Motorola Solutions

MOTOTRBO® System Release Notes

Professional Commercial Radios (PCR) & Accessories

Version: M2021.01 v01

Date: 14th April 2021

System Release M2021.01

Contents

Scope

These MOTOTRBO System Release Notes cover the following MOTOTRBO products:

- DP540, DP1400, SL1600, DP2000 Series, SL2600, DP3441, DP4000 Series, DP4000Ex Series, DP4000Ex Ma Series and SL4000 Series Portables
- DP2000e Series, DP3000e Series, DP4000e Series and SL4000e Series Portables
- DM1000 Series, DM2600 and DM4000 Series Mobiles
- DM4000e Series Mobiles
- DR 3000, MTR3000, SLR 1000, SLR 5500 and SLR8000 Repeaters
- Radio Management
- CPS
- CPS 2.0
- Air Tracer
- Tuner
- RDAC
- Multi Channel Device Driver (MCDD)
- Device Discovery and Mobility Service (DDMS)
- MOTOTRBO Network Interface Service (MNIS) Data Gateway
- MOTOTRBO Network Interface Service (MNIS) VRC Gateway
- MNIS Status Agent
- Capacity Max Bridge
- Capacity Max ESU
- Capacity Max Trunk Controller
- System Advisor
- System Design Tools
- Sensor Management Tool
- IMPRES™ Fleet Management Software
- Second generation MOTOTRBO MPT1327 GOB
- MPT1327 GOB CPS
- Second generation MOTOTRBO Connect Plus GOB
- Connect Plus GOB CPS
- Connect Plus Infrastructure (XRC 9000 / 9100 Controller, XRT 9000 / 9100 Gateway, XRI 9100 Interconnect, Network Manager, Network Manager Connection Tool, XRT Configuration Tool)

Abbreviations

CPS	Customer Programming Software
CFS	Charge for Software
OTAP	Over The Air Programming
RM	Radio Management
OB	Option Board
RDAC	Repeater Diagnostics and Controls

What's New in System Release M2021.01

New Capacity Max Features

Improved IP Address Efficiency for Capacity Max
This enhancement reduces the number of IP addresses to be reserved for a site. Currently, a small site with e.g. 3 repeaters must use IP space with 64 IP address space. Following this improvement, up to 5 repeaters can fit into a 32 IP address space. The remaining addresses can be used by the customer for connecting other application or network devices.

New Infrastructure Features

Honeywell & Motorola Connected Safety Solution
Connectivity of Honeywell Gas Detectors to MOTOTRBO portables (via BT 4.0) for sending Alerts to the Honeywell Safety Suite terminal. The alerts can be abnormal levels of gases, Man Down, Panic Button and Location information. The first release supports up to 4 gas sensor alerts of a single Honeywell Gas Detector device.

Compatibility Mode for Extended Range Direct Mode
The existing Extended Range Direct Mode is not compatible with first generation MOTOTRBO radios. These radios cannot receive repeated signals from a repeater operating in Extended Range Direct Mode. Compatibility Mode addresses this issue, however, it supports a limited feature set. To operate with a repeater in Compatibility Mode, a radio does not require a firmware upgrade or additional configuration.

New Radio Features

Virtual Channel Stop
Virtual Channel Stop enables the radios with continuous rotary knob channel select to stop at the last program channel or first program channel, in order to provide the same user experience to customers who are accustomed to the physical channel stop legacy radios.

3.5 kHz Analog Scrambling
Adding a new scrambling frequency 3.50 kHz into analog scrambling feature. Prior to this release, 3.29 kHz and 3.39 kHz frequency were supported.

User Defined Language
This feature allows customers to have a customized language in Latin alphabet to be displayed on radio.

Configurable Option to Enable/Disable Rear Emergency Pin prior to Power Up
This is a minor enhancement to provide a CPS/RM option (checkbox) "Rear Emergency Pin prior to Power Up" for customers to Enable/Disable mobile radio's rear emergency pin prior to power. The CPS/RM option default is Enabled (checked).

Cybersecurity Update

Motorola Solutions, Inc. (MSI) has delivered a PCR MOTOTRBO 2021.01 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 2021.01 system release includes enhancements to security based on the National Vulnerability Database and industry standards:

- Lifecycle management: third-party software was updated; for example Microsoft Windows, ESXi
- Configuration updates to optimize hardening
- Ongoing security development process improvements (e.g., OSS scanning improvements)

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.

Feature Deprecation Notice

Codeplug Password
Starting M2021.01 release, Codeplug Password feature is deprecated for the radio and repeater Codeplug Password for the selected radios and repeaters listed on table below. However, Codeplug Password feature is 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 is introduced in 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 tool.

For more information, refer to New Features for MOTOTRBO Release 2.10.5 training service.

Radios		Repeaters
DP 4000/4000e series DM 4000/4000e series DP 3441/3661/3000e series SL 4000/4000e series	SL2600 DP2000/DP2000e DM2600	SLR 1000 Series SLR 5500 Series SLR 8000 Series

Closed (Resolved) Issues

See “Resolved Issues in Product Release” section.

New Part Numbers

Part Number	Description	Delivered As	How to Order
GMVN6241E	CPS 2.0 / Radio Management (and Tools)	DVD	Motorola Online
T8785A	MOTOTRBO M2021.01 Capacity Max System Server SW Upgrade	USB	Order Management
T8786A	MOTOTRBO M2021.01 Capacity Max System Server SW Upgrade	Download	MyView Portal
T8483B	MOTOTRBO Capacity Max System Server SW Update Launch Pad	Download	MyView Portal

Product Versions

Listed below are all MOTOTRBO Product Versions associated with the different M2021.xx system releases.

