

Technical Note TN-3448c-SR

This Software Release note applies to DMR cadence releases of v3.x software.

21 June 2024

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DMR Firmware v3.04.03

DMR Programming Application v3.4.6.47

Tx9000 Calibration Application v3.4.2.11

DMR Cadence v3.04 (R24.1)

Firmware **v3.04.03.0096** for the TM9300 and TM9700 DMR mobiles and the TP9300, TP9500 and TP9700 DMR portables is supported by:

- DMR Programming Application **v3.4.6.47** (or later)
- Tx9000 Calibration Application **v3.4.2.11** (or later)
- EnableFleet **v4.9.3.81** (or later)

Important Note:

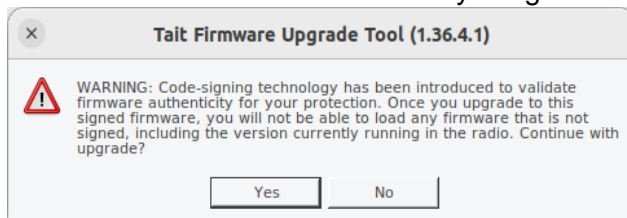
The TMX450 Tait UnifiedVehicle does not support this software. It can operate with Firmware up to v2.30.12 and will be supported in a later version, yet to be confirmed.

Important Note:

The release of the color control heads requires the TM9300 and TM9700 bodies using (or intending to use) these to upgrade to match the control head's firmware.

If not done so the head will display 'Firmware Mismatch'.

If the mobile firmware is not already a signed version, this pop-up may also appear:



See further details in TN-3397c-AN.

Important Note:

Tx9000 Calibration Application v3.3.3.6 (or later) is required to support radios running firmware v3.03 or later (calibration database **0102**). It is very important that during the upgrade that the radio's calibration is read and written back using the latest calibration application.

Important Note:

The Tait Gridlink TD9300 device does not support this software. It can operate with Firmware up to v2.30.07 and will be supported in a later version, yet to be confirmed.

Important Note:

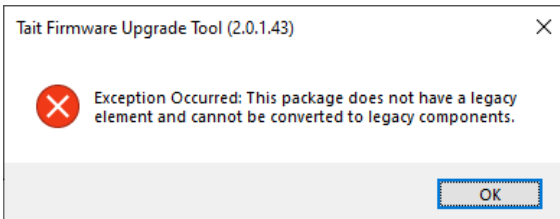
Do not downgrade portables built after **26692342** to firmware older than v2.30.02 as GPS on the new portables will become non-functional

Important Note:

Do not downgrade TM9300 25W mobiles built after **21543773** to firmware older than v2.30.07 as the radio will become non-functional

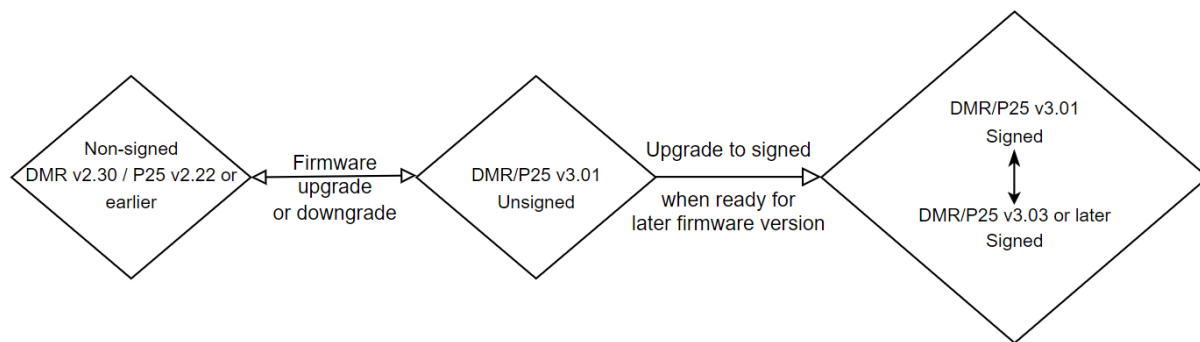
Important Note:

TP9300 and TM9300's that are operating with firmware v2.xx cannot be upgraded directly to firmware v3.03 or later. Attempting to do so will display this pop-up:



They must first be upgraded to firmware v3.01-**signed**.

From v3.01(signed) the radios are able to upgrade to v3.03 or later and can also downgrade later to v3.01 (signed) if required.



New Features

- **JIRA-TRM-50504: Receive Audio Improvements**

We have continued to make improvements to the radio audio. This cadence introduces a modified compressor to the receiver audio path producing a more natural sound by significantly reducing the clipping of audio peaks. This clipping caused distortion which made it sound harsh and with an apparent loss of bass.

- The receiver Automatic Noise Reduction (ANR) on the [Global > Audio Profiles](#) page now defaults to enabled and we recommend this is used with the new compressor in firmware v3.04 (or later) with analog channels.
- The receive equalization for mobiles should remain set to 'Classic' (default setting)
- The receive equalization for portables should be set to 'Enhanced Intelligibility' (default setting).
- The [Global > UI Preferences > Voice Annunciations](#) default level is now '4'

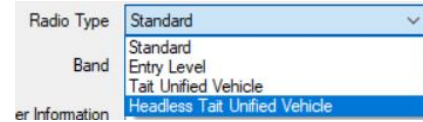
TRM-52305, TRM-51540, XPA-2096

- **JIRA-XPA-1930: Allow 4000 channels**

The maximum number of channels previously supported by the DMR radios was 2000. From this release the DMR radios will accommodate up to 4000 channels except in the TP9310 and TM9315 models.

- **JIRA-TRM-51659: Allow TMX450 UnifiedVehicle mobiles to run ‘Headless’**

Customers have configurations where they would like to operate a TMX450 UnifiedVehicle supporting WiFi and LTE for OTAP updates but do not have a need for a control head as operation is controlled by third party devices externally, so changes have been implemented for the radio to power-up and run without a standard control head also fitted. Selection for this is Global > Specifications > Radio Type ‘Headless Tait Unified Vehicle’. XPA-1807



- **JIRA-TRM-52021: API for External Actions**

Allows a radio user to control Conv / Trunked Key Settings > External Actions 1-4 via the CoAP interface. This would typically be when the radio is attached to an AXIOM product so requires SFE key TMAS108/TPAS108.

- **JIRA-TRM-51721: Add UI handling of CoAP remote UI menu items**

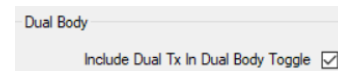
Allows the creation of new menu options dynamically via the CoAP interface for the radio user to interact with applications and functionality external to the radio. This would typically be when the radio is attached to an AXIOM product so requires SFE key TMAS108/TPAS108. TRM-51716

- **Remedy WO 99906: Request ability to send location to specific talkgroup**

Previously the only options provided when viewing current location on the display was the option to send this current location message to members of the current talkgroup. This release adds support for ‘Send to selectable group’ where the location text message can be decided from the radio’s Talkgroups list. TRM-49459

- **Remedy WO 101222: Ability to disable Dual Body Transmit on TM9356 mobile**

Dual body users who utilize dual receive have requested the ability to disable the ability for some end-users to select dual transmit too. Dual transmit was a secondary long-press action of the function key when dual receive was activated but a new checkbox has been added in Conventional UI > General to disable this specific functionality if desired. This checkbox is enabled by default as per the previously available capability. XPA-1808



- **JIRA-TRM-52273: Add support for Low Level Backlight on color control heads**

The mobile Global > UI Preferences > Display > ‘Low Light Backlight Level Adjustment’ functionality where Low and Medium provide very low backlight levels – is now also supported by the color control heads.

- **Remedy WO 63228: PTT indicator tone improvement**

The Proceed To Talk (Go ahead tone) audible indicator can now play as a shortened version. This is selectable in Global > UI Preferences > Audible Indicators > Indicators > Proceed To Talk Tone where the option is now selectable with ‘Short’ or ‘Default’. TRM-51405

Problems Fixed in DMR Firmware v3.04.01

- **JIRA-TRM-38823: Annunciation of conventional zone change is slow**
 Timing improvements have been made when playing voice annunciations for a zone (when scrolling). Previously this annunciation was occasionally delayed because there was a conflict with an audible indicator also attempting to play.
- **Remedy WO 106625: TP9000 False flat battery voice annunciations**
 The portable will no longer play the 'battery low' voice annunciation just as the user was switching the radio off. This situation occurred if the battery voltage read test coincided with the user switching off the radio. As the voltage during shutdown could be anything from full to zero this was deemed unreliable and so the voice annunciation battery check no longer occurs at this time. TRM-51837
- **Remedy WO 108205: Tier-2 radio unmutes to group calls when it matches radio's ID**
 Stopped incorrectly comparing the source ID in the LC Header with the radio's talkgroup addresses. TRM-52242
- **JIRA-TRM-52311: TM9356 Dual body system errors at power off**
 During radio shutdown, it was possible for a latent message to be sent from the control head to the radio body and expecting an acknowledgment. The radio body had reached a powered-off state where it would not be sending one. The fix was to force all devices in the system to abort any message send retries once the system entered a point of no return in the shutdown phase.
- **Remedy WO 108340, WO 110751: Color Control Head F-key labels on Dual Body not always visible**
 If a TM9356 Dual Body was connected to a color control head and the head had labels assigned to F3 and F4 labels these would not always appear with the secondary body active. TRM-52521
- **JIRA-TRM-43509: Align Startup and Mode change actions for Silent and Quiet modes**
 Changes now ensure that the Silent and Quiet mode functions are maintained through a change of Network or Trunked/Conventional mode changes and across power-cycles. Previously these changes would disable Silent or Quiet modes when set by the user.
- **JIRA-TRM-50625: MPT/DMR dual mode support for CMOVE command**
 Resolved an issue where the list of stored dynamic control channels was being reversed during a startup incorrectly making the oldest the first. The oldest stored channel now remains that. This was found after changes made in firmware v2.29 when radios were forced to move sites by the CMOVE command.
- **JIRA-TRM-51830: Correct the Hookswitch functionality with Dual head configurations**
 A rework of firmware now ensures that the microphone Hookswitch states are respected correctly in Dual Head configurations when PTT > Mic PTT 'Inhibit PTT transmission When Mic on Hook' is enabled.

- **JIRA-TRM-51848: Radio appears stuck on Tx if Emergency and PTT pressed together**
If the PTT and the function key assigned as emergency are pressed simultaneously the radio would appear to get stuck transmitting (the red LED would remain but the radio was not actually transmitting). The radio had made the emergency callout but did not enter cycling. This has been resolved and the radio will correctly release PTT.
- **JIRA-TRM-51862: Savox BTR-155 won't reconnect after it was power cycled**
This behavior was only present in firmware v3.03 and is now resolved.
- **JIRA-TRM-51974: Occasional setup delays for MPT1327 calls**
This was noted in firmware v3.01 where the first attempt to setup a new MPT1327 call would fail but subsequent attempts were fine. This was traced to the FFSK1200 signal path being incorrectly de-scheduled resulting in output FFSK signal gaps and this has been resolved.
- **JIRA-TRM-52084: System error when Listen-In enabled with Selcall on Dual Head**
Fixed an issue where generating a Selcall transmission would sometimes cause a system error if the radio has dual heads and 'Listen In' was configured.
- **JIRA-TRM-52133: Packet data Pad Octet Count is set to zero for subsequent retries**
Tait DMR radios previously set the packet data POC information element of retry headers to zero, even if the last block was being transmitted. This has now changed to use the POC from the initial packet data call during packet data retries.
- **JIRA-TRM-52270: Control head LEDs switch to high when activity times-out**
When mobile control head display backlight is set to low or medium and 'with activity' and the backlight timer expires the backlight switches off, but the status LED(s) change from their low or medium level to high. The LED(s) now correctly remain unchanged regardless of the timer.
- **JIRA-TRM-51408: Function key label for encryption stops showing its 'check'**
It was noticed on the color control heads that a label for encryption on a Function key stopped displaying the 'checked tick' at the next power-cycle and this has been corrected.

Problems Fixed in DMR Firmware v3.04.02

- **Remedy WO 110899: TM9700 stays OOL after losing DMR Tier-3 coverage**
An update was made to the FPGA for mobiles. This resolved unexpected transient bursts on the TMC platform (TM9700 and TM9800). This also resolved an error where the TM9700 would loop 'Out of Lock' alerts after it had lost DMR Tier-3 coverage and require the user to power-cycle the radio to return to hunting and regain coverage. TRM-52742, TRM-52635, RFET-7103
- **JIRA-TRM-52626: TP9500-IS transmit rampdown issue**
An update was made to the FPGA for portables. This related to an error found on transmit rampdown on the TP9500 and TP9600 (IS models only). RFET-7088

Problems Fixed in DMR Firmware v3.04.03

- **Remedy WO 110089: Group calls display a random entry from address book**
If the radio has an imported address book it would display erroneous entries for Group calls. This error would only happen with some addresses and if the network configuration uses 'DMR' dialing scheme. TRM-52843
- **Remedy WO 97573: Voice Annunciation files sound distorted in Trunked mode**
Noted between firmware v3.04.00 and v3.04.02 that voice annunciation files sound distorted in trunked mode, but not in conventional mode. This distortion only occurred on the TP9300 and TP9500 portables and only if annunciations played while the radio was in No Service or hunting sites. Resolved these issues in this build. TRM-52931

Known Problems or Limitations

- JIRA-TRM-52599: No audible indication with first toggle of accessory volume the first time this is done – if the accessory was connected *after* powering up the radio.
- JIRA-TRM-52657: If a user switches channels and PTT's instantly it may still go out on the previously selected channel. Radio needs a very short wait to configure the new channel before it's ready. Issue present in firmware v3.03 and v3.04.
- If a portable is to be tested and is receiving either white noise (squelch overridden) or a fixed tone, setting the volume knob to full for long periods may damage the internal speaker
- JIRA-TRM-42511: Portables only show 'Voice Annunciatio' under radio *Menu / Radio Settings / Functions*
- JIRA-TRM-51866: Battery level menu of Aina Smart Button always displays 0%
The radio menu *Bluetooth / Manage Devices / Aina button / Battery level* is always responding with 0%
- JIRA-TRM-51850: The 'Reflect PTT Inhibit Status IO' line is not being toggled when the PTT is inhibited in PTT > Mic PTT
- JIRA-TRM-51848: If PTT and the emergency function key are pressed at the same time, the radio will often get stuck transmitting.
- JIRA-RFET-6940: HK-band mobile transmit does not ramp up correctly at the top of the band when using firmware v3.01.01. See fix in firmware v3.10.04.
- The TMX450 Tait UnifiedVehicle does not support v3.x software. It can operate with Firmware up to v2.30.10 and will be supported in a later version, yet to be confirmed.
- JIRA-TRM-50120: TP9500 users of MPT1327 that also utilize WiFi for OTAP may notice events where calls are not setup reliably during the WiFi startup phase
- JIRA-TRM-49104: Site-based Talkgroup selection not yet implemented
- JIRA-TRM-49708: Trunked calls can still be setup even though Inhibit PTT I/O line is active, conventional transmit remains inhibited
- JIRA-TRM-49702: Geo-fencing: 'Turn WiFi Off' is not turning off when crossing into a region
- JIRA-TRM-49638: 'Over-the-Air' alert tone does not work as expected on a Selcall channel during emergency cycling

