



MOTOTRBO® System Release Notes

Professional Commercial Radios (PCR) & Accessories

Version: M2022.01

Updated: July 5, 2022

North America Region

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What's New in the Release

New Radio Features

Radio Alert and Orchestrate Enhancement

To ensure no text messages sent from Radio Alert or Orchestrate to radio drop, MNIS will transmit duplicate MSI text messages to MOTOTRBO radios. This radio enhancement ensures that MSI text receiving radios are able to show only one text message despite receiving duplicate messages.

MOTOTRBO R7 Enhancements to support Radio Service and Repair in Service Center and Return workflow in Distribution Center.

MOTOTRBO R7 enhancements include certification upload, dual-mic tuning, de-regionalization and regionalization.

CPS/RM Enhancements

Support Multiple Select/Delete/Copy of Contacts from Contact List on the tree view in the Customer Programming Software or Radio Management (CPS/RM) . Users can also do contacts list sorting by "Contact Name", "Call ID" and "Call Type" in the Grid.

XPR 7000e / XPR 5000e - Connect Plus should be charge on all models

Connect Plus license set as charge for all MOTOTRBO models worldwide. This release covers all bands in XPR 5000e and 8/900 for XPR 7000e as the rest of bands (UHF/VHF) already done in previous releases.

Infrastructure New Features

Fast Start for Capacity Max

Fast Start allows for an immediate group voice call setup on a Capacity Max system even if all participants/sites are not available. This feature mimics the same Fast Start capability of a Connect Plus system. Fast Start will operate at a system/site level, but not at a talkgroup level. Additionally, it will apply to group voice calls including telephone patch calls (data calls not included).

Transmit Interrupt in Broadband-Enabled Capacity Max Systems

In a Capacity Max system, when a converged Talkgroup call is in progress and a Land Mobile Radio (LMR) or Broadband (BB) converged group member is transmitting voice, a supervisory radio user (on BB) or Transmit Interrupt enabled radio user (on LMR) can interrupt the other user's voice transmission and can talk to the group.

The Transmit Interrupt feature is currently only available in pure LMR and pure Broadband (BB) systems. With M2022.01, this feature will be available in hybrid systems (i.e. systems using a mixed fleet of LMR and BB devices).

Channel Blocked Override in Capacity Plus Multi-Site

This feature improves the wide-area group call setup procedure in Capacity Plus Multi-Site systems. Wide-area group calls can now be set up successfully even if some of the associated sites have no available channels on all repeaters.

Device Discovery and Mobility Service Connectivity Report

The Device Discovery and Mobility Service (DDMS) is a Motorola application that provides radio presence and mobility tracking services. DDMS interfaces to the radio system through MOTOTRBO Network Interface Service (MNIS).

In non-Capacity Max systems, DDMS receives messages containing radio presence information. Currently, there is no way for a user to detect if there is a network issue preventing DDMS from receiving these messages. This feature allows for a DDMS connectivity report to be sent to applications which shows whether DDMS is receiving radio presence information messages properly.

Feature Deprecation Notice

Codeplug Password

Starting with the M2021.01 release, **Codeplug Password** feature is deprecated for the radio and repeater Codeplug Password for the selected radios and repeaters listed on the table below. However, **Codeplug Password** feature remained active for the archived file Codeplug Password.

You are recommended to use the **TLS-PSK Authentication** feature for these radios and repeaters. The **Codeplug Password** functionality will not be removed to facilitate migration/transition to TLS-PSK but Motorola Solutions will no longer be providing support for the feature. This feature could be removed in a future release. The deprecation affects you if you are using **Codeplug Password** to set password for the current radio or repeater codeplug.

TLS-PSK Authentication feature was introduced in the R2.10.05 software release and is available on the selected radios and repeaters listed on the following table. This feature ensures an enhanced security communication between radio or repeater and customer programming tools.

Bluetooth Permanent Discoverable Notice

XPR 7000e and XPR 3000e radios manufactured after March 2022 do not support Bluetooth Permanent Discoverable mode.