MOTOTRBO Product	M2021.01
DP540 Portables	R01.21.01.000 (CP 21.10.51)
DP1400 Portables	R01.21.01.000 (CP 21.10.51)
SL1600 Portables	R01.21.01.000 (CP 21.10.51)
DP2000/DP2000e Series Portables	R02.21.01.0000 (CP 21.10.07)
SL2600 Portables	R02.21.01.0000 (CP 21.10.07)
DP3441/DP3000e Series Portables	R02.21.01.0000 (CP 21.10.07)
DP4000/DP4000e Series Portables	R02.21.01.0000 (CP 21.10.07)
DP4000Ex/DP4000Ex MA Series Portables	R02.21.01.0000 (CP 21.10.07)
SL4000/SL4000e Series Portables	R02.21.01.0000 (CP 21.10.07)
DM1000 Series Mobiles	R01.21.01.000 (CP 21.10.51)
DM2600 Mobiles	R02.21.01.0000 (CP 21.10.07)
DM4000/DM4000e Series Mobiles	R02.20.02.0002 (CP 20.20.10)
DR 3000 Repeaters	R20.21.01.03 (CP 21.01.00)
MTR3000 Repeaters	R20.20.02.06 (CP 21.00.06)
SLR 1000 Repeaters	R20.21.01.04 (CP 21.61.00)
SLR 5500 Repeaters	R20.21.01.04 (CP 21.61.00)
SLR 8000 Repeaters	R20.21.01.04 (CP 21.61.00)
Radio Management	2.110.120.0
CPS 2.0	2.110.120.0
CPS	16.0 (Build 828)
Air Tracer	11.0 (Build 39)
Tuner	19.5 (Build 260)
RDAC	10.0 (Build 109)
Multi Channel Device Driver (MCDD)	2.1.3

MOTOTRBO Product	M2021.01
Device Discovery and Mobility Service (DDMS)	03.100.5001
MOTOTRBO Network Interface Service (MNIS) Data Gateway	21.01.0059
MOTOTRBO Network Interface Service (MNIS) VRC Gateway	vrcgw-pcr-20.21.01.00.06.iso
MOTOTRBO Network Interface Service (MNIS) Status Agent	02.90.5000
Capacity Max Bridge (CMB)	R20.20.01.1288_1114
MOTOTRBO Motopatch	M2021.01 (cmss_upgrade_motopatch_M2021.01.1.iso
Capacity Max ESU	DESU-PCR-21.01.12.00-74.iso
Capacity Max Trunk Controller	cmxtc-pcr-20.21.01.00-52.iso
Capacity Max System Advisor	UEM-PCR-20.21.01.19-00.iso
Capacity Max ESU Launchpad	DESU_LP-M2021.01.R17.12.00.74-01.rhel
Capacity Max System Server One-Click Upgrade	CVN7293D.iso
MNIS VRC Gateway	vrcgw-pcr-02.105.0010.iso
System Design Tools	06.08
Sensor Management Tool	R01.00.01
R2.X MPT1327 GOB	R01.02.06
MPT1327 GOB CPS	R02.00.05
R2.X Connect Plus GOB	R02.07.38 (CP 1.1.19)
R2.X Connect Plus GOB CPS	R02.07.43
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

MOTOTRBO Product	M2021.01
Network Manager Connection Tool	R02.100.05.1030
XRT Configuration Tool	R02.100.05.1030

3rd Party Application	M2021.01
SmartPTT PLUS	9.8.1.20
TRBOnet PLUS	5.7.0.5115

Notes:

1. From M2020.01 onwards only products (i.e. MOTOTRBO radios, repeaters and CMSS) which are either in warranty or covered by a service package will accept software updates. 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.
2. From system release R2.9.1 onwards there is no software support for the original DR 3000 repeaters containing 8MB of memory.
3. Due to its size, the standalone RM file which is available to download from Motorola Online has been split into a number of parts. To download and install:
    a. Download each RM part.
    b. Use 7-Zip to unzip each RM part individually to the same folder.
    c. Use 7-Zip again to Unzip RM_x.xx.xxx.x.zip.001.
    d. Install in the usual way from the resulting RM_x.xx.xxx.x folder.
    e. Alternatively, the combined CPS 2.0 / RM is available as an orderable DVD (GMVN6241_).
4. Due to its size, the combined CPS / RM (old legacy version) file which is available to download from Motorola Online has been split into 3 parts. To download and install:
    a. Download MOTOTRBO Legacy CPS (Parts 1, 2 & 3).
    b. Use 7-Zip to unzip each part individually to the same folder.
    c. Use 7-Zip again to Unzip cps_16_dot0_build828.zip.001.
    d. Install in the usual way from the resulting cps_16_dot0_build828 folder.
    e. Alternatively, the combined CPS / RM is available as an orderable DVD (GMVN5141_).
5. The Capacity Max System Advisor (SA) client is not accessible for the System View, Grid View and Alarm Details view if Java version 8u211 is used on the PC where the SA client resides. Downgrading Java to any version between and including 8u181 and 8u201 will work fine.
6. USB 3.0 is not supported for repeater upgrades. For R2.8.0 and newer repeater releases, the recommendation is to use a USB 2.0 port on the PC or connect the repeater via a USB 2.0 hub in order to upgrade the repeater via USB.