- JIRA-TRM-47398: When a portable contains a Bluetooth configuration with 'Use Multi-Device UI' and 'Confirm Before Connecting', the user needs to select 'Yes' to a reconnect request at start up. The radio commences the connection process but quickly jumps to the next device in the list and asks the same question. If one of these devices is a Bluetooth PTT button and the other a headset, then this is understood, but if the listed items are both headsets this action becomes confusing.
- The TM9300 may display pop-ups when actions such as function keys are triggered, but if multiple pop-ups occur only the last one is seen
- JIRA-TRM-49566: Emergency cannot be triggered via I/O line when radio is powered off. If IOP_GPIO7 is set to emergency, and an *externally powered* programmable I/O board is connected to the internal options port, emergency will not be successfully triggered after the radio has completed its power-up
- JIRA-TRM-47352: Lone Worker active in Alarm Only emergency
If Trunked > Fleet Parameters > Emergency > Emergency Call Type is set to 'Alarm Only', and manually activating emergency with a function key, Lone Worker will remain active – when the expectation is that it deactivates until the user toggles the emergency off
- JIRA-APP-15063: The Conventional > Basic Settings > Receiver Monitoring 'Hookswitch Monitor' option for mobile microphone use is inadvertently available in TP9300 and TP9500 portable configurations, and enabling this affects the auto quiet timer operations
- If the Savox BT-COM and BTR-155 Bluetooth devices go out of range of the radio (>10m) they may not successfully reconnect when it returns to the radio without also power-cycling. See TN-3154
- Some combinations of TM9356 dual body may produce TDMA Transmit artefacts on Tier-2 channels. See suggestions to alleviate this in TN-3159
- TM9300 and TM8200 do not support more than 31 BCD selections (5 BCD lines), the TM8100 supported 100 (8 BCD lines) in its later releases
- JIRA-TRM-39994: 'ECR Call Clear' does not clear down a call if it is still being setup
- JIRA-TRM-40035: Normal PTT operation is not allowed while do not disturb or diverted are active
- JIRA-TRM-40017: Misleading messages are displayed when activating or deactivating 'Do not disturb'
- JIRA-TRM-39979: Dial menu option is available when dialing on the channel is not supported
- JIRA-TRM-39970: Can't nuisance delete a channel when first selected while background scanning when 'Include channel in scan regime' is enabled
- JIRA-TRM-39963: Attempting an emergency call on DMR Tier-2 repeater that is out of range, shows 'No Ack Received' and not 'No Repeater' as expected
- JIRA-TRM-39944: Radio goes through emergency callout stage even if no emergency sequence configured

- JIRA-TRM-39943: Displayed pop-ups e.g.: 'No Sat Rcvr' stay frozen on display during stealth emergency
- JIRA-TRM-39942: A channel without emergency enabled looks frozen if stealth is activated even though keypresses and audio remain normal
- JIRA-TRM-39939: No pop-up given on dual-head secondary head if radio programming is attempted; programming is only supported through the primary (lowest MAC ID) head
- JIRA-TRM-39938: Activating upgrade mode for dual head radio while powered on results in only one head entering the correct mode
- JIRA-TRM-39936: Concealed mic audio is not overridden by standard mic when PTT pressed
- JIRA-TRM-39935: Emergency I/O 'toggle' does not function the way online help describes
- JIRA-TRM-38860: GPS location polling does not work if 'Location Preamble Duration' is set to 60ms; recommendation is to revert to using the 120ms default
- JIRA-TRM-38874: Occasional failure to send 128-character length message over IP
- JIRA-TRM-38813: TM9315 tries to display address book label of the associated group instead of preset ID when receiving incoming MPT1327 group call
- JIRA-TRM-38787: Unable to send a status to a talkgroup from the address book but sending SDM is allowed
- JIRA-TRM-38786: If the talkgroup is changed on a DMR Tier-2 channel, the radio will only receive statuses or SDMs for the default channel talkgroup, not the currently selected talkgroup
- JIRA-TRM-35525: If Tx9300 is configured with individual DMR Tier-2 calls (unchecked) you cannot return a missed call and cannot always answer an incoming call
- JIRA- TRM-27668: Disabling dynamic regrouping in the dropdown does not stop the radio accepting groups from the node
- JIRA-TRM-38919: If a TP9300 is in a radio unit monitor call and the external PTT is pressed, it will inhibit dialing radio IDs afterwards
- Remedy WO 24811: TM9300 data radios resetting if MAP27 commands are sent to the radio before it is ready, e.g.: immediately after start-up. TRM-38204
- JIRA-TRM-37648: Radio does not unmute when returning to receive on a SIBT channel
- JIRA-TRM-37647: Radio may display Selcall/MDC1200 talker ID without also unmuting to a valid SIBT
- JIRA-TRM-35701: Pressing PTT while 'Can't return call on current channel' makes a group call on the channel instead of repeating the message
- JIRA-TRM-35649: Geofencing will not change modes if the radio is in a call
- JIRA-TRM-35565: When queue is full of SDMs, further messages are acknowledged as successful, but discarded
- JIRA-TRM-35482: The maximum transmit time from external PTT does not follow the PTT programmed maximum values

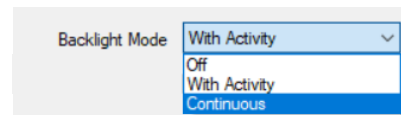
- JIRA-TRM-34041: DTMF freeform dialing is not subject to the TX timer duration
- JIRA-TRM-35535: Radio doesn't respond to the NACK_resp for DMR Tier-2 call alert
- JIRA-TRM-34048: DMR Tier-2: If 'PTT Phone Patch Dialing' is checked, the radio will allow 'Phone Patch Call Dialing' even though that option is unchecked
- JIRA-TRM-34054: 'No dialing on this channel' is accompanied by a valid keypress beep
- JIRA-TRM-34030: In trunked mode, dialing '*0*nnn' when statuses are not being used as dispatcher requests is not rejected
- JIRA-TRM-33336: Hunting sampled channel list reset on returning from payload channel
- JIRA-TRM-34018: DMR Tier-3 displays 'Busy' when attempting to send a status ID which has 'RX Processing' disabled on the receiving radio
- JIRA-TRM-32981: BER Diagnostic 1031 discrepancy between FW v2.14 and v2.15
- JIRA-TRM-32908: No Red TX LED when sending DMR Tier-2 Status
- JIRA-TRM-32036: When '#48#' is dialed and disabling of trunked call queuing is disallowed, the 'feature unavailable' tone is played twice

DMR Programming Application v3.4.5.44

New Features and Enhancements:

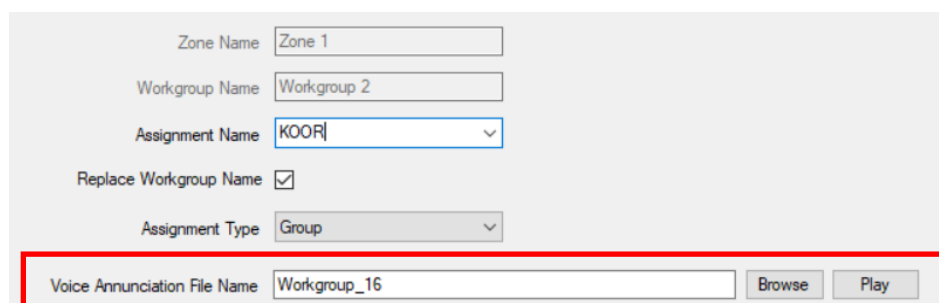
- **JIRA-XPA-1072: Add Continuous backlight option for portables**

Portable models can now select the option to enable 'Continuous' Backlight Mode. Previously this was selectable as a radio *Menu / Radio settings / Display settings / Backlighting* option but not in Global > UI Preferences > Display and Menu.



- **Remedy WO 97573: Assign Voice Annunciations on per-Workgroup basis**
Previously Workgroups could have Voice Annunciations assigned in the Trunked > Workgroups Assignments > Voice Annunciations tab but this was limited to only the first Zone. To assign Voice Annunciations to any Workgroup there is now a new field within each Workgroup. XPA-46.

By double-clicking a Workgroup the following is now presented:



Zone Name: Zone 1

Workgroup Name: Workgroup 2

Assignment Name: KOOR

Replace Workgroup Name:

Assignment Type: Group

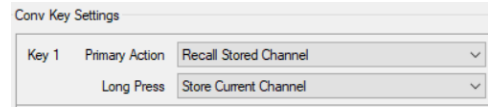
Voice Annunciation File Name: Workgroup_16

Browse Play

- **Remedy WO 105977: Add Store/Recall Channels to Function Keys**

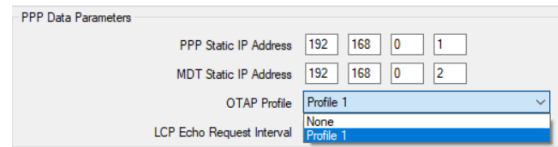
This feature allows the radio to store and recall channels or groups using the function keys provided.

This is helpful for mobiles not using the keypad microphone. Note only 'Standard' scan/vote type is accommodated, 'Background' and 'In-Zone' are not supported for this.
TRM-49882, XPA-1649



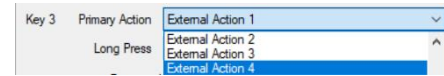
- **JIRA-XPA-1492: Implement ability to OTAP Registrations via the AUX port**

To allow OTAP configurations via the mobile AUX port the OTAP Profile can now be selected in PPP Parameters by a new dropdown field in the [Global > TCP/IP > Data Peripheral](#) page.
JIRA-TRM-51999



- **JIRA-XPA-1741: Add external actions to Function Key options for AXIOM**

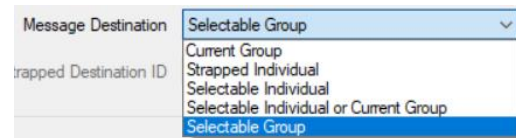
External Actions allow a radio function key to be mapped to an external action via a CoAP API. The function keys now provide configuration of External Action 1-4 in Conventional and Trunked modes.



- **JIRA-TRM-49459: Ability to send location position to specific talkgroup**

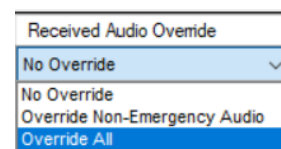
Extended the text message destinations dropdown options in [Conventional > Basic Settings > Messages > Message Destination](#) to include 'Selectable Group'.

This pulls from the [DMR Talkgroup Lists > Talkgroup Members](#) list. When the user displays their location and uses 'Share' on the RSK they can now select a specific Talkgroup to send this. Previously it would only allow the current Talkgroup. XPA-1760



- **JIRA-TRM-51609: Audible Notification suppression control**

A new dropdown field 'Received Audio Override' can now define whether a [UI Preferences > Audible Notifications](#) can automatically override any active receive audio and the decision can be if this also overrides what may be emergency call audio. XPA-1763

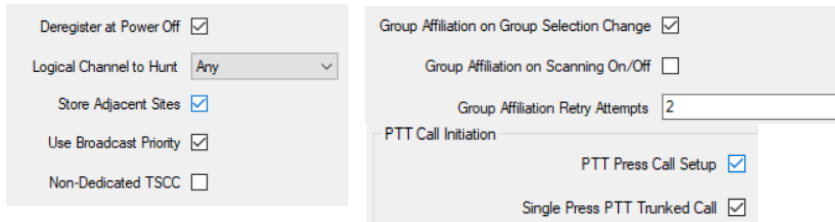


Problems Fixed:

- **Remedy WO 100899: Optimize DMR Trunked default values**

These following application fields have been updated to be enabled by default on the Trunked > Fleet Parameters, Trunked > Hunting Params and Global > PTT pages:

- Deregister at Power Off
- Store Adjacent Sites
- Use Broadcast Priority
- Group Affiliation on Group Selection Change
- PTT Press Call Set Up and 'Single Press PTT Trunked Call
- Group Affiliation Retry Attempts is preset to '2'

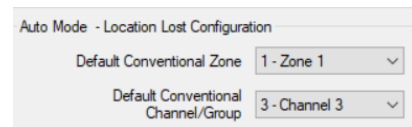


The screenshot shows two panels of configuration options. The left panel includes: 'Deregister at Power Off' (checked), 'Logical Channel to Hunt' (set to 'Any'), 'Store Adjacent Sites' (checked), 'Use Broadcast Priority' (checked), and 'Non-Dedicated TSCC' (unchecked). The right panel includes: 'Group Affiliation on Group Selection Change' (checked), 'Group Affiliation on Scanning On/Off' (unchecked), 'Group Affiliation Retry Attempts' (set to '2'), 'PTT Call Initiation' (checkbox), 'PTT Press Call Setup' (checked), and 'Single Press PTT Trunked Call' (checked).

This ensures newly created trunked profiles perform in typical networks. XPA-608

- **JIRA-XPA-1594: Misleading title 'Default Conventional Zone'**

The fields in Geofencing > Global Configuration for loss of location in Auto Mode have been placed under the title 'Auto Mode – Location Lost Configuration' to better outline when this selection becomes valid.



The screenshot shows a configuration window titled 'Auto Mode - Location Lost Configuration'. It contains two dropdown menus: 'Default Conventional Zone' set to '1 - Zone 1' and 'Default Conventional Channel/Group' set to '3 - Channel 3'.

- **JIRA-XPA-1208: Noise Blanker unavailable for TM9700 on VHF**

Previously the applications grayed-out Channels > Detailed 'Noise Blanker' for the multiband mobiles, even if 'B' was the only configured band. This was corrected and the checkbox is now available for VHF channels. It grays-out if the frequencies are UHF.

- **JIRA-XPA-1284: App crashes when selecting Tone Durations in Two-Tone Options**

If a newly created Conventional > Decode > Two-Tone signaling system was created and the user clicked on any of the 'Tone Durations' fields the application would crash. This has been corrected.

