MOTOTRBO® System Release Notes

Professional Commercial Radios

Version: R2.4B

Date: July 24, 2015

MOTOTRBO JULY 2015 Software Release

Contents

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).

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.

The risk and workaround aspects are included in the release note description (Known Issues) for overall assessment of the problem.

What's New in the Release

Home Channel Reminder

Alleviates problems of missed calls by alerting the user if the radio has remained on a channel different from its designated Home channel for a specified period of time.

The home Channel Reminder timer can be set for duration of 1 - 30 minutes. If the radio has been switched to a channel and remained there for a period of time longer than the timer duration, the radio will sound a Tone alert and Voice Announcement (if set up) alert the user that is not on the home channel. Radio users can be given access to designate a new Home Channel via the radio Menu or Programmable button press. A programmable button can be used to Silence the Home Channel Reminder.

Home Channel reminder timer is suspended if: the channel selector was returned to Home Channel position before the timer expired, while Transmitting or Receiving a call, during Scan, Channel Revert (e.g. Data or Telemetry), Roaming, Program mode, Test and Service mode, Front Panel Programming mode and Locked or Inhibit state.

Emergency Search Tone (Emergency and Man Down)

When a radio initiates an Emergency, either at a press of the Emergency button or triggered by Man Down, it sends an Emergency alarm and also sounds an attention grabbing alert tone to help people around to locate the emergency initiator who is in distress. The tone starts when the emergency starts and ends when the radio exits the emergency mode. The tone will be temporarily suspended while the radio is transmitting or receiving voice calls.

The Emergency Search Tone default tone level can be set up via CPS between 1 (the lowest but increasing with volume selector rotation) and 10 (the maximum irrespective of volume selector position).

CPS can also be used to set the audio source for the alert tone:

"Radio" should be selected when the radio is used with earpiece or headset

"Accessory" may be appropriate if radio is used with Remote Speaker Microphone.

Emergency Call Indication for Non-Display radios

Emergency Call Indication can now be enabled via CPS in Non-Display radios to trigger the Red LED indicator to flash while the radio is receiving an Emergency call.

Emergency Call Decode Tone

Two fast tones are repetitively alternated with the voice transmission throughout an Emergency call, to provide additional audible emergency call indication for the instances when non-display radio LED or radio display indication many not be easily seen. During the Emergency call, the display will show Emergency mode, the Red LED will flash and 2 alternating Tones will be heard throughout the emergency call. Emergency Call Decode Tone settings can be made for each channel via CPS.

Digital Emergency System Contact

In addition to an Emergency revert channel, CPS now allows a specific Contact Talkgroup to be configured. Setting a specific Emergency Contact talkgroup may be usefully when several talkgroups share the same channel. Please note that while the radio is in an Emergency mode, it will block all other calls for any other talkgroup in the Receive List, except the ones from the target emergency Talkgroup.

Emergency w/Voice to Follow PTT during RX cycle

While a radio is in Emergency w/Voice to Follow mode, it automatically transmits and then receives for the set durations defined in the codeplug. Up to now, the radio user could not manually key up the radio while it's was in the RX cycle. Going forward, users will be able to press the PTT and transmit even during the RX cycle. When the PTT is released, the radio will return to RX mode for the remainder of the cycle time. No CPS programming needed, this is firmware change.

Emergency Alert Tone Duration
A timer is now available to define how long the radio should sound the received Emergency alert tone, before it's automatically silenced, without any user intervention. Timer choices: 1 min - 60 minutes and Infinite (default)

Vibrate on Emergency Alert for SL7550, SL7580, SL7590
In addition to sounding an Emergency Alert tone, the SL7000 series can now also Vibrate.
Radio users can now set the alert type through the radio menu Utilities > Radio Settings > Tones/Alerts > Ring Alert Type:
"Silent" or "Ring": radio will sound the Emergency tone after receiving an Emergency
"Vibrate" or "Ring & Vibrate": radio will sound the alert and vibrate after receiving an Emergency

Roaming RSSI per site in IPSC & LCP
To allow for more efficient roaming between IP Site Connect or Linked Capacity Plus sites, especially in urban areas and mountainous terrains where different site have different propagation, the Roaming RSSI Threshold can now be set up independently for each individual site. Some test trials may be needed to determine the optimum roaming RSSI values for each site.
IP Site Connect - check the box for **Use Per-Site RSSI Threshold** on the Roam tab and set the RSSI on each channel.
Linked Capacity Plus - check the box for **Use Per-Site RSSI Threshold** on the Sites tab and set the level for each site.