7. For each CMSS (Capacity Max System Server):
    a. Order (1) T8785A, MOTOTRBO M2021.01 Capacity Max System Server SW Upgrade which contains the CVN7293D.zip file loaded on a USB drive.
    b. Alternatively, for customers with access to the MSI MyView portal, you can order (1) T8786A, MOTOTRBO M2021.01 Capacity Max System Server SW Upgrade where you will receive an e-mail with a unique link to access/download the CVN7293D.zip file from the MyView portal. The T8786A will require an e-mail address at the time of order.
    c. NOTICE: The USB drive (T8785A) can take 2-3 weeks for delivery while the downloadable file via the MyView portal (T8786A) is generally available within a week. Please plan ahead and take the delivery times into consideration before scheduling your upgrade.
8. 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 M2021.01 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 e-mail with a unique link to access/download the ESU LP application files from the MyView portal. The T8483B will require an e-mail address at time of order.
    c. Please refer to the section “Upgrading Capacity Max Server from M2020.02 to M2021.01” of Capacity Max System Release Upgrade Guide for additional details. It is available on MOL 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.

The feature sets supported by these releases are compliant to the versions of ETSI DMR standard listed below. Since changes to the ETSI DMR Tier 3 standard are not always backwards compatible with previous versions of the standard, then Capacity Max devices may not always work with other manufacturers' infrastructure where it is compliant to a previous version of the ETSI DMR 3 standard.

ETSI DMR Standard	M2021.01
TS 102 361-1: Air Interface Protocol	v2.5.1
TS 102 361-2: Voice and Generic Services and Facilities	v2.4.1
TS 102 361-3: Data Protocol	v1.3.1
TS 102 361-4: Trunking Protocol	v1.7.1 ~ 1.9.2

Product Availability

The following table indicates which MOTOTRBO products covered by this document are setup as orderable parts (to order via Motorola Online / Order Management) and which are available to download from the MOTOTRBO Resource Centre at Motorola Online.

MOTOTRBO Product	Orderable Part Number	MOTOTRBO Resource Centre Location
Upgrade Package for DP540, DP1400 and SL1600 Portables	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for DP2000/DP2000e Series, SL2600, DP3441, DP3000e Series, DP4000/DP4000e Series, DP4000Ex Series and DP4000Ex Ma Series Portables	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for SL4000/SL4000e Series Portables	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for DM1000 Series Mobiles	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for DM2600 Mobiles	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for DM4000/DM4000e Series Mobiles	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for DR 3000 and MTR3000 Repeaters	N/A	System Releases / <Release> / Upgrade Packages
Upgrade Package for SLR 1000, SLR 5500 and SLR 8000 Repeaters	N/A	System Releases / <Release> / Upgrade Packages
RDAC	GMVN5520_ (DVD)	N/A
Legacy CPS	GMVN5141_ (DVD)	System Releases / R2.9.x / Software Tools
CPS 2.0	GMVN6241_ (DVD)	System Releases / <Release> / Software Tools
Radio Management	GMVN6241_ (DVD)	System Releases / <Release> / Software Tools
Air Tracer	GMVN6241_ (DVD)	System Releases /General / Software Tools
Tuner	GMVN6241_ (DVD)	System Releases /General / Software Tools
Multi Channel Device Driver (MCDD)	GMVN6241_ (DVD)	System Releases /General / Software Tools
Device Discovery Mobility Service (DDMS)	GMVN6241_ (DVD)	System Releases /General / Software Tools
MOTOTRBO Network Interface Service (MNIS) Data Gateway	GMVN6241_ (DVD)	System Releases /General / Software Tools
MOTOTRBO Network Interface Service (MNIS) Status Agent	GMVN6241_ (DVD)	System Releases /General / Software Tools
MOTOTRBO Capacity Max System Server SW Update Launch Pad	T8486A* (DVD)	N/A

MOTOTRBO Product	Orderable Part Number	MOTOTRBO Resource Centre Location
MOTOTRBO Capacity Max System Server SW Update Launch Pad	T8483B (MyView Portal)	N/A
2.10.5 Capacity Max System Server SW Upgrade	T8699A* (USB)	N/A
MOTOTRBO M2020.01 Capacity Max System Server SW Upgrade	T8733A* (USB)	N/A
MOTOTRBO M2020.02 Capacity Max System Server SW Upgrade	T8765A* (USB)	N/A
MOTOTRBO M2020.02 Capacity Max System Server SW Upgrade	T8766A (MyView Portal)	N/A
MOTOTRBO M2021.01 Capacity Max System Server SW Upgrade	T8785A* (USB)	N/A
MOTOTRBO M2021.01 Capacity Max System Server SW Upgrade	T8786A (MyView Portal)	N/A
MOTOTRBO Capacity Max System Server (CMSS) Windows Update	T8735A* (DVD)	N/A
R2.X MPT1327 GOB Upgrade Kit	N/A	System Releases /General / Upgrade Packages
MPT1327 GOB CPS	N/A	System Releases /General / Software Tools

* The Capacity Max System Software can only be ordered via Order Management.

Documentation

The MOTOTRBO System Release Notes and a number of other software documents / Readmes are available on Motorola Online at the following MOTOTRBO Resource Centre Locations:
MOTOTRBO / System Releases / <Release> / Documents

The latest MOTOTRBO User Guides, Quick Reference Guides, Basic Service Manuals, Installation Manuals, Accessory Leaflets, EME Safety Booklets, RED Leaflets, UL/TIA Manuals, ATEX Safety and Approved Accessory leaflets and System Planner (68007024085_) are available on the Learning Experience Portal (LXP) at:
https://learning.motorolasolutions.com

The latest MOTOTRBO Declaration of Conformity (DoC) documents with attached ATEX DEKRA certificates (where applicable) are available on the EMEA “Documents of Compliance” Website at:
https://www.motorolasolutions.com/en_xu/support/emea-compliance.html

Training Material

The following courses are available on the Learning Experience Portal (LXP) and open for enrolment to Partners and Customers.