- **Remedy WO 105657: Occasionally the App needs to re-start a read/prog of a configuration**

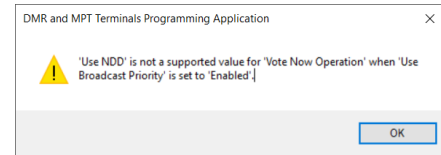
Some users were encountering programming application time-outs and sometimes 'Packet checksum' pop-up errors while reading or programming configurations. The applications have relaxed some timing values used during the read/write process to radios and this has alleviated a significant number of unexpected time-outs. XPA-1357

- **Remedy WO 105525: Programming App allowed duplicate OTAP Profile names**

The applications now check when creating new OTAP profiles that the name of any existing profiles are not duplicated. XPA-1370

- **JIRA-XPA-1386: Prog App crash when selecting a Vote Now Operation**

If a newly created trunked network configuration had Trunked > Hunting Parameters > DMR > 'Use Broadcast Priority' enabled and then in Hunting Parameters > Common > Vote Now Operation an attempt to select 'Use NDD' the application would crash. This now correctly displays the pop-up shown right. XPA-2088



- **Remedy WO 105937: App crashes when enabling Workgroup UI in an existing datafile**

If a user attempted to enable Workgroup UI to an existing datafile the application would error and crash. This was due to missing default labels for the Workgroup assignments – so these are now automatically preset for Zone 1 and Workgroup 1. XPA-1388

- **JIRA-XPA-1607: Assigning Programmable I/O as Geofencing can't be undone**

Previously a user could assign Global > Programmable I/O > Digital > Output as 'Geofencing' but once this was set the I/O grayed-out and could not be changed. This occurred as the setting is expected to be configured in the Geofencing > Actions page and this is now the only valid way to configure it.

- **Remedy WO 93603: Online help for 'Use Channel For Data' updated**

The help text has been improved to better describe what this checkbox enables.

- *This optimizes the RSSI detection threshold for receiving modem data. It only applies to analog channels.*

Selected – The RSSI detection threshold of a busy channel changes to -125dBm to -115dBm for increased modem sensitivity to low-level RF signals.

Cleared – The RSSI detection threshold of a busy channel is -119dBm to -115dBm.

If you're interfacing to an external modem, to meet the modem audio requirements you'll need to select the appropriate configuration for audio Tap In and Tap Out points.

XPA-1972

- **Remedy WO 101109: Prog App doesn't not display correct VA filename**

The root cause was found to be a corruption of a customer's specific datafile – and that could not be reproduced – but the investigation uncovered other possible issues with display of Voice Annunciation filenames and have been corrected. XPA-606

- **Remedy WO 110653: Older configurations not opening in v3.3 prog apps**

Loading a radio configuration into v3.3 programming application where the Selcall Control Status labels were defined above Status ID 27 would cause an error not found in older programming applications. The calculation error has been resolved. XPA-2170

DMR Programming Application v3.4.6.47

- **JIRA-XPA-2303: Incorrect radio models appearing in 'Import' option**

The programming application can 'Import' a configuration from an obsoleted model and in the DMR application this is the TM8200 but the dropdown list was also showing Tx9100 and TP9700 in error.

Known Problems Or Limitations

- There is currently no help text for the new Global > UI Preferences > Voice Annunciation > Radio Shutdown Annunciation field for portables in this application release.

Programming Application Database Compatibility

Cadence	DMR Programming Application	TP9300, TM9300, TP9500, TP9700 and TM9700 Database
R23.2	v3.1.2.2	0443
R23.2-Patch	v3.1.4.5	0443
R23.3	v3.3.1.2	0447
R23.3-Patch	v3.3.2.2	0447
R23.3-Patch	v3.3.4.28	0447
R24.1	v3.4.5.44	0458
R24.1-Patch	v3.4.6.47	0458

Calibration Application v3.4.2.11

- **JIRA-RFET-6977: Characterize the TPH and TMC platform mute**
The TPH (TP9700/9800/9900) and TMC (TM9700/9800) platforms have new receiver line-ups and a characterization of the mute thresholds was performed. XPA-1969
- **Add support for TP9500 CID1 (IS) model**
The TP9500 platform now includes a Class I Division 1 (CID1) intrinsically safe model and Calibration App v3.4.2.11 provides support for this variant.
- Production builds of firmware v3.04 will be calibration database **0102** so this calibration application is required to support them. Any existing radios that are upgraded from firmware v2.x (Cal DB 0012) **must** have their calibration data read and written back as part of the firmware upgrade process to update to Cal DB 0102.

Known Problems or Limitations

- Remedy WO 109410: Calibration Application v3.3.3.6 and v3.4.2.11 currently only work correctly if the PC uses English language. Other regional languages cause calculation errors to be displayed. Suggested workaround is to set Tools > Options > General to 'English' until this is resolved. TRM-52412

Windows O/S Compatibility

- The Programming and Calibration Applications require [Microsoft \[.NET\] framework v4.7.1](#) (or later). The applications are tested as compatible with the following O/S:
 - Windows 11 (64 bit)
 - Windows 10 (32 and 64 bit)
Windows XP, Vista, 7, 8.0 and 8.1 are not supported.

First Serial Numbers v3.04.01

TM9300 Mobile Firmware v3.04.01	S/N (TBA)
TM9700 Mobile Firmware v3.04.01	S/N (TBA)
TP9300 Portable Firmware v3.04.01	S/N 26945560

First Serial Numbers v3.04.02

TP9500 Portable Firmware v3.04.02	S/N 26957486
TP9700 Portable Firmware v3.04.02	S/N 26940395

Publication Information

Related Documentation	TN-1899e-AN – Upgrading Terminal Firmware TN-2699i-AN – Configuring Tait Radio Audio Enhancements TN-3397c-AN – Introducing Code-signing and OTAP2			
Compliance Issues	None.			
Compatibility Issues	None.			
Confidentiality	Confidential – This message or document contains proprietary information intended only for the person(s) or organization(s) to whom it is addressed. All recipients are legally obliged to not disclose Tait technological or business information to any persons or organizations without the written permission of Tait.			
Distribution Level	Associate.			
Document History	Issue	Date	Description	Author
	-	10 May 2024	First release of DMR firmware v3.04.01, Prog App v3.4.5.44 and Cal App v3.4.2.11	J James G Brenchley
	b	28 May 2024	Release of 24.1 patch with fixes in firmware v3.04.02	G Brenchley
	c	June 2024	Release of updated Prog App v3.4.6.47 and firmware v3.04.03	G Brenchley

DMR Firmware v3.03.08

DMR Programming Application v3.3.4.28

Tx9000 Calibration Application v3.3.3.6

DMR Cadence v3.03 (R23.3)

Firmware **v3.03.08.0132** for the TM9300 and TM9700 DMR mobiles and the TP9300, TP9500 and TP9700 DMR portables is supported by:

- DMR Programming Application **v3.3.4.28** (or later)
- Tx9000 Calibration Application **v3.3.3.6** (or later)
- EnableFleet **v4.9.3.77** (or later)

Important Note:

The TMX450 Tait UnifiedVehicle does not support this software. It can operate with Firmware up to v2.30.12 and will be supported in a later version, yet to be confirmed.

Important Note:

The Tait Gridlink TD9300 device does not support this software. It can operate with Firmware up to v2.30.07 and will be supported in a later version, yet to be confirmed.

Important Note: Do not downgrade portables built after **26692342** to firmware older than v2.30.02 as GPS on the new portables will become non-functional

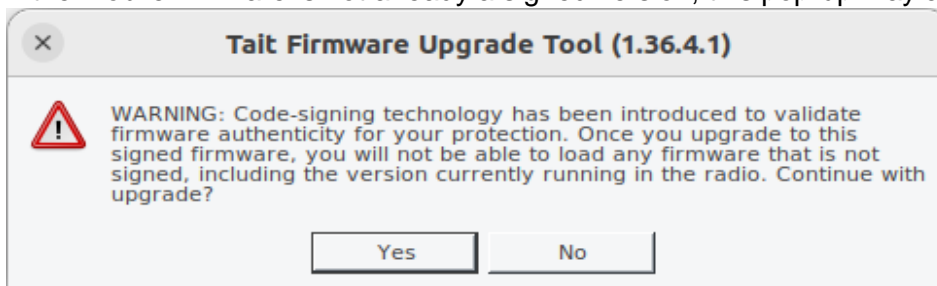
Important Note: Do not downgrade TM9300 25W mobiles built after **21543773** to firmware older than v2.30.07 as the radio will become non-functional

Important Note:

The release of the color control heads requires the TM9300 and TM9700 bodies using (or intending to use) these to upgrade to match the control head's firmware.

If not done so the head will display 'Firmware Mismatch'.

If the mobile firmware is not already a signed version, this pop-up may also appear:



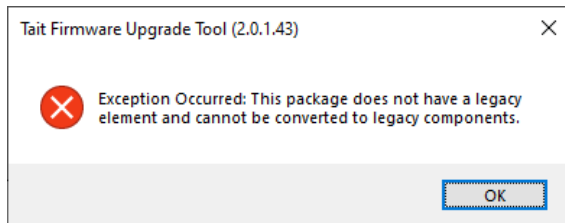
See further details in TN-3397c-AN.

Important Note:

Tx9000 Calibration Application v3.3.3.6 (or later) is required to support radios running firmware v3.03 or later (calibration database **0102**). It is very important that during the upgrade that the radio's calibration is read and written back using the latest v3.3.3.6 calibration application.

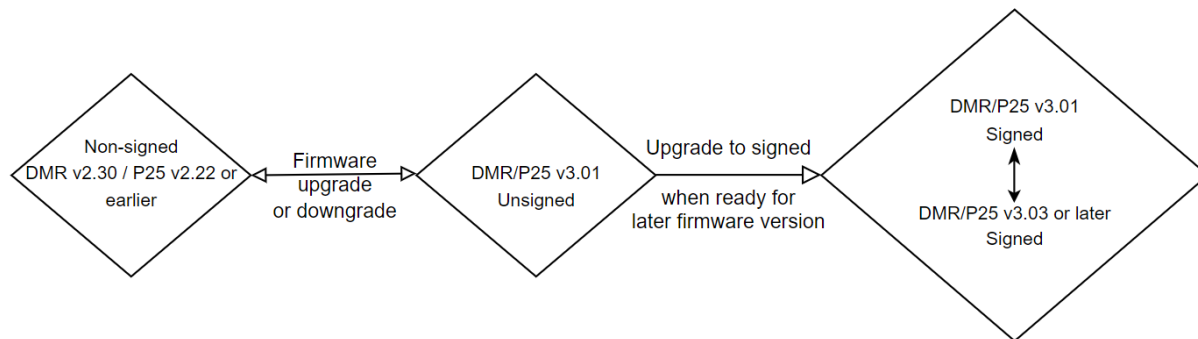
Important Note:

TP9300 and TM9300's that are operating with firmware v2.xx cannot be upgraded directly to firmware v3.03 or later. Attempting to do so will display this pop-up:



They must first be upgraded to firmware v3.01-**signed**.

From v3.01(signed) the radios are able to upgrade to v3.03 or later and can also downgrade later to v3.01 (signed) if required.



New Features

- **JIRA-TRM-50504: Audio Improvements to Analog Transmit**

The audio in the terminals continues to be improved. This release improves the transmit audio levels in Analog by reworking the limiter stages allowing better automatic level control than previous releases.

- Modified the Automatic Level Control stages with smaller adjustments within the Codec. This stops unexpected ramping levels causing robotic artifacts.
- Added 4.5dB gain to boost quiet speech in analog channels only matching the work done previously for digital channels in R23.2

Note: A side effect is that an audio loopback (echo) when a receiving radio is in close proximity to a transmitting one may be more evident now. A mechanism to desensitize this will be included in further audio work in a subsequent cadence.

- The receiver Automatic Noise Reduction (ANR) has moved from each Channel > Detailed tab to the Global > Audio Profiles page and becomes common to that profile. TRM-51379, TRM-51540

- **Mobile Color Control Heads**
This release now supports all color control heads for the TM9300 and TM9700 mobiles, TCH3, TCH4 and TCH6. Existing mobile bodies must be upgraded to exactly match the firmware in the color control head as noted on page 1.
- **Remedy WO 97552: Digital Noise Suppression (half rate) is slow to action**
This related to the Digital AGC which had a slow attack. Changes implemented for 'Standard' ALC Type in Global > Audio Profiles in this cadence will significantly improve this behavior. Digital AGC is no longer of value and has been removed. TC-189, TRM-48740
- **Remedy WO 37726: Implement Active Vote feature**
Found in Conventional > Scan Groups > Vote the 'Active Voting' feature seeks out the best channel on a vote group. If the radio had already captured a signal that channel will be used to transmit to as before. This enhancement on conventional vote will automatically transmit out in sequence to each channel in the current vote group when the user PTT's if there was no initial repeater response, for example: the radio has moved out of range of the previously captured repeater and there have been no further calls for the radio to capture in a re-vote. TRM-39658
- **JIRA-TRM-51515: Implement Bluetooth commands for the Titan WM20 RSM**
This enables the loudspeaker in the Titan WM20 RSM to close when in standby, complementing the same work done in the Wireless Audio Gateway on the mobile. The WM20 recognizes the radio's PTT tones to detect a call.
- **JIRA-TRM-42145: Auto Connect on Bluetooth**
In Bluetooth > General is a new checkbox 'Connectable'. In addition to enabling a mode that allows other Bluetooth devices to request a connection to the radio. This checkbox enables the radio to auto connect to the previously connected device as soon as it either powers-on or comes into Bluetooth range. Unchecked, the radio will connect when prompted from the UI or at power-on (using the 'Attempt Automatic Reconnection' checkbox) only. XPA-926
- **JIRA-TRM-50695: Support for Savox BTH-102 discrete Bluetooth device**
Implemented Bluetooth support in the portables for the Savox BTH-102 device. This replaces the BTH-101 which is being obsoleted.