Region	Radios		Repeaters
NA	XPR 7000/7000e Series XPR 7000/7000e IS Series XPR 5000/5000e Series SL 7000/7000e Series	XPR 3000/3000e Series SL3500e XPR 2500 MOTOTRBO R7	SLR 1000 Series SLR 5700 Series SLR 8000 Series

Product Versions

Listed below are all MOTOTRBO Product types with a reference to the released version of software:

Notes: From M2020.01 onwards, only products (i.e. MOTOTRBO radios, repeaters and CMSS) which are either in warranty or under a service contract are entitled to software update.

Software Update Management (SUM) was introduced with the R2.10 system release and provides products with built-in intelligence to determine if they are eligible to accept a software update. Products on prior releases must therefore be upgraded to an R2.10 system release and be eligible to accept a software update before they can be upgraded to M2020.01 onwards.

Canceled products that are still under a service contract at time of cancellation will be entitled to the software update in line with the Motorola Solutions Software Support Policy. Following cancellation only critical bug fixes will be tested for these products.

MOTOTRBO Product	Version Supported in Release
MOTOTRBO 2.0, 2.5 (incl SL Series) - XPR 7000/5000/3000 Series, XPR 7000e/5000e/3000e Series, SL 7000/7000e Series, XPR 2500, SL3500e, R7	R02.22.01.1005 (NEW)
MOTOTRBO - CP100d, CP200d, CM200d, CM300d, SL300	R01.22.01.0000 (NEW)
MOTOTRBO - XPR 4000/6000 Series	Canceled
Repeater - XPR 8300/XPR 8400 Repeater - MTR 3000 Repeater - SLR 1000, SLR 5700, SLR 8000	R20.22.01.02_R21.01.03 (NEW) R20.22.01.02_R21.01.03 (NEW) R20.22.01.02_R21.61.05 (NEW)
XRC 9000 / 9100 Controller	R02.100.05.1036_1695
XRT 9000 / 9100 Gateway	R02.100.05.1036_1695
XRI 9100 Interconnect	R02.100.05.1030
Network Manager (merged with XRC / XRI packages)	R02.100.05.1030
Network Manager Connection Tool	R02.100.05.1030
XRT Configuration Tool	R02.100.05.1030
Capacity Max Bridge (CMB)	R20.22.01.2072_1195 (NEW)
CPCPS	Canceled

Paradise MPT1327 GOB CPS (not supported on MOTOTRBO R7 series)	R02.00.05
Radio Management / CPS 2.0	2.126.157.0 (NEW)
CPS	CPS V16.0 Build 828
Tuner	V22.01 Build 289 (NEW)
RDAC	V10.0 Build 109
AirTracer	V11.0 Build 39
Device Discovery and Mobility Service (DDMS)	R22.01.0005 (NEW)
Multi Channel Device Driver (MCDD)	R2.1.3
MNIS Data Gateway	R22.01.0030 (NEW)
MNIS Voice and Radio Command (VRC) Gateway	vrcgw-upgrade-2022.01.00.00.21.iso (NEW)
MNIS Status Agent	R22.1.2 (NEW)
MOTOTRBO Motopatch	M2022.01 (cmss_upgrade_motopatch_M2022.01.1_20220518.iso) (NEW)
Capacity Max ESU	DESU-PCR-21.04.12.00-94.iso
Capacity Max Trunk Controller	cmxtc-pcr-20.21.04.00-26.iso
Capacity Max System Advisor	UEM-PCR-20.22.01.11-00.iso
Capacity Max ESU Launchpad	DESU_LP-M2022.01.R17.18.10-16-01.rhel (NEW)
Capacity Max System Server One-Click Upgrade	CVN7293G.zip (NEW)
System Design Tools	Version 06.08
Sensor Management Tool	R01.00.01