New Courses
PCT0138 MOTOTRBO M2021.1 New Features Training

Registration
Registration for these classes is open and available through the LXP at:
https://learning.motorolasolutions.com

Important Notes

Upgrades to M2020.01 Onwards

From M2020.01 onwards only products (i.e. MOTOTRBO radios, repeaters and CMSS) which are either in warranty or covered by a service package will accept software updates. 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.

When a service package is purchased, a SUM license is issued and pre-registered (in the Motorola Solutions licensing database) to the product serial number. The SUM license is then available for retrieval and activation in the product using Radio Management (RM) or the Customer Programming Software 2.0 (CPS). Once a SUM license has been activated in a product, that product is then eligible to accept software updates for the duration of the MOTOTRBO Service Package.

Note: Selected radio models shipped since 18-Nov-2019 with enhanced warranties are eligible to accept software updates for a period of up-to 5 years.

R2.10.10 Upgrade Packages

The R2.10.10 radio upgrade packages are only able to upgrade radios already containing R2.10 system release firmware. For radios containing pre-R2.10 system release firmware they first need to be upgraded to a previous R2.10 system release before they can be upgraded to R2.10.10. This restriction does NOT apply to the R2.10.10 repeater upgrade packages.

MOTOTRBO™ CPS 2.0

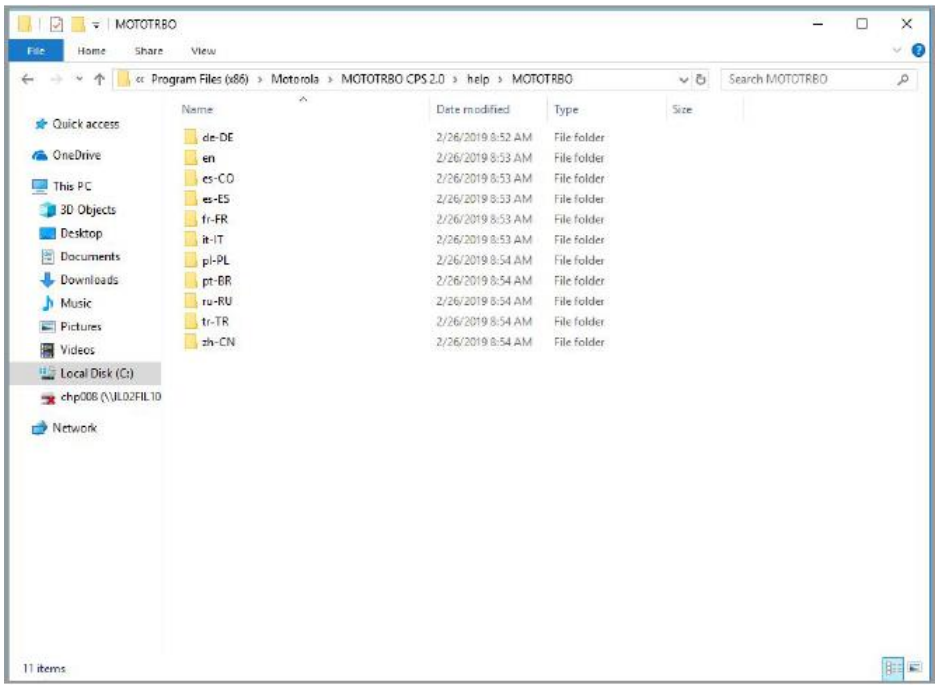
The old MOTOTRBO Legacy CPS which supports up to MOTOTRBO system release R2.9 (including minor releases) has now been retired, however it remains available to download from MOL and order as a DVD so that customers can continue to configure and upgrade devices containing old MOTOTRBO system releases.

The old MOTOTRBO Legacy CPS has been replaced by the new MOTOTRBO CPS 2.0 introduced with MOTOTRBO system release R2.10. The MOTOTRBO CPS 2.0 provisioning and license management functionality is tested for up to three previous releases while the MOTOTRBO CPS 2.0 software update support is tested for up to five previous releases.

MOTOTRBO™ CPS 2.0 Version 2.18.95.0 Online Help

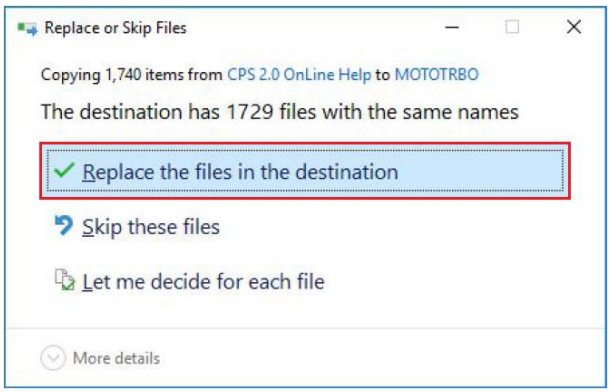
MOTOTRBO CPS 2.0 version 2.18.95.0 provides only partial international language support for OnLine Help. Users requiring full international language support for OnLine Help shall be required to download and install the latest MOTOTRBO CPS 2.0 OnLine Help file from MOL as follows:

1. Ensure the MOTOTRBO CPS 2.0 application is not running.
2. Download the latest MOTOTRBO CPS 2.0 OnLine Help file (CPS_2.0_Online_Help.zip) from the "System Releases / R2.10.x / Software Tools" MOTOTRBO Resource Centre Location on MOL.
3. Extract the content of the zipped file and a new File Explorer window should open containing a number of extracted Folders.
4. Open another File Explorer window and go to "C:\Program Files (x86)\Motorola\MOTOTRBO CPS 2.0\help\MOTOTRBO".

