count for this template will decrease.

6.1.10. Complete Current Programming Session Before Scheduling Subsequent Sessions

Make sure to complete the current programming job session triggered by a programming tool (e.g. CPS, Radio Management, or RadioCentral™) before going to use the same or different programming tools to update the same radio(s) with a new job session.

Even though the radio may be disconnected from the PC when the CPS/RM programming session is done, do not turn the radio off if the updating process on the radio is still in progress. If an update is in progress, the radio will display the words: "*Updating…*" on the front and/or top display. This update can take up to 90 seconds after the programming session has completed. If a POP25 operation is in progress, please do not attempt to start a second session until the first session has completed.

When scheduling a Write job in Radio Management that changes an APX NEXT or APX N70 device's TLS-PSK, please wait at least 15 seconds before scheduling any follow up jobs for the same device. Scheduling back-to-back jobs for the same device too quickly after changing the PSK can result in failure due to a mismatched PSK.

6.1.11. Long Cable Programming for Remote Mounts

When programming a remote mount installation you may configure the control head to operate with a longer programming cable (up to 131 feet). Please follow the steps described below to set up such a configuration:

Prerequisite	A FLASH upgrade with the existing radio configuration will need to be completed using the standard cable first.

1. In CPS, navigate to Radio Ergonomics Wide and select 'Greater than 40 m (131 ft)' under **Control Head** > **Aggregate Cable Length**.
2. Schedule a Write job to program the radio with this setting.
3. On the control head, change the **Control Head ID** to **A** or **B**. To do so, power cycle the control head and immediately hold both the Orange (Emergency) button and the left-most Menu button. A number will appear on the front display representing the Control Head ID. Change the Control Head ID by rotating the Mode button to select either **A** or **B**.
4. Power cycle the radio and ensure that it starts up without errors.
5. Remove power from the radio and replace the standard programming cable with the long cable.
6. Apply power to the radio and ensure that it restarts without errors.

For more information, please reference the APX™ CPS Online Help.

6.1.12. Other Helpful Tips

The following section includes other useful tips to take note of when using the CPS/RM programming tools:

- To get more information about a field, open the **Field Information** window (on the right of the CPS screen) while focus is on the field or double-click on the Field Name. You may also pin the Field Information window by clicking on the thumbtack icon at the top right of the Field Information window.

- Go to **More…** on the CPS Home screen to open the APX™ CPS Online Help to learn more about the features and fields available to configure within your programming tools.

- To view any System Keys that have been loaded during CPS startup, click on the **System Key Report** in the **Reports** window at the bottom of the application screen.

- Do not remove your ASK while the PC is in Sleep mode.

6.2. Firmware Upgrade Packages

6.2.1. APX Standard, APX N30 and APX N50

The `.bbf` file format is meant to replace the legacy `.cvn` file format used to upgrade the radio firmware. Additionally, it simplifies the upgrade process by including firmware upgrade components for both portable and mobile radios into one combined file. To use the new file format, select a `.bbf` file when browsing for a FLASHport file.

For more information, visit the **Firmware Management** page in the APX™ CPS Online Help

6.2.2. APX NEXT and APX N70

If you are performing a firmware upgrade for either the APX NEXT or APX N70 devices, please do not unzip the firmware package file after you have downloaded it from MyView. Use the `.zip` file in CPS when performing a FLASHport Upgrade or Software Refresh or for importing firmware into the Radio Management database.

> For more programming information and related documentation concerning CPS and the Radio Management Suite, please refer to the APX™ CPS Online Help.

7. Troubleshooting your Radio Connection

For wired radio programming, please only use the following direct PC to radio cables:

- **PMKN4013C** for Portable radios
- **HKN6184A** for Mobile radios

The following section describes troubleshooting procedures that may resolve issues concerning your APX device's wired or wireless connection to the PC.

> Only a user with a good understanding of the system should perform the following troubleshooting activities.

7.1.	Communication issues between CPS/RM and the radio may be caused by firewall settings or other existing softwares which inhibit networking capabilities.
✂	**Temporarily disable any software which may affect networking capabilities**

Certain aspects of **Proventia Desktop**, **BlackICE**, and any other software that affects networking capability may need to be disabled. These programs can interfere with the programming tool's ability to read from and write to the radio. If BlackICE is installed and required for the PC, the BlackICE service may need to be stopped to successfully communicate with the radio.

7.2.	The Nortel Connectivity VPN may affect the network adapter and cause blue screen Windows crashes.
✂	**Disable the Nortel Connectivity VPN *EACFILT.sys* driver**

To prevent intermittent blue screen Windows crashes when attaching or detaching an APX™ radio to a PC using USB, verify that the Nortel Connectivity VPN Client Software is not installed on the PC. If it is installed and required for the PC, ensure that the *EACFILT.sys* driver is disabled on the **Motorola APX Series Radio** connection by performing the following steps:

1. Open Network Connections: **Start → Control Panel → Network and Internet → Network and Sharing Center → Change adapter settings**.
2. Right-click on the LAN connection associated with the "Motorola APX Series Radio" connection and select **Properties**.
3. Uncheck the Eacfilt check box.