3rd Party Applications	Version Supported in Release
GW3-TRBO	2.17.3.73
Avtec VP Gate	4.15.4.27
Avtec Scout Console/Scout Manager	4.15.4.19 (NEW)
Avtec VPGate Advanced Radio Support w/Encryption	4.15.3.8
Avtec Data Management Services - Scout Central Distributor	4.15.4.7
HP Firmware Install Media	KC435V0HF000202005.iso (NEW)
SmartPTT PLUS	SmartPTT_Plus_9.11.0.1449.zip (NEW)
TRBOnet PLUS	TRBOnet.Plus_6.0.0.5786.zip (NEW)
VMware vSphere 6.x Configuration Media	mot-csr-vsphere-cfg-20.01.23.10-27.iso
VMware vSphere Install Media	VMware-ESXi-6.7.0-Update3-17499825-MOT-670.U3.10.6.3.8-Jan2021-01.iso

ETSI DMR Specification	Version Supported in Release
TS 102 361-1: the DMR air interface protocol	v2.5.1
TS 102 361-2: the DMR voice and generic services and facilities	v2.4.1

TS 102 361-3: the DMR data protocol	v1.3.1
TS 102 361-4: the DMR trunking protocol	v1.7.1 ~ 1.9.2

1. The feature sets supported in the release are compliant with the versions of ETSI DMR standard specifications listed above. Though in DMR Tier 3 there have been some things changed to existing features that are not backwards compatible, Capacity Max complies to the newer versions so may not always work with other manufacturer's infrastructure on older versions.
2. The Capacity Max System Advisor (SA) client is not accessible for the System View, Grid View and Alarm Details view if the Java version 8u211 or newer is used on the PC where SA client resides in. Downgrading the Java to any version between and including 8u181 and 8u201 will work fine.
3. USB 3.0 port is not supported for the repeater upgrade. With R2.8.0 and newer repeater release, the recommendation is to use USB 2.0 port on the PC or connect repeater via USB 2.0 hub when upgrading the repeater via USB.
4. For each CMSS (Capacity Max System Server),
 - a. Order (1) T8853A, MOTOTRBO M2022.01 Capacity Max System Server SW Upgrade which contains the CVN7293E.zip file loaded on a USB drive.
 - b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8854A, MOTOTRBO M2022.01 Capacity Max System Server SW Upgrade where you will receive an e-mail with a unique link to access/download the CVN7293G.zip file from the MyView portal. The T8854A will require an e-mail address at the time of order.
 - c. NOTICE: The USB drive (T8853A) can take 2-3 weeks for delivery while the downloadable file via the MyView portal (T8854A) is generally available within a week. Please plan ahead and take the delivery times into consideration before scheduling your upgrade.
5. For the PC used for CMSS upgrade,
 - a. Order (1) T8486A, MOTOTRBO Capacity Max System Server SW Update Launch Pad which contains the ESU LP software files on a DVD. (The M2022.01 upgrade requires this new ESU LP version).
 - b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8483B, MOTOTRBO Capacity Max System Server SW Update Launch Pad where you will receive an email with a unique link to access/download the ESU LP application files from the MyView portal. The T8483B will require an email address at time of order.
 - c. Please refer to the section “Capacity Max System Server Upgrade from M2021.x to M2022.01” of Capacity Max System Release Upgrade Guide for additional details. It

is available on Learning Experience Portal (LXP) and the Upgrade Guide applies for the patch upgrade as well.

- d. **NOTICE:** The DVD (T8486A) can take 2-3 weeks for delivery while the downloadable file via the MyView portal (T8483B) is generally available within a week. Please plan ahead and take the delivery times into consideration before scheduling your upgrade
- e. The ESU Launchpad About page describes the target CMSS versions that it supports to ensure the appropriate ESU Launchpad version is ordered along with the CMSS upgrade installation files.

Known Issues in Product Release

Overview

This section details the known MOTOTRBO product issues which remain outstanding at the time of this release of software to the field.

Known product issues are divided into two categories:

- Known issues contained within the current release
- Resolved Issues that have now been fixed within the current release

Definitions

A known issue is a problem that is currently unresolved (open). The risk and workaround aspects are included in the release note description (Known Issues) for overall assessment of the problem.

A closed or resolved issue is one that has been repaired and no longer should occur in the product after upgrading to the new product version.