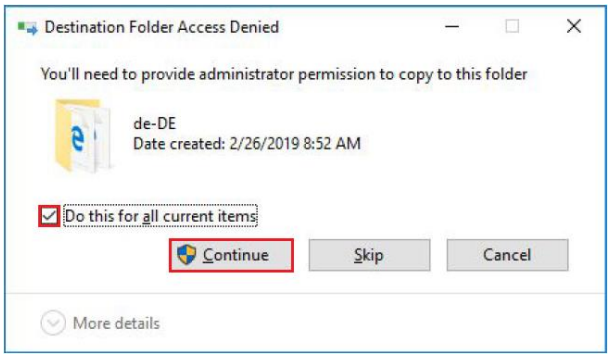


5. Copy all the Folders extracted from the zipped file and Paste (Overwrite) all the folders of the same name at "C:\Program Files (x86)\Motorola\MOTOTRBO CPS 2.0\help\MOTOTRBO".
6. While the above folders are being overwritten:

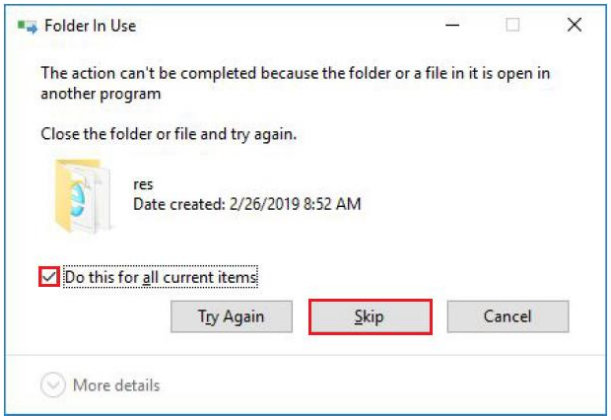
   If the following pop-up window appears then select "***Replace the files in the destination***"



If the following pop-up window appears then ensure "***Do this for all current items***" is selected and then select "***Continue***"



If the following pop-up window appears then ensure "***Do this for all current items***" is selected and then select "***Skip***"



7. Launch the MOTOTRBO TM CPS 2.0 application.
8. To start using the Online Help, select the Menu option "***Help***" and then click "***Contents and Index***"(note: the Online Help language is determined by the Language selected in the CPS 2.0 Settings Menu).

MOTOTRBO CPS 2.0 versions 2.21.61.0 onwards provide full international language support for Online Help, so no OnLine Help file downloads are required for these releases.

MOTOTRBO™ CPS Version 16.0 (Build 827) Error 1646 (for Italian Language)

There's a format issue caused by the Italian language online help file included with the Legacy CPS Version 16.0 (Build 827) supplied with DVD GMVN5141AV that results in Error 1646 when the Italian language is selected.

There are 2 alternative corrective options as follows:

Repair Existing Installation

Replace help-text file (help_it-it.xml) which is located at C:\Program Files (x86)\Motorola \MOTOTRBO CPS\it-it\help_it-it.xml with a revised version available from Motorola Online ("MOTOTRBO Programming Software" folder).

Note: help_it-it.xml needs to be extracted from help_it-it.zip.

Fresh Install

1. Uninstall the current CPS installation.
2. Download the combined CPS / RM CPS Version 16.0 (Build 828) from Motorola Online (note: it's important to download the combined CPS / RM version rather than the standalone CPS version).
3. Reinstall the CPS.

Use of Old Archive Codeplugs

It is generally good practice to use codeplugs generated from the default codeplug associated with the latest firmware release rather than reuse very old archived codeplugs which is not recommended.

In order to obtain the improvements in audio clarity introduced as part of the R2.6 system release it is especially important to use codeplugs generated from firmware release R2.6 or later.

Upgrade of Early Firmware

When an upgrade spanning multiple releases is to be performed it is strongly recommended that the upgrade be performed in multiple steps spanning no more than 3 major releases.

Upgrading Radio Systems Running Applications

To avoid unforeseen issues resulting from upgrading deployed radio systems running Applications, we recommend that you check first with your Application provider to ensure that the version of Application you are running is fully compatible with the new version of radio system.

Repeater Update Duration

When updating MOTOTRBO repeaters, it's important to ensure that the update process is not interrupted until the "Device Update Successful" message appears on the CPS screen.

Repeater Knockdown

It is recommended that the Repeater is not in the Repeater Knockdown state while performing a CPS Read or Write operation.

PN, DDMS, MNIS and MCDD Applications

The Device Discovery and Mobility Service (DDMS) application replaces the legacy Presence Notifier (PN) application. Additionally, the DDMS is backwards compatible with the PN such that existing applications that interface with the PN do not require any changes to receive presence notifications from the DDMS.

The Device Discovery and Mobility Service (DDMS), MOTOTRBO Network Interface Service (MNIS) and Multi-Channel Device Driver (MCDD) applications are included on the CPS DVD and are also available to download from Motorola Online.

The DDMS, MNIS and MCDD applications are not installed automatically from the CPS DVD, instead they need to be manually copied over from the top level DVD folder.

SMA / MX Connector Antennas

Even though the SMA antennas are non-GPS, the SMA portable models still support GPS / GNSS since all DP4x01e series portables contain internal GPS / GNSS antennas.

Only SMA antennas should be attached to SMA portable models. Attaching a standard (MX) antenna to an SMA portable will damage the SMA connector centre pin on the portable.

Conversely, only standard (MX) antennas should be attached to standard (MX) portables. Attaching an SMA antenna to a standard (MX) portable will degrade performance.