Problems Fixed in DMR Firmware v3.03.03

- **Remedy WO 106013, WO 106986: Portable contrast setting adjustments not saved**
Customers found that adjusting the contrast setting in portable radio *Menu / Radio settings / Display settings / Contrast adjust* would revert to the original programming application value at the next power-cycle. Found in firmware v3.01 but not an issue in firmware v2.30. TRM-51878

- **JIRA-TRM-41521: Emergency mode digital input does not ‘toggle’ in trunked mode**
 The TM9300/TM9700 Global > Programmable I/O > Digital IOP_GPIO7 or AUX_GPI2 set to ‘Emergency Mode’ would enable the ‘Toggle Emergency’ checkbox on the page but this was not actioning when expected. Corrected this for MPT or DMR trunking modes which always returned false and ignored.
- **Remedy WO 103664: Portables not playing Voice Annunciations at startup**
 If a portable uses a function key to deactivate voice annunciations and they were deactivated before powering off they would then often fail to play any of the configured Global > UI Preferences > Voice Annunciation ‘... on Startup’ annunciations as expected. The radio was incorrectly checking the global voice annunciation enable setting in the database rather than the activation state as toggled via the function key. This issue was not present in firmware v2.29. TRM-50820
- **Remedy WO 98031: Channel authorization downlink LC headers inhibits PTT’s**
 If a radio is configured for Trunked > Radio Calls > Call Options > DMR > Channel Authorization the radio now behaves impolitely when receiving voice from itself or channel authorization LC headers, so that if the user happens to ‘bounce’ the PTT they no longer get denied from the second press of the PTT. TRM-48909
- **Remedy WO 101181: Function key ‘Bluetooth Devices (Re)Connect’ not working**
 A portable can be configured with Function Key options ‘Bluetooth Devices Connect’ and ‘Bluetooth Devices Disconnect’ but users found the portable unable to use the *Connect* action after a *Disconnect* was successful. This did work if the radio menu option *Menu / Bluetooth / Reconnect last* was used. This now works correctly from the function keys. TRM-50104
- **Remedy INC 62665: No received audio heard if call setup tones are disabled**
 If a radio is configured with Global > UI Preferences > Audible Indicators call setup tones disabled such as ‘Traffic Channel Acquired’ it would also mute incoming audio unless the user pressed any button, causing the key beeps to play, and audio would be heard – but only until the call ended. This issue occurred between v2.28 to v3.01. TRM-51129
- **Remedy WO 105656: Scanning radio locks on to location updates and misses calls**
 Stopped the radio from hanging on the group hold timer when sending a location report while scanning which would impact voice channel captures. TRM-51544
- **JIRA-TRM-51297: Some Diagnostics options not functional in FW v2.30 and v3.01**
 The radio menu option *Diagnostics / QoS* option did not display the FEC and the *RX1031* option did not display BER. These worked correctly in firmware v2.29 and now resolved.
- **JIRA-TRM-49771: A disabled Wrap Around does not show the full list available**
 Modified the list behavior when Global > UI Preferences > Display and Menu ‘List Operation Wrap Around’ is not enabled so that when now entering a list where there is space for items above the current/active item to be shown, they will be.

- **JIRA-TRM-51441: User selectable signaling not reset on portable at powerdown**
 Corrected the shutdown process on portables so that selectable signaling if utilized is reset when Networks > Basic Settings > Subaudible Signaling 'On Off Key Resets User-Sel. CTCSS/DCS'. This issue did not occur on the mobiles.
- **JIRA-TRM-51485: Radio volume doesn't change when in pin entry mode**
 When portable was in a pin-locked state Global > Startup > General 'Security Lock on Power Up' the volume cannot be modified leaving it set at the last volume setting. The same occurred on the mobile (including the primary head of a dual head system which controls any external speaker volume).
- **JIRA-TRM-51550: Shutdown timeout occurs when WiFi is starting up**
 When the radio is shutting down, the radio will politely wait for the WiFi stack to shutdown before the radio turns off, but there are scenarios where this results in a (5 second) timeout at which point the radio will impolitely turn off or restart. Have added a fix to shutdown immediately if the WiFi stack is still starting up – but not yet connected to an access point. If connected then WiFi will politely shutdown as this is quick and lets the access point know that the radio is no longer connected.
- **JIRA-TRM-51580: Mobile with TCH fitted may error on powerdown**
 If a user started powering off the mobile with the on/off (volume) switch but immediately presses this again *during the powerdown* the radio may system error. Modifications to the neck communication code on the control head during shutdown procedures were made to stop these late key presses being actioned.
- **Remedy WO 107612: Radios sometimes going Out-Of-Lock on PTT**
 Implemented changes to increase the speed of the synthesizer lock detect to avoid missing synthesizer loop voltages after a transmit ramp-down from a PTT release as this would produce an out-of-lock alert. This followed changes originally implemented for a dual VCO synthesizer design used on the multiband models. TRM-52146
- **Remedy INC 64526: Receive performance at edge of coverage on TP9500/TP9700**
 Implemented significant improvements to alleviate noise generated by the audio amplifier particularly as the volume approached full. This noise impacted the received signals effectively decreasing the receiver's sensitivity. This only impacted the TP9500 and TP9700 models. RFET-6965
- **Remedy WO 105654: Radio not sending GPS with emergency call on correct Tier-2 channel**
 Corrected firmware to handle location reporting configurations when moving from a channel that does not support post-emergency reporting to a steered channel sending a pre-emergency request. This issue was not present in v3.01. TRM-51543
- **JIRA-TRM-52108: Upgrades getting stuck part-way through**
 This was found to be related to the queued upgrade software attempting to open into areas of code that were already processed, particularly notable on systems with 3 or 4 devices – dual head and/or dual body and this was causing a virtual stop of the upload.

- **Remedy WO 106176: Programming speed has slowed**
Improved the radio programming speed when writing a new configuration using the programming application. Configuration read times did not differ. In simple tests a basic configuration written to a radio with firmware v3.01 was ~24s, the same configuration written to a radio with firmware v3.03 is ~12s, so a discernable programming speed improvement. TRM-51656
- **Allow the radio to accept generated SFE keys**
This specifically related to allowing the production line to install generated SFE's over the top of an implied SFE successfully when they are listed in a production package.

Problems Fixed in DMR Firmware v3.03.07

- **JIRA-TRM-52213: Relax head versus body firmware match requirement on mobiles**
The requirement of signed firmware that the mobile body and head firmware versions match *exactly*, e.g. v3.03.03.0115, was deemed too restrictive. Consequently, changes have been implemented such that an exact match is only required between all bodies in the system.
Control heads will only need to match bodies within the same 'platform' version e.g. v3.03.xx. This has been implemented as a patch on R23.1 and in the R23.3 cadence. However please note the following:
 - Implementing this required a change to the sync-mechanism which means that the new firmware will be sync-incompatible with any firmware predating these changes (that is firmware v3.03.00 to v3.03.07 inclusive)
 - There are incompatible changes to the neck protocol between firmware v3.01.xx. and firmware v3.03.xx. This means that a radio system cannot use, for example, a control head running v3.01 and a body with v3.03. However, these will now only display a normal firmware mismatch message allowing the option to upload new firmware.
 - Any future requirements that change the platform protocol will increment the platform version and therefore will display a firmware mismatch message if devices do not match the platform version.
- **Remedy WO 109225: TASK locking a mobile often fails**
Fixed an issue where attempting to TASK lock (or unlock) a mobile radio using the Tools > Firmware Upgrade > Device Configuration could end in an inconsistent TASK state which would leave the radio unusable with the display shown right, until corrected. TRM-52359

Prog Mode TASK TORSO ID00

- **Remedy WO 104633: TM9300 not re-voting in an Analog Selcall group**
When the radio was on a selcall vote group and it received a selcall individual call sequence, it would open the monitor and periodically revote while the signal on the current channel was above the mute threshold.
However:
 - If the signal was lost suddenly, the radio would keep the monitor open - but stop voting. It would stay on the current channel until either the signal reappeared on the same channel, or the user closed the monitor.

- If the signal was gradually reduced to the mute threshold, the radio would close the monitor and continue voting (after group hold time expired).

Note: this would only occur when no other channel was present that the radio could vote to before hitting the mute threshold.

Fixes were implemented to ensure the radio keeps the monitor/call open and continues voting under both of the above signal loss conditions. The auto-quiet timer can be configured if users want the monitor to automatically close under signal loss conditions.
TRM-51185

Problem Fixed in DMR Firmware v3.03.08

- **JIRA-TRM-52311: System Error on Dual Body mobiles during power-off**

If a mobile was configured as a dual body and the user powered-off the radio it would occasionally system error during the power-down action. This was traced to a timing issue where the shutdown acknowledgement response was not often received in time. This did not occur with single body configurations.

Known Problems or Limitations

- If a portable is to be tested and is receiving either white noise (squelch overridden) or a fixed tone, setting the volume knob to full for long periods may damage the internal speaker
- The mobile UI Preferences > Display and Menu 'Low Light Backlight Level Adjustment' feature is not yet supported by the color control heads (TCH)
- JIRA-TRM-42511: Portables only show 'Voice Annunciatio' under radio *Menu / Radio Settings / Functions*
- JIRA-TRM-51866: Battery level menu of Aina Smart Button always displays 0%
The radio menu *Bluetooth / Manage Devices / Aina button / Battery level* is always responding with 0%
- JIRA-TRM-51850: The 'Reflect PTT Inhibit Status IO' line is not being toggled when the PTT is inhibited in PTT > Mic PTT
- JIRA-TRM-51848: If PTT and the emergency function key are pressed at the same time, the radio will often get stuck transmitting.
- JIRA-RFET-6940: HK-band mobile transmit does not ramp up correctly at the top of the band when using firmware v3.01.01. See fix in firmware v3.10.04.
- The TMX450 Tait UnifiedVehicle does not support v3.x software. It can operate with Firmware up to v2.30.10 and will be supported in a later version, yet to be confirmed.
- JIRA-TRM-50120: TP9500 users of MPT1327 that also utilize WiFi for OTAP may notice events where calls are not setup reliably during the WiFi startup phase
- JIRA-TRM-49104: Site-based Talkgroup selection not yet implemented
- JIRA-TRM-49708: Trunked calls can still be setup even though Inhibit PTT I/O line is active, conventional transmit remains inhibited
- JIRA-TRM-49702: Geo-fencing: 'Turn WiFi Off' is not turning off when crossing into a region

- JIRA-TRM-49638: 'Over-the-Air' alert tone does not work as expected on a Selcall channel during emergency cycling
- JIRA-TRM-47398: When a portable contains a Bluetooth configuration with 'Use Multi-Device UI' and 'Confirm Before Connecting', the user needs to select 'Yes' to a reconnect request at start up. The radio commences the connection process but quickly jumps to the next device in the list and asks the same question. If one of these devices is a Bluetooth PTT button and the other a headset, then this is understood, but if the listed items are both headsets this action becomes confusing.
- The TM9300 may display pop-ups when actions such as function keys are triggered, but if multiple pop-ups occur only the last one is seen
- JIRA-TRM-49566: Emergency cannot be triggered via I/O line when radio is powered off. If IOP_GPIO7 is set to emergency, and an *externally powered* programmable I/O board is connected to the internal options port, emergency will not be successfully triggered after the radio has completed its power-up
- JIRA-TRM-47352: Lone Worker active in Alarm Only emergency
If Trunked > Fleet Parameters > Emergency > Emergency Call Type is set to 'Alarm Only', and manually activating emergency with a function key, Lone Worker will remain active – when the expectation is that it deactivates until the user toggles the emergency off
- JIRA-APP-15063: The Conventional > Basic Settings > Receiver Monitoring 'Hookswitch Monitor' option for mobile microphone use is inadvertently available in TP9300 and TP9500 portable configurations, and enabling this affects the auto quiet timer operations
- The TP9300 and TP9500 support the Savox BT-COM and BTR-155 Bluetooth devices, however if the device goes out of range of the radio (>10m) it may not successfully reconnect when it returns to the radio without also power-cycling. See TN-3154
- Some combinations of TM9356 dual body may produce TDMA Transmit artefacts on Tier-2 channels. See suggestions to alleviate this in TN-3159
- TM9300 and TM8200 do not support more than 31 BCD selections (5 BCD lines), the TM8100 supported 100 (8 BCD lines) in its later releases
- JIRA-TRM-39994: 'ECR Call Clear' does not clear down a call if it is still being setup
- JIRA-TRM-40035: Normal PTT operation is not allowed while do not disturb or diverted are active
- JIRA-TRM-40017: Misleading messages are displayed when activating or deactivating 'Do not disturb'
- JIRA-TRM-39979: Dial menu option is available when dialing on the channel is not supported
- JIRA-TRM-39970: Can't nuisance delete a channel when first selected while background scanning when 'Include channel in scan regime' is enabled
- JIRA-TRM-39963: Attempting an emergency call on DMR Tier-2 repeater that is out of range, shows 'No Ack Received' and not 'No Repeater' as expected

- JIRA-TRM-39944: Radio goes through emergency callout stage even if no emergency sequence configured
- JIRA-TRM-39943: Displayed pop-ups e.g.: 'No Sat Rcvr' stay frozen on display during stealth emergency
- JIRA-TRM-39942: A channel without emergency enabled looks frozen if stealth is activated even though keypresses and audio remain normal
- JIRA-TRM-39939: No pop-up given on dual-head secondary head if radio programming is attempted; programming is only supported through the primary (lowest MAC ID) head
- JIRA-TRM-39938: Activating upgrade mode for dual head radio while powered on results in only one head entering the correct mode
- JIRA-TRM-39936: Concealed mic audio is not overridden by standard mic when PTT pressed
- JIRA-TRM-39935: Emergency I/O 'toggle' does not function the way online help describes
- JIRA-TRM-38860: GPS location polling does not work if 'Location Preamble Duration' is set to 60ms; recommendation is to revert to using the 120ms default
- JIRA-TRM-38874: Occasional failure to send 128-character length message over IP
- JIRA-TRM-38813: TM9315 tries to display address book label of the associated group instead of preset ID when receiving incoming MPT1327 group call
- JIRA-TRM-38787: Unable to send a status to a talkgroup from the address book but sending SDM is allowed
- JIRA-TRM-38786: If the talkgroup is changed on a DMR Tier-2 channel, the radio will only receive statuses or SDMs for the default channel talkgroup, not the currently selected talkgroup
- JIRA-TRM-35525: If Tx9300 is configured with individual DMR Tier-2 calls (unchecked) you cannot return a missed call and cannot always answer an incoming call
- JIRA- TRM-27668: Disabling dynamic regrouping in the dropdown does not stop the radio accepting groups from the node
- JIRA-TRM-38919: If a TP9300 is in a radio unit monitor call and the external PTT is pressed, it will inhibit dialing radio IDs afterwards
- JIRA-TRM-38204, Remedy WO 24811: TM9300 data radios resetting if MAP27 commands are sent to the radio before it is ready, e.g.: immediately after start-up
- JIRA-TRM-37648: Radio does not unmute when returning to receive on a SIBT channel
- JIRA-TRM-37647: Radio may display Selcall/MDC1200 talker ID without also unmuting to a valid SIBT
- JIRA-TRM-35701: Pressing PTT while 'Can't return call on current channel' makes a group call on the channel instead of repeating the message
- JIRA-TRM-35649: Geofencing will not change modes if the radio is in a call
- JIRA-TRM-35565: When queue is full of SDMs, further messages are acknowledged as successful, but discarded

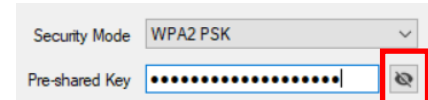
- JIRA-TRM-35482: The maximum transmit time from external PTT does not follow the PTT programmed maximum values
- JIRA-TRM-34041: DTMF freeform dialing is not subject to the TX timer duration
- JIRA-TRM-35535: Radio doesn't respond to the NACK_resp for DMR Tier-2 call alert
- JIRA-TRM-34048: DMR Tier-2: If 'PTT Phone Patch Dialing' is checked, the radio will allow 'Phone Patch Call Dialing' even though that option is unchecked
- JIRA-TRM-34054: 'No dialing on this channel' is accompanied by a valid keypress beep
- JIRA-TRM-34030: In trunked mode, dialing '*0*nnn' when statuses are not being used as dispatcher requests is not rejected
- JIRA-TRM-33336: Hunting sampled channel list reset on returning from payload channel
- JIRA-TRM-34018: DMR Tier-3 displays 'Busy' when attempting to send a status ID which has 'RX Processing' disabled on the receiving radio
- JIRA-TRM-32981: BER Diagnostic 1031 discrepancy between FW v2.14 and v2.15
- JIRA-TRM-32908: No Red TX LED when sending DMR Tier-2 Status
- JIRA-TRM-32036: When '#48#' is dialed and disabling of trunked call queuing is disallowed, the 'feature unavailable' tone is played twice

DMR Programming Application v3.3.1.2

New Features and Enhancements:

- **Remedy WO 105138: WiFi password mask changes**

The WiFi Pre-shared Key password has a view button so the programmer could verify this was correct before writing to the radio. If a previously programmed radio configuration was read back the view button would allow this password to be unmasked. The opportunity to view the PSK password is now only visible when a new password is entered. Once the radio is written or the configuration is saved to disk it is viewable only until the programming app closes. If the radio, or saved configuration, is read back the view button is unavailable. XPA-1226, XPA-1540



- **JIRA-XPA-1332: Implement Light sensor in Diagnostics menu**

Added a checkbox under *Radio Menu > Diagnostics*. Once the color control heads have adaptive brightness implemented this will provide a light sensor reading.