Infrastructure Impact

Issue Number:	UEM-6400
System/Product:	System Advisor
Description:	The Grid View in System Advisor does not show a high priority call (wide-area call) on the site where preemption happened. Note that this issue is strictly related to the visibility of the call in System Advisor, not to the call/voice communication itself.
Workarounds:	The missing information can be visible in the System Advisor RAW view.

Issue Number:	UEM-6388
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System/Product: System Advisor
Description: When the operator tries to launch System Advisor after system upgrade, a TransportException error can occur.
Workarounds: Wait up to 24 hours. After that time, the System Advisor client will be launched.

Device Impact

Issue Number: **DEVICES_COMMON-5955**
System/Product: **MOTOTRBO R7, XPR 7000e and XPR 3000e**
Description: Switching connection between radio and other Bluetooth PAN devices several times on a PC may cause the radio not able to connect to the PC back.
Workarounds: Unpair and pair the device with the PC for reconnection.

Issue Number: **PCR_SUB-36742**
System/Product: **MOTOTRBO R7, XPR 7000e and XPR 3000e**
Description: In-door location feature has been turned on on the radio. If the user simultaneously Bluetooth PTT and performs one the following such as BT connection, or BT “Find Me”, or BT “Find Device”; the user would see that the suspended indoor location icon continue to display although the radio has resumed scanning the iBeacon.
Workarounds: To remove the incorrectly suspended indoor location icon; the user can either press PTT, or perform any of the following BT operations such as BT device connection, BT “Find Me”, or BT “Find Device”.

Issue Number: **PCR_SUB-36975**
System/Product: Non-Capmax Systems / MOTOTRBO R7
Description: MOTOTRBO R7 radio displays a privacy icon during a phone call. In MOTOTRBO, phone calls are not encrypted.
Workarounds: The solution will be available in M2022.02 whereby no more privacy icons will be seen during phone calls.

Issue Number: **DEVICES_COMMON-7019**
System/Products: **MOTOTRBO R7**
Description: Radio shows Wi-Fi 1 bar user when user turns off Wi-Fi or brings away the radio from the router in the middle of MOTOTRBO R7 activation/regionalization.
After about 60s, the radio will show "Update Not Available", with continuous “Unprogrammed” tone, and blinking RED LED.

Workaround: The user needs to power cycle radio, and the radio will automatically resume the radio activation/regionalization process.

CPS/RM Impact

Issue Number: DMGMT-38114
System/Product: RM
Description: Uninstall RM Device Programmer from Windows Control Panel.
Intermittently the empty DP folder might be left.
Workarounds: No workaround or recovery required. The customer can manually remove the empty DP folder if desired.

Resolved Issues In Product Release

Resolved issues are the known product problems that were reported in product releases, but have now been fixed or closed. Following are the issue tracking number and issue descriptions that have been resolved in this release.

Infrastructure Impact

Issue Number: INC000005780701
System/Product: Capacity Max/Voice and Command Radio Gateway (VRC)
Description: VRC Reports Incorrect State to Wave During Redundancy Switchover. As a workaround, the user had to restart the Primary VRC.

Issue Number: ENG_INFRA_PCR-12354
System/Product: Capacity Max/VRC
Description: VRC Does Not Support Multi-Emergency Calls from Wave

Issue Number: ENG_INFRA_PCR-12229
System/Product: Linked Capacity Plus/Multi-Site Capacity Plus, Capacity Plus/Wave
Description: Emergency Alarm with Voice to Follow from ION Radios Fail