Changes to Subscriber RSSI Indication
To provide a more realistic signal strength indication, as a result of the improved receiver performance in MOTOTRBO 2.0 radios, the RSSI icons on subscribers are changing:
Threshold RSSI values for Poor, Acceptable, Good, Very Good, and Excellent have been raised.
RSSI icon with red X to indicate the "Extreme Poor" level and "Poor" signal has been eliminated.
When no usable signal is present on the channel, no RSSI icon will be shown.

dBm	RSSI measure	RSSI Icon tag	Paradise Icon
< -117dB m	No Signal detected.	RSSI_Idle	
-117dBm ~ -111dE	extreme poor	Blinking RSSI_0	blinking
-111dBm ~ -105dB	poor	RSSI_0	
-105dBm ~ -99dBm	acceptable	RSSI_1	
-99dBm ~ -93dBm	good	RSSI_2	
-93dBm ~ -85dBm	very good	RSSI_3	
> -85dBm	excellent	RSSI_4	
	transmit	RSSI_Tx	

dBm	RSSI measure	RSSI Icon tag	Paradise Icon
< -119dB m	No signal detected	N/A	No Icon
	~~Extreme poor~~		
-119dBm ~ -114dBm	Poor - Broken Audio Reception	RSSI_0	
-114dBm ~ -109dBm	Acceptable - Some Audio Artifacts	RSSI_1	
-109 dBm ~ -104dBm	Good – Few Audio Artifacts	RSSI_2	
-104dBm ~ -99dBm	very good - No Audio Artifacts	RSSI_3	
> -99dBm	excellent - No Audio Artifacts	RSSI_4	
	transmit	RSSI_Tx	

SL300 Radio Name
The Radio Name field of SL300 subscribers has been increasd from 4 to 12 characters length. When the string length is less or equal to 4 characters, the radio's shall display the Radio Name statically for 2 seconds. When the string length is greater than 4, the name will scroll across the LED display. Scrolling duration will depend on the length of the name string.

SL300 Trill Enhancement
Radio industry standard AMBE2 vocoder algorithm does not reproduce well the Trill (rolling "r") sound in Latin languages (e.g. Spanish, Italian) and transforms it into a flattened "r" so Trill Enhancement applies additional audio processing in the transmitting radio to enhance the sharpness of the rolling "r" making speech clearer and more intelligible. Trill can now be enabled in the SL300 via CPS or assigned to turn On/Off via programmable button. Languages which do not include the Alveolar Trill will receive minimal benefit from this enhancement.

SL300 Battery Management Registration for Asset Tracking
SL300 can now be provisioned to register with the Battery Management application shortly after power up. The application keeps track of registered Radio ID's and can be used to identify which radios are used daily and whether any radios may be missing. To set up, in the Network tab of the codeplug enter the Control Station Radio ID or MNIS Application ID used as data gateway for the Battery Management application and Enabled OTA Battery Management on the channel. The Battery Management 90-day Free trial version is available on MOL>Resource Center>Software>Fleet Management

Adaptive Rest Channel RDAC Alarm
Adaptive Force Rest Channel Rotation (a.k.a. Rest Channel Time-Out-Timer) controls how long a repeater keeps its Rest Channel role in the absence of a new call activity before moving the role to another repeater in multi channel Capacity Plus and Linked Capacity Plus system. If the Rest Channel is force rotated from a specific repeater due to the timer expiration, while other repeaters in the system are rotating the rest channel due to call activity, the repeater is suspected to have experienced a failure or be blocked by interference, so the repeater will report a Forced Rest Failure alarm to an RDAC application. The alarm is stored in the repeater alarm log and can be retrieved at a later time, if an RDAC applicaiotn is not monitoring the system online all the time. If the repeater begins to receive calls after the failure is reported, the alarm Status will change from Detected to Released in the repater alarm log, but the alarm has to be manually cleared via RDAC.
The Adaptive Force Rest Channel Rotation algorithm uses a running average of inter-call arrival times, to determine if the trunking system is in heavy or light usage period and void sending false RDAC alarms during low utilization times, when the Rest Channel is moved by the Time-out-Timer more often than incoming calls for all repeaters in the system.