7.3.	NetMotion wireless LAN software may interfere with radio programming.
✂	**Disable NetMotion wireless LAN software**

When the radio registers on the system with an IP address, the NetMotion software detects it and tries to manage it as a network. Disable this software when programming radios with the CPS/RM programming tools.

7.4.	The PCs wireless Internet connection may become disabled when connecting to a Motorola APX™ radio.

⚒	**Modify the PCs Network Priority table**

If the wireless Internet connection on your PC becomes disabled when attaching your Motorola APX™ radio to the PC via USB or if OTAP fails during a Read or Clone job, users should follow the troubleshooting steps shown below to address the problem:

1. Open Network Connections: **Start → Control Panel → Network and Internet → Network and Sharing Center → Change adapter settings**.
2. Right-click on the LAN connection associated with the "Motorola APX Series Radio" device and open **Properties**.
3. Under the subheading *"This connection uses the following items:"* , select **Internet Protocol Version 4 (TCP/IPv4)** and open **Properties.**
4. Click on **Advanced…**
5. Uncheck *Automatic metric* and set *Interface metric* to be greater than any other network connection.
6. Click OK to preserve changes and close other windows.

TIP	Follow the steps below to check what metrics are used by other network connections: 1. Go to **Start → Command Prompt** and right-click the app and select *Run as administrator*. 2. In the cmd window type `route print` . 3. Look for network destination 0.0.0.0 and Interface IP of the other network card(s). 4. The last column is Metric, set the radio metric higher than any other network connection.
⚠	This issue may also occur if the wireless driver utility is configured to disable Wi-Fi until all wired network connections are disconnected. Ensure that any such a setting is disabled, so that the wireless connection stays active even when a wired link is present.

7.5.	"Netbios over TCP/IP" may contribute to network traffic.

⚒	**Disable'"Netbios over TCP/IP"**

This will help reduce unnecessary traffic sent to the radio by the PC. Follow these steps:

1. Open Network Connections: **Start → Control Panel → Network and Internet → Network and Sharing Center → Change adapter settings**.
2. Right-click on the LAN connection associated with "Motorola APX Series Radio" and select **Properties**.
3. Select "Internet Protocol (TCP/IP)" and click **Properties**.
4. Click on **Advanced…**
5. Go to the **WINS** tab and under the subheading *NetBIOS setting* select "Disable Netbios over TCP/IP".
6. Click OK in the opened windows for the setting to take effect.

7.6.	Any other items used for the "Motorola APX Series Radio" LAN connection aside from the Internet Protocol may cause undesirable behavior.

�	**Uncheck unused items on the Motorola APX Series Radio LAN connection**

The LAN connection on the PC only requires the Internet Protocol to communicate with the radio. This ensures that other unused items don't create any undesirable effects when communicating with the radio device. Follow these steps:

1. Open Network Connections: **Start → Control Panel → Network and Internet → Network and Sharing Center → Change adapter settings.**

2. Right-click on the LAN connection associated with "Motorola APX Series Radio" and select **Properties**.

3. In the **Networking** tab, under the subheading *"This connection uses the following items:"* uncheck all items except for Internet Protocol (TCP/IP).

   Note: If the PC supports both IPv4 and IPv6, keep both IPv4 and IPv6 checked.

💡	For more troubleshooting topics related to CPS/Radio Management Suite, please refer to **Chapter 4. Troubleshooting in Radio Management** in the Radio Management System Planner available through Motorola's Learning Management System.

8. Special FCC Regulation

FCC NARROWBANDING MANDATE FOR ASTRO® RADIOS

Per the FCC Rule Part 90 requirements on narrowbanding, VHF and UHF radios imported or manufactured after 12/31/2012 are no longer authorized to operate on 25 kHz channel bandwidth. The exception to Rule Part 90 narrowbanding requirements are for radios operating only within 470-512 MHz frequencies (T-Band), which will continue to support 25 kHz channel bandwidth functionality. The FCC requires that a radio is authorized to operate within the specified bandwidth and that the user is required to have a FCC license to operate in that mode.

Note: Specific frequencies in VHF and UHF are still allowed to operate at 25 kHz. Examples of VHF and UHF services that are not subject to Part 90 narrowband include: Part 80 marine frequencies, Part 87 aviation frequencies, Part 95, FRS/GMRS and MURS, Part 97 amateur frequencies, and NOAA weather channels

9. Legal Notices

This media, or Motorola Product, may include Publicly Available Software (Open Source Software, Freeware, Shareware). Please reference the Motorola Publicly Available Software Legal Notices File:

MOTOROLA_OSS_LEGAL_NOTICES_FILE-CPS.txt

located in the **Legal** folder found in the ApxFamilyCPS installation directory, for the Publicly Available Software licensing terms, attributions, acknowledgements, and other software information details.

For customer service support please call **1-800-927-2744** or contact your **MSI Technical Support Center**.