Issue Number: INC000005823916

System/Product:	Linked Capacity Plus/Multi-Site Capacity Plus, Capacity Plus, Conventional, IP Site Connect/DDMS (Device Discovery and Mobility Update) and MNIS Status Agent
Description:	Fixed Log4Net vulnerability issue (CVE-2018-1285). Reference: MTN-0059-22-NA
Issue Number:	ENG_INFRA_PCR-12358
System/Product:	All System Type / SLR5000, SLR8000
Description:	SLR repeater may raise Power Amplifier Temperature Alarm caused by inefficient fans operations after firmware upgrade. As a workaround, the user had to restore the repeater to default factory settings.
Issue Number:	ENG_INFRA_PCR-12100
System/Product:	Analog / SLR series repeaters
Description:	Extended Control and Management Protocol (XCMP) Clone Read to read channel Squelch Value returns 0
Issue Number:	ENG_INFRA_PCR-12371
System/Product:	Analog, Digital single repeater systems / SLR series repeaters
Description:	Repeater may not apply Power Level, Enable/Disable or Knockdown command if executed in one XCMP bundle with Channel Change command. This kind of control is used by Repeater Diagnostics and Control (RDAC) or third party applications. As a workaround, the user had to perform channel change and other commands separately when this issue happened.
Issue Number:	ENG_INFRA_PCR-12545
System/Product:	Capacity Max / SLR series repeaters
Description:	A voice call may not be interrupted/preempted occasionally in Capacity Max systems with enhanced privacy. The issue occurrence is lower if a system is less occupied. The issue won't happen when enhanced privacy is not utilized.
Issue Number:	UEM-6419
System/Product:	Capacity Max / System Advisor
Description:	The latest Java 8u321 is not rendering stripes on System View correctly. This issue is fixed in the M2022.01 release

Device Impact

Issue Number:INC000006241596

System/Product: R7 series

Description:

When any CFS license is installed in R7 radio, and is not combined with CPS/RM configuration write, the user will observe blinking radio LED, beep and “Configuration error” string (R7 display model) every time the radio powerup afterwards.

Issue Number: **PCR_SUB-31828/INC000005026591**

System/Product: All MOTOTRBO radio devices

Description: The radio will show Error 669 “Application has encountered an error. Failed to access a file in the device.” during configuration update using RM or CPS via USB programming. The issue happened only when the user’s radio configuration contained double dots naming (“..”) in the attached file (example:voice announcement file).

Issue Number: **PCR_SUB-34082/INC000005026591**

System/Product: All MOTOTRBO radio devices

Description: On radio with Enhanced Channel Access (ECA) mode, digital Repeater Channel with admit criteria set to “Color Code Free” showing “Channel Busy” and PTT blocked when there is a raised noise floor on the Base Transmit frequency, even if noise floor is caused by analog carrier or digital carrier with different color code.

Issue Number: **PCR_SUB-36103/INC000005724619/,
PCR_SUB-36558/INC000005841683**

System/Product: MOTOTRBO R7

Description: Activation or regionalization process unsuccessful due Staging failure and IoT Status mismatch. Radio will flash a red LED with bonk tone and “Update Not Available” display. *Note: The fix is only on Device only.

Issue Number: **PCR_SUB-36426/INC000005797819/PCRMOL-448**

System/Product: MOTOTRBO R7

Description: Radio couldn’t complete regionalization and was stuck at “Downloading Updates.” This was due to the synchronization issue between devices and server. *Note: The fix is on Device only.

Additional Info

Cybersecurity

Motorola Solutions, Inc. (MSI) has delivered a PCR MOTOTRBO 2022.01 release. MSI development and

operations teams continually make security updates as needed based on evaluated threats, determine protective measures, create response capabilities, and promote compliance. MSI interacts with and participates in several US and international security organizations, such as U.S. Department of Homeland Security's National Cybersecurity & Communications Integration Center (NCCIC), National Institute of Standards and Technology (NIST), The 3rd Generation Partnership Project (3GPP), Telecommunications Industry Association (TIA), European Telecommunications Standards Institute (ETSI), Digital Mobile Radio (DMR) Security standardization, and others. Standards from the aforementioned organizations can map to security controls in international standards such as Information System Standards (ISO / IEC 27001).

The PCR MOTOTRBO 2022.01 system release includes enhancements to security based on the National Vulnerability Database and industry standards:

- Ongoing vulnerability management remediation based on network scanning security tools
- Ongoing Software Lifecycle Management improvements (3rd party software)

In addition to ongoing releases for security updates, MSI has a Bug Submission Program for external entities to disclose to MSI possible security vulnerabilities or issues. Motorola Solutions encourages researchers to use the PGP key when sending sensitive information via email. Please send all security vulnerability reports to security@motorolasolutions.com.

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