Control Head Cable Flex

The cable flex (part 30012045001) supplied with older (Numeric / Colour Display) Control Head, Remote Mount Control Head and Handheld Control Heads kits is not compatible with the new DM4000e series mobiles.

To determine if a given Numeric Display Model Control Head kit is compatible with the new DM4000e series mobile radios, refer to its part number. If the part number is PMLN5677_, then the cable flex (part 30012045001) needs to be replaced with a newer cable flex (part 30012045002) before the Numeric

Display Control Head kit can be used with the DM4000e series mobile radios. If the part number is PMLN7500_, then the Numeric Display Control Head kit is already compatible with the DM400e series mobiles.

To determine if a given Colour Display Model Control Head kit is compatible with the new DM4000e series mobile radios, refer to its part number. If the part number is PMLN5678_, then the cable flex (part 30012045001) needs to be replaced with a newer cable flex (part 30012045002) before the Colour Display Control Head kit can be used with the DM4000e series mobile radios. If the part number is PMLN7501_, then the Colour Display Control Head kit is already compatible with the DM400e series mobiles.

To determine if a given Remote Mount Control Head kit (PMLN6404_) is compatible with the new DM4000e series mobile radios, refer to the part number on the Remote Transceiver Interface. If the part number is PMLN6402_, then the cable flex (part 30012045001) needs to be replaced with a newer cable flex (part 30012045002) before the Remote Mount Control Head kit can be used with the DM4000e series mobile radios. If the part number is PMLN7504_, then the Remote Mount Control Head kit is already compatible with the DM400e series mobiles.

To determine if a given Handheld Control Head kit (PMLN7131_) is compatible with the new DM4000e series mobile radios, refer to the part number on the Handheld Control Head Transceiver Adapter. If the part number is PMLN7033_, then the cable flex (part 30012045001) needs to be replaced with a newer cable flex (part 30012045002) before the Handheld Control Head kit can be used with the DM4000e series mobile radios. If the part number is PMLN7502_, then the Handheld Control Head kit is already compatible with the DM400e series mobiles.

RSSI Display Value

To make a MOTOTRBO subscriber display its current RSSI value, press the left arrow three times and immediately press the right arrow three times, all within 5 seconds of power up.

R2.X MPT1327 GOB Upgrade Kit

The R2.X MPT1327 GOB Upgrade Kit supports Windows 7.

When installing and launching theR2.X MPT1327 GOB Upgrade Kit on a Windows 7 computer, select “Run as administrator”.

The R1.X and R2.X MPT1327 GOB Upgrade Kits cannot be installed together on the same computer. So if the R1.X MPT1327 GOB Upgrade Kit is already installed then this will have to be un-installed before the R2.X MPT1327 GOB Upgrade Kit can be installed.

The R2.X MPT1327 GOB Upgrade Kit does NOT preserve the R2.X MPT1327 GOB configuration, so before upgrading the R2.X MPT1327 GOB firmware read the R2.X MPT1327 GOB configuration using the

MPT1327 GOB CPS and save it to a *.rad file. After upgrading the R2.X MPT1327 GOB firmware, the saved *rad file can be written back to the R2.X MPT1327 GOB using the MPT1327 GOB CPS.

MPT1327 GOB CPS

The MPT1327 GOB CPS supports Windows 7.

When installing and launching the MPT1327 GOB CPS on a Windows 7 computer, select “Run as administrator”.

MPT1327 / Connect Plus Options

Certain radio models can be ordered with factory fitted MPT1327 / Connect Plus option boards.

(NOTE: the generic option board can NOT be field upgraded to support MPT1327)

MPT1327 / Connect Plus GOB Firmware Compatibility

Where a radio contains an MPT1327 / Connect Plus option board it’s important to adhere to the following simple rules in order to ensure full compatibility between the option board firmware and the radio firmware:

1. On installing an MPT1327 / Connect Plus option board, ensure that both the option board and the radio contain the latest available firmware versions.
2. On upgrading a radio to the latest available firmware version, ensure that the option board also contains the latest available firmware version.
3. On upgrading an option board to the latest available firmware version, ensure that the radio also contains the latest available firmware version.

Options boards for DP4000/DM4000 series radios are NOT forward compatible with DP3000e/DP4000e/DM4000e series radios and option boards for DP3000e/DP4000e/DM4000e series radios not backwards compatible with DP4000/DM4000 series radios.

Repeater Hardware Compatibility

DR 3000 repeaters containing 32MB of memory and MTR3000 repeaters support the R1.X and R2.X features.

DR 3000 repeaters containing 8MB of memory support most R1.X features. However such repeaters do not support the IP Repeater Programming R1.X feature, Linked Capacity Plus or any of the R2.X features.

From system release R2.9.1 onwards there is no software support for DR 3000 repeaters containing 8MB of memory (note: DR 3000 repeaters containing 32MB of memory continue to be supported beyond R2.9.1).

> Note: Any DR 3000 repeater ordered since the launch of R1.7 contains 32MB of memory.

To determine if a given DR 3000 repeater contains 8MB of memory then check the S/Tanapa label. DR 3000 repeaters containing one of the following S/Tanapa numbers contain 8MB of memory (all other DR 3000 repeaters contain 32MB):

- PMUE2390AAEAA DR 3000 UHF1 (25-40W)
- PMUE2390AAE DR 3000 UHF1 (25-40W)
- PMUE2390BAEAA DR 3000 UHF1 (25-40W)
- PMUD2091AAEAA DR 3000 VHF (25-45W)
- PMUD2091AAE DR 3000 VHF (25-45W)
- PMUD2091BAEAA DR 3000 VHF (25-45W)
- PMUD2092AAEAA DR 3000 VHF (1-25W)
- PMUD2092BAEAA DR 3000 VHF (1-25W)
- PMUE3017AAEAA DR 3000 UHF1 (1-25W)
- PMUE3017BAEAA DR 3000 UHF1 (1-25W)
- PMUE3084AAEAA DR 3000 UHF2 (1-40W)

DR 3000 Repeater Hardware Upgrades

A MOTOTRBO RDAC Indicator Repeater Board Service Kit (PMLN5269) is available to upgrade pre-R1.4 VHF / UHF1 DR 3000 repeaters to support the power / fan failure diagnostic alarms.