Switches and Routers Support
HP A-MSR20-20 Router (JF283A) has been cancelled (orderable through 12/31/2015); recommended replacing with **HP MSR2003 AC Router** (JG411A)
Cisco Catalyst 3560 Switch has been cancelled (orderable through 11/14/2015); recommended replacing with **Cisco Catalyst 3650**

System Application Support:
WAVE 3000 R1.2
Genesis R2.12
Smart PTT (Elcomplus) R8.7
TRBOnet (Neocom) R4.7
Avtec R4.0

Product Versions

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

MOTOTRBO Product	Version Supported in Release
Subscriber – MOTOTRBO 2.0 (including SL 7000 Series) Subscriber – MOTOTRBO Subscriber – MOTOTRBO Light (including SL300 Series)	**R02.40.20** * R01.12.15 **R01.01.20** *
3600 Trunking Subscriber	R01.10.24
Repeater – MTR 3000, XPR 8380, XPR 8400 Repeater – SLR5000	R02.40.12 R01.01.03
CPS	11.5
Radio Management	1.10 **
Air Tracer	8.0
Tuner	11.5
RDAC	6.5
Device Discovery Mobility Service (DDMS)	03.40.5000
MOTOTRBO Network Interface Service (MNIS)	02.41.5000
Multi Channel Device Driver (MCDD)	2.1.3
MOTOTRBO XCMP/XNL Development Specification MOTOTRBO Location Data ADK Guide MOTOTRBO Location Request and Response Protocol Specification	V02.18 V01.10 V01.05

*** New for release 2.4B (see list of resolved issues below)**

****If you are currently using Radio Management version 1.3 or earlier (the one released with CPS version 9.0), please make sure to uninstall RM Server before upgrading to this new version. Please note that the database will be upgraded automatically by this new version.**

Important Note: If you would like to use radios with firmware version R02.40.00 or later in Radio Management, you must also upgrade RM Device Programmer to the latest version 1.8 (included with CPS version 11.0).

Known issues in product release

Issue Number	CCMPD01991468
Product / Version	All Subscriber bands and models supporting Data Over Voice Interrupt (DOVI) in single site mode of operation.
User Impact Description	Voice call is not interrupted by unconfirmed text message on single system
Frequency of Occurrence	2 out of 120 iterations (~2%).
Trigger	The following are steps to reproduce the failure (assuming two radios in a system): 1. Radio 1 & 2 are of different talk groups 2. Radio 1 starts a voice call 3. Radio 2 sends DOVI unconfirmed message target to Radio1's group 4. DOVI unconfirmed message is intermittently failed
Special Configurations	Data Over Voice Interrupt in single site mode of operation
Recovery Method	N/A
Recovery Time	N/A
Workaround	None.

Issue Number	CCMPD01987346
Product / Version	All Subscriber bands and models configured in Linked Capacity Plus (LCP) system mode of operation; using SLR Repeater.
User Impact Description	LCP Wide Area (WA) Confirmed Private Call bonks and shows 'Party Not Available' when user keys up sequentially (almost immediately) after another radio keyed up (not partied) LCP WA group call.
Frequency of Occurrence	2 out of 50 iterations (4%).
Trigger	The following are steps to reproduce the failure (assuming two radios in a system): 1. Radio 1 & Radio 2 on the same rest channel 2. Radio 1 keys up Wide Area Group Call. 3. Almost immediately (~0.4 sec) after that, Radio2 keys up Wide Area Confirmed Private Call 4. Wide Area Confirmed Private Call transmission intermittently failed.
Special Configurations	Linked Capacity Plus system mode of operation
Recovery Method	N/A
Recovery Time	N/A
Workaround	None.