Problems Fixed:

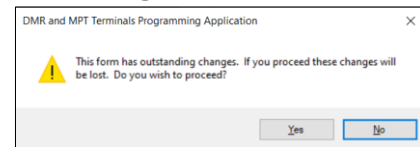
- **Remedy INC 63394: The Prog App enforcing Very Low on FCC itinerant channels**

The FCC mandate a maximum transmit power of 2W in the specific 700/800MHz itinerant frequency ranges and while the K5-band mobile at 'Very Low' power is 2W the portables are 1W and users were unable to select 2W (Low) to match this. The programming application will now allow portable models to select either 'Very Low' or 'Low'. The mobile on these frequencies remains fixed as 'Very Low' only.

- **JIRA-XPA-1151: Accessory Volume available on mobiles**
Previous programming applications had 'Accessory Volume' available on Function Ctrl Settings > Key dropdowns and in Startup/Shutdown > Function Options for mobiles. This has been corrected to limit this feature to portables.
- **JIRA-XPA-1132: Remove Bluetooth legacy pairing**
Due to modern security concerns the Bluetooth > Legacy tab supporting insecure pairing modes has been removed.

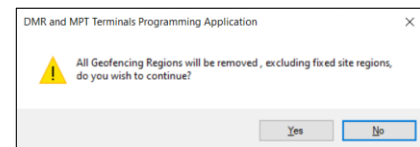
- **JIRA-XPA-931: Save-As dialog box close on exit actions the wrong command**

Attempting to close the programming application with no changes would display the dialog box (right) but if the [x] was used this should have closed as though it was a 'No' whereas it was actioning 'Yes'. This has been corrected.



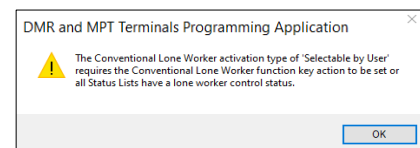
- **JIRA-XPA-962: Setting Geofencing input to external allows invalid actions**

If Global > Geofencing > Geofencing Source was set as 'External' older versions of the programming application had allowed the user to configure Global > Geofencing > Actions too, which is an invalid combination. Setting 'External' now disables any 'Actions' and it and invalid configurations read into the programming application will now display this pop-up.



- **JIRA-XPA-1075: Lone Worker status on Entry Level models**

When programming Lone Worker as 'Selectable' on Entry Level models the pop-up made no mention of Status Lists needing Lone Work remote status. This has been updated as shown right.



- **JIRA-XPA-1415: Prog App errors when using the Transfer to option from a TP9700**
This was traced to invalid bandwidths being allowed under TP9700 that would not transfer to other radio models, which is correct behavior, but the application errored rather than advising the original problem to the user for them to correct.
- **JIRA-XPA-1321: App crashes selecting the VA folder but with no Comm Ports**
If there was no Tait programming cable connected to the PC when choosing the 'Voice Annunciation' folder in Tools > Options > General > Browse the application displayed an unexpected error and crashed. XPA-56, XPA-1321

Online Help Changes:

- **Remedy WO 103870: Missing text and blank Online Help pages**
A significant number of the online Help pages were corrected in this release. This includes pages that appeared blank or were missing sentences. XPA-1470

DMR Programming Application v3.3.2.2

Problem Fixed:

- **Remedy WO 109123: Generation error appears in the EnableFleet Manager**
Solves an issue with Tait EnableFleet where radios that were discovered with an older programming application version stored the Hardware String in a slightly different format than v3.3.1.2 does and when this previous string format was applied to a radio by v3.3.1.2 an exception occurred. XPA-1925, EF-10441

DMR Programming Application v3.3.4.28

Problems Fixed:

- **Remedy WO 109326: Writing Audio Profiles back to older firmware/databases**
This release provides a solution for older firmware that does not support more than two Audio Profiles. Programming application v3.3.0.0 or later recognized audio modifications such as ANR on/off in existing configurations and created profiles for each variation, however older databases do not support more than two and writing this new configuration back required deleting profiles before it would be accepted. This is now not required – the application will write to the radio, or save to PC, only the same one to two audio profiles previously visible in the older programming applications such as v3.1.4.5. XPA-1961
- **Remedy WO 66666, WO 66745: Prog App v3.3.1.2 crashes when reading or writing**
This was traced to an error where imported data, including using ‘Transfer To’ duplicated channel data items that would then fail validation. Corrected this so duplication where allowed is correctly handled before causing an error across any radio model. XPA-2010

Known Problems Or Limitations

- There is currently no help text for the new Global > UI Preferences > Voice Annunciation > Radio Shutdown Annunciation field for portables in this application release.

Programming Application Database Compatibility

Cadence	DMR Programming Application	TM8200 Database	TP9300, TP9500, TP9700, TM9300 and TM9700 Database
R23.2	v3.1.2.2	(use v2.30.4.13)	0443
R23.2-Patch	v3.1.4.5	(use v2.30.4.13)	0443
R23.3	v3.3.1.2	x	0447
R23.3-Patch	v3.3.2.2	x	0447
R23.3-Patch	v3.3.4.28	x	0447

Calibration Application v3.3.3.6

- When production updates the radio builds to firmware v3.03, their calibration database will update to **0102** so this calibration application (or later) is required to support them. Any existing radios that are upgraded from firmware v2.x (Cal DB 0012) **must** have their calibration data read and written back as part of the firmware upgrade process to update to Cal DB 0102.

Known Problems or Limitations

- Remedy WO 109410: Calibration Application v3.3.3.6 currently only works correctly if the PC uses English language. Other regional languages cause calculation errors to be displayed. Suggested workaround is to set Tools > Options > General to 'English' until this is resolved. TRM-52412

Windows O/S Compatibility

- The Programming and Calibration Applications require [Microsoft \[.NET\] framework v4.7.1](#) (or later). The applications are tested as compatible with the following O/S:
 - Windows 11 (64 bit)
 - Windows 10 (32 and 64 bit)
 Windows XP, Vista, 7, 8.0 and 8.1 are not supported.

First Serial Numbers v3.03.03

TM9300 Mobile Firmware v3.03.03	S/N (TBA)
TM9700 Mobile Firmware v3.03.03	S/N 21617752
TP9300 Portable Firmware v3.03.03	S/N (TBA)
TP9500 Portable Firmware v3.03.03	S/N 26893893
TP9700 Portable Firmware v3.03.03	S/N 26892364

Publication Information

Related Documentation	TN-1899e-AN – Upgrading Terminal Firmware TN-2699i-AN – Configuring Tait Radio Audio Enhancements TN-3321m-SR – DMR R22.3 Cadence v2.30.11 TN-3396-SR – TM8200 Programming Application v2.30.4.13 TN-3397c-AN – Introducing Code-signing and OTAP2 TN-3378h-SR – DMR R23.2 Cadence v3.01.11
Compliance Issues	None.
Compatibility Issues	None.
Confidentiality	Confidential – This message or document contains proprietary information intended only for the person(s) or organization(s) to whom it is addressed. All recipients are legally obliged to not disclose Tait technological or business information to any persons or organizations without the written permission of Tait.
Distribution Level	Associate.

Document History	Issue	Date	Description	Author
	-	9 February 2024	First release of DMR firmware v3.03.03, Prog App v3.3.1.2 and Cal App v3.3.3.6.	J James G Brenchley
	b	16 February 2024	Updated the serial number table and context of prog speed improvements	G Brenchley
	c	23 February 2024	Updated with fixes in firmware v3.03.07 for TASK	G Brenchley
	d	4 March 2024	Updated for EnableFleet generation error fix in Prog App v3.3.2.2	G Brenchley
	e	14 March 2024	Updated Prog App to v3.3.4.28 for Audio Profiles with older FW. Firmware v3.03.08 for Dual Body. Added first Serial Numbers	G Brenchley

DMR Firmware v3.01.12

DMR Programming Application v3.1.4.5

Tx9000 Calibration Application v3.1.1.1

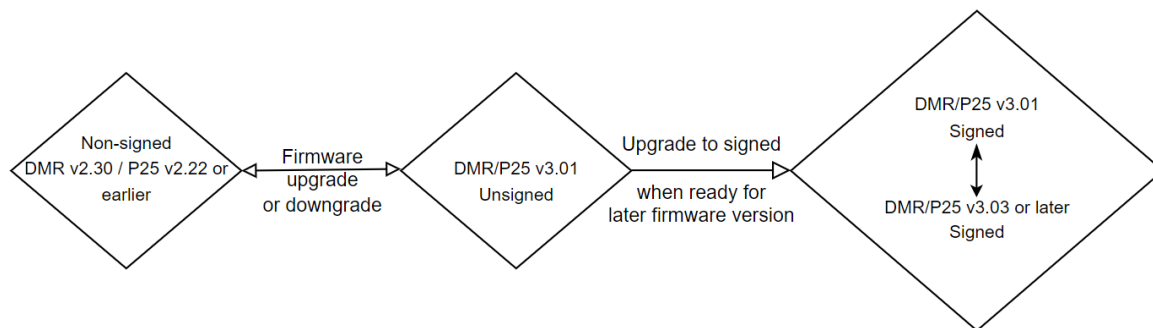
DMR Cadence v3.01 (R23.2)

Firmware **v3.01.12.0180** for the TM9300 and TM9700 DMR mobiles and the TP9300, TP9500 and TP9700 DMR portables is supported by:

- DMR Programming Application **v3.1.4.5** (or later)
- Tx9000 Calibration Application **v3.1.1.1** (or later)
- EnableFleet **v4.9.2** (or later)

Important Note:

Tait recommends that customers wishing to upgrade use v3.01 **unsigned** firmware*. This enables a firmware rollback if later required. Then only when needing to upgrade to firmware newer than v3.01, at that stage upgrade to v3.01 signed, and then the newer signed firmware. See the flow chart below:



To upgrade to any firmware later than v3.01 requires the radio to be upgraded to v3.01 **signed** firmware, then the later version of signed firmware.

* Only TM9300/TM9400 torsos where a color control head is being added cannot use unsigned v3.01 firmware. Signed firmware is required in the torso for compatibility with the signed-firmware-only color heads.

Important Note:

The TMX450 Tait UnifiedVehicle does not support this software. It can operate with Firmware up to v2.30.12 and will be supported in a later version, yet to be confirmed.

Important Note:

The Tait Gridlink TD9300 device does not support this software. It can operate with Firmware up to v2.30.07 and will be supported in a later version, yet to be confirmed.

Important Note: Do not downgrade portables built after **26692342** to firmware older than v2.30.02 as GPS on the new portables will become non-functional

Important Note:

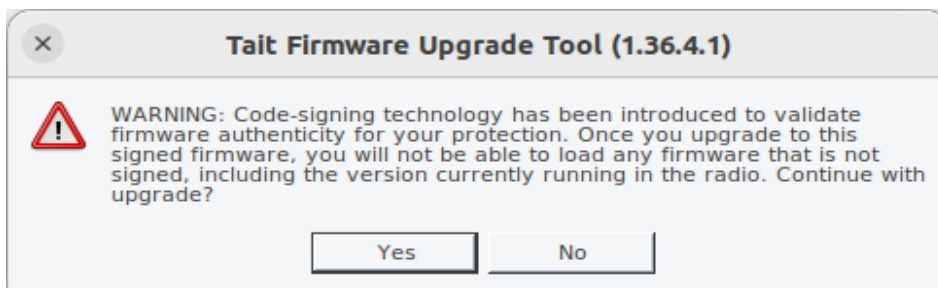
Do not downgrade TM9300 25W mobiles built after **21543773** to firmware older than v2.30.07 as the radio will become non-functional

Important Note:

The release of the color control heads requires the TM9300 and TM9700 bodies using these to upgrade to DMR firmware v3.01 code-signed firmware.

The firmware in the body must exactly match the firmware in the control head.

At the start of the upgrade this pop-up will appear:



See further details in TN-3397c-AN.

Important Note:

Tx9000 Calibration Application v3.1.1.1 is required to support radios running firmware v3.x or later (calibration database 0101). Production builds will be released with this firmware. Any radios upgraded to firmware v3.x will require this too, therefore, it is imperative during the upgrade that the radio's calibration is read and written back using this calibration application.