> Note: Any DR 3000 repeater ordered since the launch of R1.4 does NOT require this hardware upgrade.

To determine if a given DR 3000 repeater requires the hardware upgrade then check the S/Tanapa label. DR 3000 repeaters containing one of the following S/Tanapa numbers will require the hardware upgrade (all other DR 3000 repeaters will not):

- PMUE2390AAEAA DR 3000 UHF1 (25-40W)
- PMUE2390AAE DR 3000 UHF1 (25-40W)
- PMUD2091AAEAA DR 3000 VHF (25-45W)
- PMUD2091AAE DR 3000 VHF (25-45W)
- PMUD2092AAEAA DR 3000 VHF (1-25W)
- PMUE3017AAEAA DR 3000 UHF1 (1-25W)

Open (Unresolved) Issues

Open (Unresolved) issues are all known or reported issues that still exist in this current software release and may occur under certain circumstances.

Infrastructure Impact

Issue Number:	**ENG_INFRA_PCR-8636**
System/Product:	SLR Series Repeaters
Description:	The SLR Series repeater might reset when cleaning full Remote Diagnostics Solution (RDS) logs. RDS log gathering can be enabled by webpage (this is disabled by default). The purpose of this functionality is to clear old, unrelated data before issuing a reproduction in order to speed up the investigation process.
Workarounds:	(1) This functionality is not suggested to end users as it is primarily used by engineers to remove unrelated historical data from logs before reproducing an issue. (2) Avoid triggering. Generally, the Maintenance of the Line (MOL) team asks users for RDS logs including historical ones as there might be a problem originally located. (3) Self recovery after an unintended reset. As a result, not all logs might be removed before the reset.

Issue Number:	**ENG_INFRA_PCR-8852**
System/Product:	Capacity Max, MTR3000
Description:	The Capacity Max site becomes unavailable after interference for the duration of Continuous Wave Identification (CWID). The duration of lost service is proportionate to the duration of the CWID broadcast. The longest transmission can last 75 seconds (worst case scenario is 44 zeroes at 15 WPM). The subscriber can still roam and register to another site. This issue is only present on the MTR3000 platform.
Workarounds:	(1) Set the same ControlChannel priority on all ControlChannel capable channels. (2) Use an SLR Series repeater as ControlChannel Self-recovery. The site will become available after the CWID transmission is over.

Issue Number:	**ENG_INFRA_PCR-7094**
System/Product:	System Advisor
Description:	System Advisor displays an informational event that some storage sensors cannot report their state. Users can observe the following false positive strings: “Cannot report on the current status of physical element” that come at the end of storage events or alarm messages.
Workarounds:	None.

Issue Number: **ENG_INFRA_PCR-9363**

System/Product: Capacity Max

Description: A user may see an incorrect received signal strength indicator (RSSI) value reported in the air traffic information access (ATIA) logs. The problem refers to wide area group voice calls. The initiating call has the correct RSSI value, however the first and consecutive talkback calls taken during the hangtime period will have incorrect (noise level) RSSI values. The RSSI values visible in the repeater webpage are accurate. The issue is always visible for wide area calls involving at least 2 sites, or 1 site and a console. The issue is not present in local site calls.

Workarounds: None.

Issue Number: **ENG_INFRA_PCR-9336**

System/Product: Capacity Max System Server

Description: When changing to "Enhanced Security Mode" and adding a key alias that is less than 4 characters, the Radio Management write to the Capacity Max System Server (CMSS) fails, displaying the following error code: “Reason1551 Application has encountered an error.” Configurations to the CMSS will fail until the key alias is updated to be at least 4 characters.

Workarounds: Configure the key alias to be at least 4 characters.

Issue Number: **PCR_SMARTPTT-19**

System/Product: SmartPTT

Description: After the SmartPTT upgrade, the end user is not enforced to change the password as it should be for security reasons.

Workarounds: End users must use user documentation suggestions to change the password on their own in an upgrade case versus the application enforcing a rule to change the password on the first login attempt.

Issue Number: **UEM-6288**

System/Product: Capacity Max

Description: After upgrading the Capacity Max System, due to a new password policy, a password change is required. A few minutes after changing the password, however, the end user (in few minutes) will see "data provider service error" in System View. This is because the System Advisor client needs to be restarted, but the user is not notified of this. Once the user restarts the System Advisor client - everything works fine and such error will not occur again until the next password change.

Workarounds: Restart the System Advisor client.

Issue Number:	**UEM-6295**
System/Product:	System Advisor
Description:	After disabling and enabling VRC in Radio Manager, VRC is seen as black (unconfigured) in System Advisor.
Workarounds:	Restart the System Advisor server, which can be done from System Advisor client menu (Administration -> Restart System Advisor Server).

CPS-RM / RDAC Impact

Issue Number:	**ENG_INFRA_PCR-9480**
System/Product:	Radio Management
Description:	After Radio Management installation, repeated pop-up errors may show up on the screen preventing the user from using the PC for normal operation. The error starts with: “C: \ ProgramFiles \ WindowsApps \ …”. This is due to SQL Server 2014 component that is part of Radio Management Server software installation conflicts with Windows Services.
Workarounds:	Download the Microsoft SQL SP3 package and install it on the PC. Refer to MTN-0055-21-NA for more details.