Resolved issues in product release

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

* New issues fixed in release 2.4B

SR#	Version Found	Description
CCMPD02005414	R01.01.11*	SL300 will no longer charge a fully depleted battery via the USB port. Work around of removing the battery from the radio, plugging the charger to the USB port and then placing the battery in the subscriber also does not work any longer. Depleted battery can only be charged in a Desktop or Multi Unit charger.
CCMPD01994265	R01.01.11*	CP200d observed minor Howling and audio level anomalies
CCMPD02003494	R02.40.02*	Intermittently miss calls on Capacity Plus System
CCMPD01999955	R02.40.02*	Non-display MOTOTRBO subscriber operating in Option Board mode locks-up when rapidly pressing Zone Toggle button
CCMPD01992611	R02.40.02*	Intermittent issues with pairing a Bluetooth device to radios. When device is paired the audio through the Bluetooth device sounds static and garbled.
CCMPD01936952	R02.30.12	XPR 8400 UHF R2- new repeaters is 10 db off on RX sensitivity
CCMPD01936950	R02.30.12	XPR 8400 - New repeater with unique TX and RX bricks will measures the received RSSI value of approximately 10dB different than repeaters which had the same type of transceiver for both TX and RX bricks. There is no impact to call traffic or the accuracy of the signal. The RSSI value is incorrectly reported to RDAC.
CCMPD01960196	R02.30.20	XPR 8400 - Repeater cannot be keyed up when using CWID and digital mode of operation
CCMPD01970412	R02.40.01	XPR 8300, MTR3000 – in Capacity Plus mode, GPS location data is corrupted, making assets bounce back and forth on a location tracking application map.
CCMPD01975129	R02.40.01	MTR 3000 - IPSC satellite repeater loses synch with the voter repeater
CCMPD01942746	R02.40.00	XPR 5550 - Radio IP 13.0.0.1 causes the CPS to no longer read the mobile radio
CCMPD01945499	R02.40.00	XPR 7000's portables - After cloning, the subscribers does not have correct emergency signaling functionality
CCMPD01949107	R01.00.25	SL300 - unexpected call end tone for group calls
CCMPD01963110	R02.40.00	XPR 5550 - When configured to work as a control station intermittently locks up
CCMPD01964271	CPS 11.0	CPS 11.0 cannot read XPR6580IS
CCMPD01966651	R02.40.00	XPR 3500 - power cycle every 60 minutes, in mixed mode priority scan configuration
CCMPD01974252	R02.40.00	MOTOTRBO 2.0 subscribers - operating in Capacity Plus and Linked Capacity Plus intermittently drop calls
CCMPD01974729	R01.00.27	SL300 - Cannot transmit after receiving more than one Private Call
CCMPD01975966	R02.40.00	XPR 7580 - Job ticket doesn't move to the job completed folder in the radio
CCMPD01982369	R02.40.00	XPR 5000's mobiles - in Connect Plus mode the connection to a Non-IP device stops working, and the radio will lock up and no longer allow voice or data communication
CCMPD01982435	R02.40.00	If a Job Ticket has the same text in Line 1, any duplicate Job tickets received lead to a lost message.
CCMPD01986266	R02.40.00	MOTOTRBO 2.0 subscribers - PL or DPL deviation increases over time during very long Transmission. The deviation levels did return to normal after a de-key and re-key.
CCMPD01987314	R02.40.01	MTR 3000 - will no longer display an EEPROM error when being read with the Tuner program
CCMPD01989428	R02.40.00	MOTOTRBO 2.0 subscribers - Clicking sound whenever radio is dekeyed
CCMPD01993844	R01.01.01	CM200d / CM300d - Error #1214 when attempting to clone an archive with different firmware

CCMPD01973014	R01.12.13	XPR4000 series - Mobiles used in a Connect Plus system will now pass all audio thru the rear accessory port.
CCMPD01924203	R01.12.13	XPR4000 & XPR6000 portables - Excessive GPS failures and retries in Connect Plus mode
CCMPD01933299	R01.12.13	Telemetry commands would not trigger correctly when using pins 4, 9, 12 are configured as outputs