New Features

- **Audio Profiles**

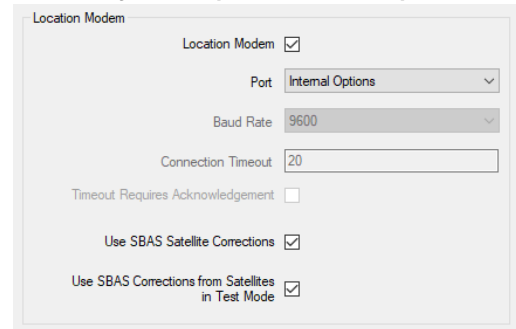
Significant and ongoing work to improve the audio in Tait radios includes the introduction of Global > Audio Profile. This allows users to select different profiles on a per-channel basis if desired.

Standard is the new and preferred audio profile for all users.

Legacy provides the same audio profile previously provided. This may be split into two options: 'Legacy Default' if not modified and 'Legacy Custom' if the imported datafile had audio settings previously modified. These can then be selected in Conventional > Channels > Detailed on a per-channel basis and in Trunked > Trunked UI > General – where this setting is across all networks. More detail is provided in TN-2699i-AN – Configuring Tait Radio Audio Enhancements. XPA-951

- **JIRA-TRM-38921: Enable Satellite-Based Augmentation System (SBAS/WAAS) on portables**

Enabled in Global > Serial Protocol > Location, SBAS is a system that improves the accuracy of received integrity and correction data from geostationary satellites in addition to GPS. The geostationary satellites re-transmit ionospheric, ephemeris, clock and other corrections driven by ground RIMS stations. Tait radio GPS technology takes advantage of the augmentation systems that are currently available (WAAS, EGNOS, MSAS).



Enabling the 'Use SBAS Corrections from Satellites in Test Mode' checkbox allows the radio to process correction data received from systems still in test mode such as EGNOS. This can be enabled across all TP9300, TP9500 and TP9700 portables.

- **Remedy WO 97626: Geofence support on TP9310 and TM9315 models**

These models have been enhanced to allow Global > Geofencing > Global Configuration > Allow Auto Mode now. Previously this was unavailable as these entry level models could not display this status. However, the ability to inform the user of geofence driven changes by voice annunciations makes this feature valid. The **TMAS105** or **TPAS105** Geofencing Services SFE keys can now be ordered for these models. TRM-49391

- **Mobile Color Control Heads**

This release will support the releases of the color control heads for the TM9300 (and TM9700) mobiles. Existing mobile bodies must be upgraded to v3.01-signed firmware.

- **JIRA-TRM-40558: Utilize more lines when displaying messages and labels**

Increased to four viewable lines in popup messages, such as the actions assigned to function keys or address book details on the TP9500. Note that some very long function keys action labels can become truncated. See known limitation TRM-50020.

- **Remedy WO 100489: OTAP completion display changes**

A requested enhancement was to remove the 'Upgrade Successful' display until after the radio has sent it's ACK back to EnableFleet and therefore actually completed the task. Removed 'Success' from the 'Update installed' popup that occurs directly after the OTAP update. The user can press 'OK' button to this popup and a new 'Contacting Server. Please wait...' popup informs the user the process is still to complete. This also includes a 'Clear' button which only removes the displayed popup, OTAP will continue to notify the EnableFleet server in the background. If the 'Clear' button is not pressed, the popup will remain until the server is contacted. This popup re-appears on each power-cycle until the server is contacted. TRM-49822

- **JIRA-TRM-50709: Allow automatic mic selection on portable PTT**

Allows the portable PTT > Mic PTT / External PTT(1) 'Audio Source' to select 'Automatic' allowing the radio to switch between the radio and the Bluetooth device, so a user can use the same PTT when there is (or isn't) a Bluetooth device connected rather than having to configure two separate PTT's.

- **First Release of TP9700 Multiband Portable and TM9700 Dualband 25W mobile**

TP9700 Multiband Portable

The TP9700 DMR Multiband portable is configured as band 'N0' where it can then be configured to operate on between one and four of the following RF bands:

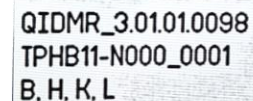
- 'B' 136-174MHz (B1)
- 'H' 378-520MHz (HB, HK, H4, H5 and H7)
- 'K' 757-870MHz (K5)
- 'L' 896-941MHz (L3)

Out of the box the TP9700 radio supports a single band and that is defined with its first programming using the Specifications > Enabled Bands dropdown options.

When additional band(s) are required the SFE Keys 'TPAS133 Dual Band', TPAS134 Multi Band' or 'TPAS135 Dual to Multiband Radio Upgrade' need to be added.

To verify which RF bands a TP9700 has enabled either:

- Power-on the radio with the PTT pressed (this screen is displayed)
- Display this from the radio menu (if enabled):
Radio settings > Radio info > Enabled Bands

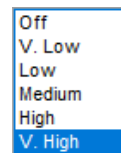


To support multiple RF bands the following antennas are available:

- TPA-AN-050 – Ant Dual 136-174 / 378-520MHz Whip
- TPA-AN-051 – Ant Tri 136-174 / 378-520 / 757-870MHz Whip
- TPA-AN-052 – Ant Quad 136-174 / 378-520 / 757-870 / 896-941MHz Whip
- TPA-AN-053 – Ant Tri 378-520 / 757-870 / 896-941MHz Whip

Note that all the existing single-band antennas can still be used on the TP9700 if only a single band operation is desired.

The TP9700 portable can provide higher RF power options for the B and H bands (only). For these RF bands the Channels > Power dropdown includes 'V. High'. Very High on VHF is 6W and on UHF is 5W.



TM9700 Dualband Mobile

The TM9700 DMR Dualband 25W mobile is configured as band 'N1' where it can then be configured to operate on one or two of the following RF bands:

- 'B' 136-174MHz (B1)
- 'H' 378-520MHz (HB, HK, H4, H5 and H7)

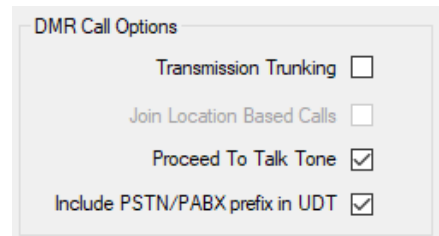
Out of the box the TM9700 radio will support a single band and that is defined with its first programming using the Specifications > Enabled Bands dropdown options.

When the additional band is required the SFE Key 'TMAS133 Dual Band' needs to be added.

- Remedy WO 94242: Allow Vote/Scan groups in Keypad Store/Recall feature**
 This feature previously supported single channel store and recall using the keypad number buttons when Function Ctrl Settings > Action and Key Settings 'Use Numeric Keypad for Channel Store/Recall' was checked. Users can now also store and recall 'Vote' or 'Scan' groups too. Note only 'Standard' scan type is accommodated, 'Background' and 'In-Zone' are not supported for this. TRM-49882
- Remedy WO 56129: Remote Lone Worker status enable/disable**
 This feature provides an ability for the radio to report back its Lone Worker status (on or off) via a status message. It also allows a console to remotely enable and disable a radio's Lone Worker status – the radio user will be aware of these remotely driven changes if Global > UI Preferences > Voice Annunciation Functions has 'On' and 'Off' Lone Worker voice annunciations to play these locally. The radio configuration of the Trunked > Trunked Lone Worker > Operation dropdown must be set as 'Selectable by User'. TRM-42798
- JIRA-TRM-50767: Configurable Voice Annunciation volume**
 Requests from some users were for the fixed volume of the voice annunciation audio to be lower. The new dropdown box in Global > UI Preferences > Voice Annunciation > General 'Volume Level' now provides variability from 1(min) to 6(max). The default is '6' which is the same level that was provided in older firmware. It must be left at '6' if the radio configuration is written back to older firmware.
Note: This does not affect the value selected for the 'Shutdown Annunciation Volume Level' which has its own level setting.
- JIRA-TRM-50706: Allow automatic received audio destination on Bluetooth**
 Allows the received audio destination when using a Bluetooth device to be configurable. For example, the received audio can always be played on the radio speaker or on the Bluetooth speaker. Global > Bluetooth > General 'Speaker Selection' provides Automatic, Bluetooth or Radio. Bluetooth or Radio force the audio to always be to these outputs and Automatic decides which based on the PTT (radio or Bluetooth device) that was last pressed.
- JIRA-XPA-926: Bluetooth Connectable option**
 In Bluetooth > General > Common is a new checkbox 'Connectable'. When enabled Bluetooth in the portable is put into a mode that allows other Bluetooth devices to request a connection *to* the radio. Disabled is the previous behavior where Bluetooth connection can only be requested *from* the radio. If 'Connectable' is enabled, then the 'Power-On Action' dropdown will allow 'Start in connectable mode'.
- Remedy WO 99598: Custom names to identify Bluetooth device connected**
 On 16-key portables, entering the radio menu *Bluetooth > Manage Devices > Options* now lists 'Edit name' providing the opportunity to rename any listed devices.
 Use the '0' key to add a space, use the '1' to add special characters ' . , ? ! - / ' and the '#' key will cycle between uppercase, lowercase and numerals. TRM-49403, XPA-577

- **JIRA-TRM-48185: Full call string for PSTN/PABX calls in extended addressing UDTs**
For DMR trunked systems using either the DMR or Native dialing schemes the PABX/PSTN dial modifier included in the on-air UDT packet is now configurable.

A new checkbox in Trunking > Call Options > DMR 'Include PSTN/PABX prefix in UDT' when enabled includes the PSTN or PABX prefixes of '01' or '02' in the address sent in the UDT appended data. If the Fleet Identity > Dialing Scheme is 'DMR' this checkbox is enabled, for 'Native dialing' it is disabled. For other schemes it is disabled and unavailable.



DMR Call Options

- Transmission Trunking
- Join Location Based Calls
- Proceed To Talk Tone
- Include PSTN/PABX prefix in UDT

Problems Fixed in DMR Firmware v3.01.01

- Balanced Audio has been removed from the application. We've recommended for many years that all DMR configurations have this enabled and with the introduction of Global > Audio Profiles this configuration is now permanently enabled. If this was enabled in an existing configuration it will remain so, and if it was not enabled the 'Balanced Audio' checkbox will appear in Global > UI Preferences > Audio and the decision can be made to leave it unchecked or now enable it. Note that unchecked will impact any inter-operability with other manufacturers in mixed fleets and also impact any changes to Audio Profiles.
- **Remedy WO 95899: Idle display blank screen option not working**
When the DMR Tier-3 idle display was set to 'Blank' screen it instead returned to display the last message, e.g.: last dialed call, rather than a blank screen. TRM-49767
- **Remedy WO 100348: Hookswitch bouncing resets Loneworker**
TM9300 mobile users found vehicle vibrations would erroneously reset Loneworker timer functions if the microphone 'bounced' in the hangup clip. To stop this issue for normal trunked calls the Trunked > Trunked UI > General 'Ignore Hookswitch Call Operation' could be unchecked. For those users an additional new checkbox 'Ignore Hookswitch Activity' has been added to both Conventional > Conventional Lone Worker and Trunked > Trunked Lone Worker pages. The TM9700 mobile also supports this. TRM-49819
- **JIRA-TRM-48899: A PTT in Bluetooth 'Manage devices' menu creates more screens**
Previously a user pressing PTT while the radio was in the 'My devices' or 'Manage devices' Bluetooth menus would transmit but also create duplicates of the screen with each PTT press. This forced the user to press 'Back' as many times as they had pressed the PTT in order to exit. A PTT press in these menu screens will transmit but now closes the screen and takes the user back to the idle screen.
- **JIRA-TRM-49667: Unexpected Geofence behavior**
Found when investigating a related geofence operation that there was no reversion to Auto Mode if a radio has not yet acquired a GPS fix and the user puts the radio into Manual Mode within a trunked region. The radio will now revert to auto mode in a valid trunked site region.

- **Remedy WO 99444: Bluetooth devices unable to be removed**

Resolved the following two scenarios:

Issue (a): With a Bluetooth device turned off and all existing devices removed from the 'Manage devices' list the radio was power-cycled and a previous device reappears but cannot be connected to until the device is 'found and paired' again.

Issue (b): If a radio has no devices paired or in the 'Manage' list, power-cycle the radio and enter Bluetooth menu to find 4 options when only 'Find Device' and 'Options' would be valid.
TRM-49414

- **JIRA-TRM-50323, TRM-50412: Dealing with multiple system errors**

If the radio encounters a system error while still handling an earlier one, it enters a safe mode to prevent an endless system error loop, at which point the radio will change to the display (shown right). Being in this safe mode makes it possible to read or write a configuration or upgrade the firmware if required – but not to enter user mode or test mode, until the radios is power-cycled.



- **Remedy INC 62085: Radio looping between Trunked and Conventional**

Radios which use internally sourced GPS for Geofencing > Actions > Default Actions such as 'Change to Conventional' will now only process this when the last GPS fix places the radio outside all known zones and the radio is not currently in a Geofencing > Regions > Type of 'Fixed site'. If there has been no GPS location fix since startup, then the radio stays in the current region. TRM-50818

- **JIRA-TRM-50426: BLE Beacon not functioning in DMR v2.30**

The Global > Bluetooth > BLE Beacon 'Transmit a BLE Beacon' worked correctly in firmware v2.29 but was not beaconing with firmware v2.30. Supported by the TP9300 series 2 and TP9500 as it requires Bluetooth 4 or later.

- **Remedy PBI 10804: Radios stuck with loss of service needing a manual reboot**

Modified the radio behavior when receiving a C_Move during different hunt types, for example site interference causing control channel changes, and to also accept the C_Move when in an incoming or outgoing call setup. TRM-50292

- **Remedy WO 101364: CCDI Dial command fixes**

Resolved the following two issues:

- Issue 1: When executing a dial command with numerical checksums, the radio would include the last two-digit checksums as part of the unit ID. For an example, when entering d057123436 (the radio ID is 1234 with checksum 36) the radio incorrectly took the radio ID as 123436.
- Issue 2: Radios would only take a dial command with numerical checksums and not respond to any command with checksums ending in alphabetical letters (e.g., d037609C).

TRM-50071, TRM-50107

- **JIRA-TRM-51272: Pin entry can be bypassed by emergency mode**
If a radio has Emergency using Programmable IO input (AUX_GPI2) or via Lone Worker and the radio is powered-off then at power-on the radio starts in emergency mode (as expected) but when the emergency ends the user no longer needed a pin for the radio to enter the idle screen.

Problems Fixed in DMR Firmware v3.01.02

- **Remedy WO 89420: CCDI transmit power functions report unsupported command**
Functions in CCDI manual MTB-0003-xx defined how to switch between RF power output levels (Off, Very Low, Low, Medium, High) but the terminal always returned an error response. The CCDI commands now correctly permit the selection of transmit power levels – up to the configured value in the programming application for that channel. TRM-45991
- **JIRA-TRM-50646: Serial flash inhibiting Voice Annunciation**
Resolved an error found in internal testing where the TM9300 mobile hardware version HW0006 had an issue loading voice annunciation files due to driver changes for flash devices. This issue was not present on current hardware version HW0007 and it did not affect HW0006 using firmware v2.30. TM9700 is not affected.