Radio Impact

None.

Resolved Issues in M2021.xx System Releases

Resolved issues are the known product problems that were reported in products releases, but have now been fixed or closed.

Resolved in M2021.01:

Defect ID	Release Introduced	Product	Headline
ENG_INFRA_PCR-3544	MOTOTRBO2.6.0	MTR3000	Repeater disconnects from Trunking Controller for no apparent reason; intermittent issue RFC#: RFC_PCR-17
ENG_INFRA_PCR-6612	MOTOTRBO2.8.0	SLR 8000 Repeater	Repeater does not follow the energy programming for DC, it will reset and go back to AC parameters RFC#: RFC_PCR-13
ENG_INFRA_PCR-7551	MOTOTRBO2.6.0	SLR 8000 Repeater	The Rest Channel IP is dropping as the repeaters stop trunking and do not respond to pings on NAI requests from SmartPTT RFC#: RFC_PCR-21
ENG_INFRA_PCR-7850	MOTOTRBO2.8.0	SLR 8000 Repeater	Repeater transmitting lower wattage than what is programmed RFC#: RFC_PCR-23
ENG_INFRA_PCR-8053	MOTOTRBO2.7.0	Capacity Max	Trunking Controller logs contain extra messages “CTRL_CHNL_CHANGED” - Control Channel rollover every 10 seconds RFC#: RFC_PCR-9
ENG_INFRA_PCR-8472	MOTOTRBO2.10.5	MOTOTRBO Network Interface Service (MNIS)	MNIS service will not start, MNIS Error# 4102 RFC#: RFC_PCR-32
ENG_INFRA_PCR-8613	M2020.02	SLR 8000 Repeater	Control Channel stops being a Control Channel at some sites RFC#: RFC_PCR-39
PCR_SUB-25054	MOTOTRBO2.10.0	DGM8000e	ENG DGM8000e - FW 2.10, taking too long to register with the Wave5000 5.15 Server.
PCR_SUB-24977	M2020.01	DM4600e	ENG_Con+ OB firmware changes how LEDs on the radio display work (Channel number shift)
PCR_SUB-24509	PARADISE2.3	DM4601e	ENG_ Radios stop sending GPS data
PCR_SUB-24328	MOTOTRBO2.10.0	DM2600	MOTOTRBO Tuner read DM2600 will have OB disabled
PCR_SUB-23300	M2020.01	DP4601e	ENG WRSM / DP4601E Talk Permit Issue 200320
PCR_SUB-26419	MOTOTRBO2.6.5	DP4801e,	CapMax - KMF issues, radios are experiencing

		DP4800e	rekey failures
PCR_SUB-18063	MOTOTRBO2.10.0	DP4800e	CapMax - Radios continue to send Text to old TMS ID when programmed with new TMS ID via Wifi.
PCR_SUB-21879	M2020.01	DP4801Ex	Capacity Max Open Radio System Issue on M2020.01 Releases
PCR_SUB-22106	MOTOTRBO2.10.0	DP4801e, DP3661e	DP4801_Missing "low power sniff mode" feature in R2.10 Bluetooth
PCR_SUB-27641	PARADISE2.0	DP3661e	ENG DP3661e - Bluetooth fails to Connect to Earpiece - Heinz
PCR_SUB-28270	M2020.02	DP4800e	DP4800e - Talker alias characters length
PCR_SUB-17482	MOTOTRBO2.10.0	DP4801	Bluetooth Low Power Mode missing in R2.10 RFC#: RFC_PCR-11
PCR_SUB-23404	MOTOTRBO2.10.0	DM2600	DM2600 will get OB disabled after Tuning reading RFC#: RFC_PCR-15
PCR_SUB-23895	MOTOTRBO2.10.0	DM4601e	Linked Capacity Plus - Certain radios not sending GPS data RFC#: RFC_PCR-5
PCR_SUB-24035	MOTOTRBO2.10.0	DM4401e	Mobile radios take longer time to register with WAVE compared to portables RFC#: RFC_PCR-3
PCR_SUB-24820	M2020.01	DM4601e	Connect Plus - OB firmware changes how LEDs on the radio display work (CH numbers are shifted) RFC#: RFC_PCR-7
PCR_SUB-27391	MOTOTRBO2.10.10	DP3661e	Bluetooth fails to connect to earpiece RFC#: RFC_PCR-44
PCR_SUB-26260	MOTOTRBO2.10.09	DP4801e	Connect Plus - When selecting the same zone where the radio is, the voice announcements order gets shifted in relation to current selected channel RFC#: RFC_PCR-35
PCR_SUB-28025	M2020.02	DP4800e	When receiving a voice call from a radio with an alias longer than 16 characters, the display might blank out until reboot RFC#: RFC_PCR-46
DMCI-905	MOTOTRBO2.10.0	MOTOTRBO RM	RM does not display the latest SUM date after the multiple registrations of SUM licenses on CMSS. RFC_PCR-29.
DMCI-945	Legacy	MOTOTRBO RM & CPS	VOX checkbox setting was not editable on Analog channels for Paradise Light subscribers in RM & CPS 2.0.

			RFC_PCR-37.
DMCI-957	Legacy	MOTOTRBO RM & CPS	Radio Alias is not updated in bluetooth menu after first writing with CPS 2.0 RFC_PCR-48.
DMGMT-29328	Legacy	MOTOTRBO Tuner	[Tuner] INC2646026 Mototrbo Tuner hard closing when archive open