Problems Fixed in DMR Firmware v3.01.03

- **JIRA-TRM-51875: Support for keypad color control head**
Implemented code changes to accommodate the release of the 21-key color control head (TCH6). Mobile radio bodies expecting to utilize this head need to be running firmware v3.01.03 or later.
- **JIRA-TRM-51817: Dual head primary selection missing**
A dual head DMR radio should request primary head selection when first connected but if it powered-up in DMR trunked mode this didn't occur and would appear only if/when mode changed to conventional. This now appears regardless of the start-up mode.
- **JIRA-TRM-49487: Modify RS-485 termination configuration**
Updated the displayed wording for the RS-485 termination when the radio has dual heads connected on the color control heads (TCH). The control heads now utilize the Blue (F2) and Orange (F1) for the shortest and longest cable runs (respectively). Previously these heads were using the scroll up/down keys for this operation.
- **JIRA-TRM-51699: Dual Body displays 'Prog Mode ENTITY ID'**
Fixed an issue where a dual body system could show 'Prog Mode ENTITY ID' during a boot-up. This was traced to reading identical OTAP values in each body – even though OTAP was disabled. The radio will now use the individually configured Global > OTAP > Global 'Entity ID' if OTAP is enabled. If it is not enabled the greyed-out Entity ID's are ignored.
- **JIRA-TRM-51436: A loud speaker 'pop' heard with repeated button presses**
An annoying 'pop' could sometimes be heard from the mobile speaker if the user is scrolling through talkgroups/channels with the scroll keys – particularly if they were rapid keypresses. This audible pop was prevalent when a keypress beep occurred close to an indicator beep.

- **JIRA-TRM-51498: System errors on mobile**
Fixed occasional system errors found in internal test suites. These system errors could create a loop, not resetting the radio as intended until the next power-cycle.

Problem Fixed in DMR Firmware v3.01.04

- **JIRA-TRM-51970: TP9500 and TP9700 producing TDMA noise on transmit**
Internal testing of DMR transmissions on the TP9500 and TP9700 UHF radios found TDMA noise present if the radios transmitted DMR Tier-2 or Tier-3 between 378 and 410MHz. This was traced to a transistor not switching the speaker circuit fully off when transmitting. This did not occur if the transmitting TP9500 or TP9700 was using a RSM or on the TP9300 and TM9300/TM9700 which use a different architecture.

Problems Fixed in DMR Firmware v3.01.05

- **JIRA-TRM-51876: BER failures in factory builds**
Resolved an issue where factory run-up of only certain radio models were failing Bit Error Rate tests. TRM-52008
- **JIRA-RFET-6940: HK-band mobile not transmitting at top of the band**
Resolved an issue found in production, but only on the HK-band high power mobile, where transmit would not ramp up correctly at the top of the band. This was an issue with the VCO loop voltage and was only present between firmware v3.01.01 and v3.01.04 inclusive. If existing HK mobiles are being upgraded, please ensure they use firmware v3.01.05 or later. TRM-51987

Problems Fixed in DMR Firmware v3.01.06

- **JIRA-TRM-52108: Upgrades getting stuck part-way through**
This was found to be related to the queued upgrade software attempting to open into areas of code that were already processed, particularly notable on systems with 3 or 4 devices – dual head and/or dual body and this was causing a virtual stop of the upload.
- **Remedy INC 63601: Single band TP9700 rebooted switching modes**
If a multiband radio configuration originally had B-band frequencies that were ‘zeroed’ when the configuration was changed to just, for example H-band, it would still attempt to select the lowest licensed band (B-band) when switching from one mode to another and since all the channel frequencies were zeroed it would then incorrectly error. The firmware now recognizes which single band is enabled and no longer error this way. TRM-51638

Problems Fixed in DMR Firmware v3.01.07

- **JIRA-TRM-52088: Firmware upgrade to firmware v3.03 found to be slow**
Found and fixed slow firmware upgrades with signed firmware, especially on mobile radios with dual heads, moving from v3.01 to v3.03. The same issue was not found when using OTAP. Recommendation when using the programming cable to update terminal firmware from v2.xx (or v3.01-unsigned prior to v3.01.08) to later firmware releases is to upgrade to v3.01.08 (or later) **signed** before moving to v3.03 (or later).

- **JIRA-TRM-52073: Building limited crypto radio in signed production**
Changes have been made to allow limited crypto radios with signed software to be built on the production line before those devices are then locked as non-crypto
- **JIRA-TRM-52213: Relax head versus body firmware match requirement on mobiles**
The requirement of signed firmware that the mobile body and head firmware versions match *exactly*, e.g. v3.01.05.0153, was deemed too restrictive. Consequently, changes have been implemented such that an exact match is only required between all bodies in the system. Control heads will only need to match bodies within the same 'platform' version e.g. v3.01.xx. This has been implemented as a patch on R23.1 and in the R23.3 cadence. However please note the following:
 - Implementing this required a change to the sync-mechanism which means that the new firmware will be sync-incompatible with any firmware predating these changes (that is firmware v3.01.00 to v3.01.05 inclusive)
 - There are incompatible changes to the neck protocol between firmware v3.01.xx. and firmware v3.03.xx. This means that a radio system cannot use, for example, a control head running v3.01 and a body with v3.03. However, these will now only display a normal firmware mismatch message allowing the option to upload new firmware.
 - Any future requirements that change the platform protocol will increment the platform version and therefore will display a firmware mismatch message if devices do not match the platform version.

Problem Fixed in DMR Firmware v3.01.08

- **Remedy WO 107612: Radios sometimes going Out-Of-Lock on PTT**
Implemented changes to increase the speed of the synthesizer lock detect to avoid missing synthesizer loop voltages after a transmit ramp-down from a PTT release as this would produce an out-of-lock alert. This followed changes originally implemented for a dual VCO synthesizer design used on the multiband models. TRM-52146

Change in DMR Firmware v3.01.09

- This firmware is functionally identical to v3.01.08 and only released so the production line builds can allow generated SFE's to be loaded over the top of an implied SFE successfully.

Problem Fixed in DMR Firmware v3.01.10

- **Remedy WO 109225: TASK locking a mobile often fails**
Fixed an issue where attempting to TASK lock (or unlock) a mobile radio using the Tools > Firmware Upgrade > Device Configuration could end in an inconsistent TASK state which would leave the radio unusable with the display shown right, until corrected. TRM-52359

Prog Mode TASK TORSO ID00

Problems Fixed in DMR Firmware v3.01.11

- **Remedy WO 104633: TM9300 not re-voting in an Analog Selcall group**

When the radio was on a selcall vote group and it received a selcall individual call sequence, it would open the monitor and periodically revote while the signal on the current channel was above the mute threshold.

However:

- If the signal was lost suddenly, the radio would keep the monitor open - but stop voting. It would stay on the current channel until either the signal reappeared on the same channel, or the user closed the monitor.
- If the signal was gradually reduced to the mute threshold, the radio would close the monitor and continue voting (after group hold time expired).

Note: this would only occur when no other channel was present that the radio could vote to before hitting the mute threshold.

Fixes were implemented to ensure the radio keeps the monitor/call open and continues voting under both of the above signal loss conditions. The auto-quiet timer can be configured if users want the monitor to automatically close under signal loss conditions.
TRM-51185

- **JIRA-TRM-52311: System Error on Dual Body mobiles during power-off**

If a mobile was configured as a dual body and the user powered-off the radio it would occasionally system error during the power-down action. This was traced to a timing issue where the shutdown acknowledgement response was not often received in time. This did not occur with single body configurations.

Changes in DMR Firmware v3.01.12

- **JIRA-TRM-52760: Support for TMBB3 Hardware**

The mobile platform for single-band radios is updating from TMBB2 to TMBB3 with the introduction of a TPM (hardware) encryption module. Radio functionality remains unchanged. This firmware release will allow these radios to operate 3.01-*unsigned* if required.

Known Problems or Limitations

- The TMX450 Tait UnifiedVehicle does not support v3.x software. It can operate with Firmware up to v2.30.11 and will be supported in a later version, yet to be confirmed.
- Remedy INC 62665: TM9300 not unmuting to trunked traffic channel audio. This issue only occurs if the radio configuration has 'Traffic Channel Acquired' audible indicator disabled
- JIRA-TRM-50120: TP9500 users of MPT1327 that also utilize WiFi for OTAP may notice events where calls are not setup reliably during the WiFi startup phase
- JIRA-TRM-49104: Site-based Talkgroup selection not yet implemented
- JIRA-TRM-49708: Trunked calls can still be setup even though Inhibit PTT I/O line is active, conventional transmit remains inhibited
- JIRA-TRM-49702: Geo-fencing: 'Turn WiFi Off' is not turning off when crossing into a region
- JIRA-TRM-49638: 'Over-the-Air' alert tone does not work as expected on a Selcall channel during emergency cycling

- JIRA-TRM-47398: When a portable contains a Bluetooth configuration with 'Use Multi-Device UI' and 'Confirm Before Connecting', the user needs to select 'Yes' to a reconnect request at start up. The radio commences the connection process but quickly jumps to the next device in the list and asks the same question. If one of these devices is a Bluetooth PTT button and the other a headset, then this is understood, but if the listed items are both headsets this action becomes confusing.
- The TM9300 may display pop-ups when actions such as function keys are triggered, but if multiple pop-ups occur only the last one is seen
- JIRA-TRM-49566: Emergency cannot be triggered via I/O line when radio is powered off. If IOP_GPIO7 is set to emergency, and an *externally powered* programmable I/O board is connected to the internal options port, emergency will not be successfully triggered after the radio has completed its power-up
- JIRA-TRM-47352: Lone Worker active in Alarm Only emergency
If Trunked > Fleet Parameters > Emergency > Emergency Call Type is set to 'Alarm Only', and manually activating emergency with a function key, Lone Worker will remain active – when the expectation is that it deactivates until the user toggles the emergency off
- JIRA-APP-15063: The Conventional > Basic Settings > Receiver Monitoring 'Hookswitch Monitor' option for mobile microphone use is inadvertently available in TP9300 and TP9500 portable configurations, and enabling this affects the auto quiet timer operations
- The TP9300 and TP9500 support the Savox BT-COM and BTR-155 Bluetooth devices, however if the device goes out of range of the radio (>10m) it may not successfully reconnect when it returns to the radio without also power-cycling. See TN-3154
- Some combinations of TM9356 dual body may produce TDMA Transmit artefacts on Tier-2 channels. See suggestions to alleviate this in TN-3159
- TM9300 and TM8200 do not support more than 31 BCD selections (5 BCD lines), the TM8100 supported 100 (8 BCD lines) in its later releases
- JIRA-TRM-39994: 'ECR Call Clear' does not clear down a call if it is still being setup
- JIRA-TRM-40035: Normal PTT operation is not allowed while do not disturb or diverted are active
- JIRA-TRM-40017: Misleading messages are displayed when activating or deactivating 'Do not disturb'
- JIRA-TRM-39979: Dial menu option is available when dialing on the channel is not supported
- JIRA-TRM-39970: Can't nuisance delete a channel when first selected while background scanning when 'Include channel in scan regime' is enabled
- JIRA-TRM-39963: Attempting an emergency call on DMR Tier-2 repeater that is out of range, shows 'No Ack Received' and not 'No Repeater' as expected
- JIRA-TRM-39944: Radio goes through emergency callout stage even if no emergency sequence configured

- JIRA-TRM-39943: Displayed pop-ups e.g.: 'No Sat Rcvr' stay frozen on display during stealth emergency
- JIRA-TRM-39942: A channel without emergency enabled looks frozen if stealth is activated even though keypresses and audio remain normal
- JIRA-TRM-39939: No pop-up given on dual-head secondary head if radio programming is attempted; programming is only supported through the primary (lowest MAC ID) head
- JIRA-TRM-39938: Activating upgrade mode for dual head radio while powered on results in only one head entering the correct mode
- JIRA-TRM-39936: Concealed mic audio is not overridden by standard mic when PTT pressed
- JIRA-TRM-39935: Emergency I/O 'toggle' does not function the way online help describes
- JIRA-TRM-38860: GPS location polling does not work if 'Location Preamble Duration' is set to 60ms; recommendation is to revert to using the 120ms default
- JIRA-TRM-38874: Occasional failure to send 128-character length message over IP
- JIRA-TRM-38813: TM9315 tries to display address book label of the associated group instead of preset ID when receiving incoming MPT1327 group call
- JIRA-TRM-38787: Unable to send a status to a talkgroup from the address book but sending SDM is allowed
- JIRA-TRM-38786: If the talkgroup is changed on a DMR Tier-2 channel, the radio will only receive statuses or SDMs for the default channel talkgroup, not the currently selected talkgroup
- JIRA-TRM-35525: If Tx9300 is configured with individual DMR Tier-2 calls (unchecked) you cannot return a missed call and cannot always answer an incoming call
- JIRA- TRM-27668: Disabling dynamic regrouping in the dropdown does not stop the radio accepting groups from the node
- JIRA-TRM-38919: If a TP9300 is in a radio unit monitor call and the external PTT is pressed, it will inhibit dialing radio IDs afterwards
- JIRA-TRM-37648: Radio does not unmute when returning to receive on a SIBT channel
- JIRA-TRM-37647: Radio may display Selcall/MDC1200 talker ID without also unmuting to a valid SIBT
- JIRA-TRM-35701: Pressing PTT while 'Can't return call on current channel' makes a group call on the channel instead of repeating the message
- JIRA-TRM-35649: Geofencing will not change modes if the radio is in a call
- JIRA-TRM-35565: When queue is full of SDMs, further messages are acknowledged as successful, but discarded
- JIRA-TRM-35482: The maximum transmit time from external PTT does not follow the PTT programmed maximum values
- JIRA-TRM-34041: DTMF freeform dialing is not subject to the TX timer duration
- JIRA-TRM-35535: Radio doesn't respond to the NACK_resp for DMR Tier-2 call alert

- JIRA-TRM-34048: DMR Tier-2: If 'PTT Phone Patch Dialing' is checked, the radio will allow 'Phone Patch Call Dialing' even though that option is unchecked
- JIRA-TRM-34054: 'No dialing on this channel' is accompanied by a valid keypress beep
- JIRA-TRM-34030: In trunked mode, dialing '*0*nnn' when statuses are not being used as dispatcher requests is not rejected
- JIRA-TRM-33336: Hunting sampled channel list reset on returning from payload channel
- JIRA-TRM-34018: DMR Tier-3 displays 'Busy' when attempting to send a status ID which has 'RX Processing' disabled on the receiving radio
- JIRA-TRM-32981: BER Diagnostic 1031 discrepancy between FW v2.14 and v2.15
- JIRA-TRM-32908: No Red TX LED when sending DMR Tier-2 Status
- JIRA-TRM-32036: When '#48#' is dialed and disabling of trunked call queuing is disallowed, the 'feature unavailable' tone is played twice

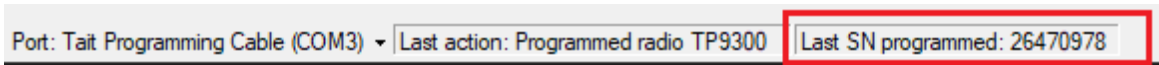
DMR Programming Application v3.1.2.2

Important Note: The TM8200 mobiles are no longer supported within the DMR programming application. A separate programming application **v2.30.4.13** has been released and will provide support for TM8200. This application will stand-alone alongside any later releases of the DMR programming applications (that will continue to get updates). Any existing TM8200 datafiles can still be loaded into the DMR programming application using File > Import where it can be *converted* to TM9300 or TP9300 for fleet migration.

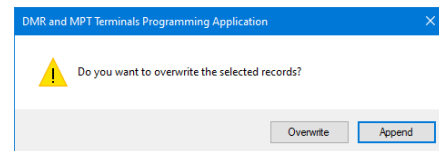
New Features and Enhancements:

- Added support for the TP9700 multiband portable and TM9700 dualband mobile.
- **JIRA-XPA-965: Add Checkbox for Color Control Head Adaptive Brightness**
The mobile color control head will feature an adaptive brightness sensor and a checkbox 'Adaptive Brightness' has been added to Global > Startup > General. A Radio Menu checkbox for this is also provided in both *Conventional Menu* and *Trunked Menu > Radio settings > Display settings*. This will provide functionality by the mobile color control head – after first release. This feature is separate to the preset 'Low Light Backlight Level Adjustment' checkbox functionality.
- **JIRA-XPA-951: Add Audio Profiles**
Significant and ongoing work to improve the audio in Tait radios includes the introduction of Global > Audio Profile. This allows users to select different profiles on a per-channel basis in Conventional > Channels > Detailed and in Trunked > Trunked UI > General – where this setting is across all networks. More detail is provided in TN-2699i-AN – Configuring Tait Radio Audio Enhancements
- **JIRA-TRM-49391: Allow Geofence on TM9315 and TP9310 models**
Modified the programming application so that Global > Geofencing > Global Configuration 'Allow Auto Mode' is no longer disabled when these 'Entry Level' model types were selected

- JIRA-XPA-926: Bluetooth Connectable option**
 Added in Bluetooth > General > Common a new checkbox 'Connectable' and 'Power-On Action' dropdown where the portable can respond to a Bluetooth connection request.
- JIRA-XPA-915: Allow Lone Worker control remotely**
 Provided the ability to interrogate and modify the status of Lone Worker on individual radios
- JIRA-XPA-822: Allow Vote/Scan groups in Keypad Store/Recall feature**
 Implement ability in application to store/recall Vote or Scan groups using the keypad number buttons when Conventional > Conv Key Settings 'Use Numeric Keypad for Channel Store/Recall'. TRM-48992
- JIRA-XPA-801: Add checkbox for mobile hookswitch under Lone Worker**
 TM9300 mobile users found vehicle vibrations would erroneously reset Lone Worker timer functions if the microphone 'bounced' in the hangup clip. A new checkbox was added to both Conventional > Conventional Lone Worker and Trunked > Trunked Lone Worker pages to ignore this microphone clip action. TRM-49819
- JIRA-XPA-519: Add radio menu item for Enabled Bands**
 Expanded *Conventional Menu > Radio Settings > Radio info* and *Trunked Menu > Radio Settings > Radio info* to list 'Enabled Bands' checkbox where the actual RF bands enabled and configured in the TP9700 and TM9700 can be viewed by the user.
- JIRA-XPA-896: Add the radio's serial number to the App status bar**
 Added a box that will display the serial number of the last radio read or programmed radio. There's often a need to confirm the serial number of the current radio – without interrogating the radio again to verify this. This item can also be right-clicked to save to an external list if desired.



- JIRA-TRM-48185: Full call string for PSTN/PABX calls in extended addressing UDTs**
 Added a new checkbox in Trunking > Call Options > DMR 'Include PSTN/PABX prefix in UDT'. This allows the radio to include the PSTN or PABX prefixes of '01' or '02' in the address sent in the UDT appended data.
- JIRA-XPA-133: Reword the channel paste pop-up box**
 Previously when using excel to copy and paste channel configurations the user was presented with a pop-up box with the text
*"Do you want to overwrite the selected records?
 Click 'Yes' to overwrite or 'No' to append."*
 This has been simplified to 'Overwrite' or 'Append' on the button text



Problems Fixed:

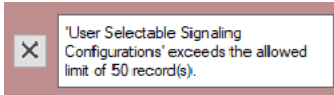
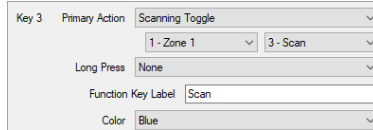
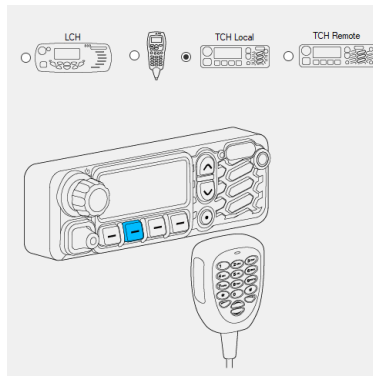
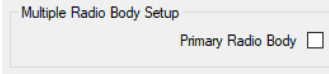
- JIRA-XPA-1042: Changing Hardware Flow Control crashes the app**
Resolved an error when a TM9300 uses Conventional > Conv Data Params > CCDI Mode > Transparent Mode Enabled then attempted to configure Hardware Flow Control for CTS and RTS in Global > Serial Protocol > Hardware Flow Control dropdowns which caused the application to crash.
- Remedy WO 103832: RS232 mobile option board RTS/CTS configuration**
Corrected the defaults so that configuring the RS232 board (T02-00007-BAAA) with the RTS/CTS hardware flow control lines using its included documentation now results in the hardware flow control working. This was due to incomplete auto-population of the Programmable I/O > Digital 'Active' state which remained 'None' instead of the expected 'Low'. XPA-913
- JIRA-XPA-860: Standardize DMR to use the term 'Inhibit'**
Previously the inhibit commands displayed within the application and on the radio displays were both inhibit and stun.
- JIRA-XPA-106: Validation won't allow removal of one of the function key actions**
If a mobile has a function key with both a short and long action configured and a programmable I/O has been assigned to simulate that function key, you could not then remove either of the actions. Corrected the validation such that only one action must be set.
- Remedy INC 57189: Reset On Error behavior changed**
The 'Reset On Error' checkbox previously found on the Global > Startup > General page has been removed. This is now enabled by default when creating new configurations and is also enabled regardless of any existing configuration when it is written to a radio.
If the radio does encounter an operational issue during use that forces it to reset the radio it will display an error code for 5-seconds before restarting into normal operation.
If a deeper investigation requires the radio to not reset in the event of a system error, a new CCTM command '204 26' allows the next system error to stay on the display until the radio is manually power cycled.
If this scenario has occurred, it will log this as the last error in the radio error log, which can then be downloaded and cleared using Tools > Radio Error Log process.
XPA-470, XPA-750
- JIRA-XPA-102: A radio can have 'Call Alert Rx Enable' but 'Individual Call Tx' disabled**
With this configuration a radio receiving a call alert displays 'Selected op not allowed' message to the user. A validation warning has been added if this is configured
"Warning: You have configured the radio for call alert but the user does not have the capability to call back the initiator of the call alert."

Online Help Changes:

- Remedy WO 101929: Update Online Help for Emergency Activation Delay**
Added details to the Conventional > Conv Key Settings > Emergency Activation Delay online help suggestion to also set the Global > UI Preferences > Audible Indicators 'Loneworker Awaiting' audible indicator to 'Enabled' and 'Continuous'. XPA-733

- **JIRA-XPA-857: Update Help text for ‘Low-light backlight level’**
Updated the online help for this item to use the title ‘Low-light Backlight Level’ and add context that this feature is best utilized with the mobile display backlight set as continuous.
- **JIRA-XPA-731: Add missing help on location formats in trunked**
Copied the online help for ‘Tait Data Format-3’ in DMR Embedded Location to also now appear under Trunked > Data Parameters > Location > DMR Location Format
- **JIRA-XPA-564: Geofenced Fixed Site SYS Code is decimal**
Updated the online help text for Geofencing > Regions > Type using ‘Fixed Site’ that the SYS Code value entered here is decimal. The Node lists SYS Codes as hex.

DMR Programming Application v3.1.4.5

- **Remedy WO 104418: User Selectable Signaling causes error**
DMR programming applications v2.30.2.7 and v2.30.3.2 would display a pop-up error when attempting to read, save or write a configuration that had the full 50 possible subaudible entries in Conventional > Subaudible Signaling – incorrectly advising the number was exceeded. This pop-up error did not occur in v2.30.1.2 or earlier. XPA-1062

- **JIRA-XPA-715: Implement F3 and F4 labels and colors for Color Control Head**
The mobile color control heads (TCH) can have a label and a color assigned to function keys F3 and F4. The ‘Color’ option boxes for F3 and F4 appear once an action is selected (an example for F3 shown right).
If the mobile has a graphical head or HHCH it will ignore these label and color configurations.

- **JIRA-XPA-712: Add TCH images to Key Settings page**
Updated the TM9300 and TM9700 Conv Key Settings and Trunked Key Settings pages to include the display of the (TCH) color control heads and location of the relevant function keys for all head variants.

- **JIRA-XPA-1096: Primary Radio Body checkbox not visible**
The ‘Primary Radio Body’ checkbox on the Global > Specifications page was incorrectly left hidden for TM9300 and TM9700 mobiles. This is used to define which body in a dual-body configuration is responsible for the UI display etc. It should only be checked on one radio but if it is checked on more than one radio (or neither) then one radio is chosen at random.


Online Help Changes:

- Corrected a number of Help file pages that did not appear or were blank.

Known Problems Or Limitations

- If there is no Tait programming cable connected to the PC when choosing the 'Voice Annunciation' folder in Tools > Options > General > Browse the application will display an unexpected error and exit. XPA-56
- There is currently no help text for the new Global > UI Preferences > Voice Annunciation > Radio Shutdown Annunciation field for portables in this application release.

Programming Application Database Compatibility

Cadence	DMR Programming Application	TM8200 Database	TM9300, TP9300 and TP9500 Database	TM9700 and TP9700 Database
R22.3	v2.30.0.1	0063	0422	x
R22.3-Patch	v2.30.1.2	0063	0422	x
R22.3-Patch	v2.30.2.7	0063	0423	x
R22.3-Patch	v2.30.3.2	0063	0423	x
TM8200 final	v2.30.4.13	0063	0423	x
R23.2	v3.1.2.2	(use v2.30.4.13)	0443	0443
R23.2-Patch	v3.1.4.5	(use v2.30.4.13)	0443	0443

Calibration Application v3.1.1.1

- **Remedy INC 58640: DCS deviation correction**
Reading an existing calibration from a radio will now correctly display the DCS on the Dev/Squelch > Deviation Settings page. This should be 15% of FSD but an error (present for some time) showed what the radio has programmed was actually much higher, and the calibration application will now display this.
The default value in radios built from June 2023 has also been updated to the correct level, but any existing radios can use this application version to decrease the DCS value if desired. Note that modern DCS decoders were able to deal with this higher level without issue.
- **JIRA-TC-192: Add support for TM9700 and TP9700**
Added support for the TMC (TM9700 and TM9800 mobiles) and the TPH (TP9700 and TP9800 portables) to the calibration application.

Windows O/S Compatibility

- The Programming and Calibration Applications require [Microsoft \[.NET\] framework v4.7.1](#) (or later). The applications are tested as compatible with the following O/S:
 - Windows 11 (64 bit)
 - Windows 10 (32 and 64 bit)
Windows XP, Vista, 7, 8.0 and 8.1 are not supported.

First Serial Numbers v3.01.01

TM9300 Mobile Firmware v3.01.01*	S/N 21579272
TM9700 Mobile Firmware v3.01.01	First release was v3.03.03
TP9300 Portable Firmware v3.01.01*	S/N 26842138
TP9500 Portable Firmware v3.01.01	S/N 26829158
TP9700 Portable Firmware v3.01.01	S/N 26829181

* The TM9300 and TP9300 installed firmware is unsigned for this cadence R23.2. These models will move to signed from the R23.3 cadence (v3.03) onwards.

Publication Information

Related Documentation	TN-1899e-AN – Upgrading Terminal Firmware TN-2699i-AN – Configuring Tait Radio Audio Enhancements TN-3321k-SR – DMR R22.3 Cadence v2.30.10 TN-3396-SR – TM8200 Programming Application v2.30.4.13 TN-3397b-AN – Introducing Code-signing and OTAP2			
Compliance Issues	None.			
Compatibility Issues	None.			
Confidentiality	Confidential – This message or document contains proprietary information intended only for the person(s) or organization(s) to whom it is addressed. All recipients are legally obliged to not disclose Tait technological or business information to any persons or organizations without the written permission of Tait.			
Distribution Level	Associate.			
Document History	Issue	Date	Description	Author
	-	4 September 2023	Release of DMR Firmware v3.01.01, DMR Prog App v3.1.2.2 and Cal App v3.1.1.1	J James G Brenchley
	b	21 September 2023	Updated to advise EnableFleet needs to be v4.9.0 or later. Release of Prog App v3.1.4.5 with new control head visuals. Firmware v3.01.02 fixes.	G Brenchley
	c	21 November 2023	Added first serial numbers for firmware v3.01.01. Added changes for firmware v3.01.03.	G Brenchley
	d	7 December 2023	Added changes for firmware v3.01.04 and v3.01.05	G Brenchley

Document History	Issue	Date	Description	Author
	e	25 January 2024	Added notice to first page on using v3.01-unsigned firmware until requiring a move to signed	S Nieper
	f	16 February 2024	Added changes for firmware v3.01.06 to v3.01.09	G Brenchley
	g	23 February 2024	Added changes for firmware v3.01.10 for TASK	G Brenchley
	h	14 March 2024	Added change to firmware v3.01.11 for dual body mobile	G Brenchley
	i	7 May 2024	Added change for TMBB3 in firmware v3.01.12	G Brenchley