Technical Note TN-2308b-SR

DMR Terminal Firmware v2.01.00 and PC App v2.1.0.6

2 September 2014

This Technical Note applies to DMR Firmware **v2.01.00.0018** for the TM9300 Mobile and TP9300 Portable radios. This Firmware is supported by TM8200/DMR PC App v2.1.0.6 and TM/TP9000 Calibration App v2.18.0.1. See TN-2317-SR for Calibration App release information.

DMR Enhancements

The TP9300 and TM9300 terminals now support the following additional enhancements:

- DMR Tier 2 GPS (see also Known Problems section on page 4).
- Tier 2 Control Status ability to control the IO lines on a mobile via Status messages
- Mobile external speaker and horn speaker TA3140-01 PA Options Board can be utilized and controlled by a new Function Key option “PA Speaker Status / Toggle”. Note that this Function Key feature will be duplicated in both Trunked and Conventional modes.
- 911 Emergency for MPT1327 networks
- Validation of H7 [450-520MHz] RF Band on TM9300 and TP9300’s on DMR Systems. This had previously been validated in Analog and APCO P25 modes with the TM9400 and TP9400’s models.
- Terminal Logging for System Manageability. This requires the TxAS103 SFE Key
- Voice Annunciation, as implemented in the TM/TP9400, is now available in TM9300 and TP9300 CONVENTIONAL UI > VOICE ANNUNCIATION and defined on a per-channel basis in CHANNELS > ADVANCED tab. Requires SFE Key TxAS087.
- Enhanced Location reporting. This requires SFE Key TxAS089.
- MPT1327 Utilities RCGA (Remote Controlled Group Affiliation) – this is only released for demonstration purposes, and is likely to change in the next releases.
- Workgroup UI has been enhanced with the addition of the PC App dropdown option TRUNKED > TRUNKED KEY SETTINGS > LEFT SELECTION KEY > ZONES (ALL). The existing option called ‘Zones’ is now relabeled ‘Zones (for workgroup)’ and still allows user’s the option to display only the relevant Workgroup, as previously implemented, but now all workgroups can be viewed using the ‘Zones (all)’ option. Service Cloud 17953.
- New audible continuous indicator for loneworker. Service Cloud 19562.
- TDMA Compliant version of Extended Remote Head Kit (up to 750m) for the TM9300 and TM9400 mobiles – T02-00064-2xxx.

- The Real Time Clock (RTC) found in UI PREFERENCES > DISPLAY AND MENU can be enabled from this release and viewed by enabling CONVENTIONAL OR TRUNKED MENU > TIME AND DATE in the Radio Menu. This clock can also be updated by GPS (if this is also enabled by SFE Key TxAS081) in SERIAL PROTOCOL > GPS > SYNC RTC FROM GPS. Note that this will force the time display to be UTC.

Problems Fixed in Firmware v2.01.00

The following problems and limitations have been fixed in this release:

- Status Lists were missing from TP9300 4-key model's 'Menu > Send' list unless "Preset Calls" was enabled or the LSK was defined as 'Status' - and then was only available for the first Network. This affected the TP9335 and TP9355 4-key portables and the TM9355 mobile with standard microphone. Service Cloud 20787.
  See also a related problem from Service Cloud 22742 in PC Application fixes below.
- Conventional mode GPS polling problem fixed. When a radio was set to respond to a GPS poll on a dedicated channel – as configured in CONVENTIONAL > CONV DATA PARAMS > GPS > CHANNEL SETUP > DEDICATED – the radio changed to that dedicated channel but did not send the poll response and would then stay there but indicate the original channel. TIMS 104530.
- TM9300 Dual Heads used on MPT1327 Analog networks have the following fixes:
  - The Network Label appeared blank if Network Identity was programmed as Idle Display
  - Start-up beeps were not present
- Service Cloud 21366: Zones are missing from the scroll list in certain operations. All zones are now displayed regardless of workgroup.
- Service Cloud 19562: Radio not dropping out of a group call to make either a Lone worker or Man-Down Emergency call.
- Service Cloud 19562: TP9300 was only giving a single beep for a Lone Worker call.
- Service Cloud 20787: Status was not displayed in the radios ‘Menu->Send’ list unless ‘Preset Calls’ was enabled, or LSK was defined as ‘Status’.
- Service Cloud 22956: On a Tier 2 radio, the Menu was displaying Individual Calls Menu Item.
- Service Cloud 104530: Within Conventional mode, when the GPS poll response was not received on the dedicated channel, the radio would lock to that channel.
- TIMS 105813: Cancelling of an Emergency Call was not consistent between conventional and trunking channels. In this release, a long keypress will deactivate the emergency on both Conventional and trunking channels.
- TIMS 105053: AVL / RCGA data transmission was interrupting the user menus.
- TIMS 105812: After a failed called, selection and initiating preset calls was unreliable.

Problems Fixed in PC App v2.1.0.6

The following problems and limitations have been fixed in this release.

- A Fleet Configuration issue noted when associating all 'Preset Call' parameters to a spreadsheet was an error message during programming stating "*Preset Call ID - Unable to find drop-down box entry. Index was out of range*..." even though they were correct, has been resolved. Service Cloud 21277.
- Noticed at Level-3 when investigating Service Cloud 20787 that if a multiple network datafile is read from a radio that has Status lists only in the first network that this became corrupted and would re-appear spread across all networks. Service Cloud 22742.
- TIMS 95295 - Assignment name length only tells me afterwards
- TIMS 106473 - DMR Tier-2 able to delete fixed priority two scan channel

Known Problems Or Limitations

- Unable to downgrade radio firmware from version 2.01 to version 1.00.
  If it is required to move back to the first release of DMR then it will be necessary to downgrade to an earlier version such as v1.02 then subsequently downgrade to v1.00.
- When the Calibration Application attempts to perform re-calibration of Transmit or Receive values it does this with the terminal in an Analog state by sending a '700' CCTM command before the test, however the TM/TP9300 terminals are currently not recognizing this '700' command, so will fail the test if the first Conventional channel programmed in the radio is Digital. To work-around this please ensure at Calibration time that the first conventional channel in the radio is programmed as Analog.
- A Data port rate of 1200Baud is not supported in the TM9300 and TM9400 mobiles. Workaround is to use 2400Baud.
- The default conventional squelch in the TM8200/Tx9300 PC Application is Country (8dB SINAD) but it is strongly suggested this should be City (12dB SINAD) unless specifically required. Request to change this default is pending in TIMS 98765 and 98901.
- Text Messaging (SDM) is not yet available supported.
- DMR Tier-II Priority Channel scanning is supported but voice 'holes' may be noticed.
- Languages currently supported in TM8200/DMR PC App v2.1.0.6 in TOOLS > OPTIONS > GENERAL are English (US) and French. Note that the Online Help text is only in English.

- Suggestions for Analog 5-tone Selcall use on TM/TP9300:
  - If a SELCALL > TONE SETTINGS > TONE PERIOD is configured above the default of 20ms then also adjust the Gap Period to match - even if no gaps are defined in the Rx Format – as Selcall sequences may not decode properly. For further information see TN-1146.
  - Enable NETWORKS > FEATURES > TONE BLANKING. The defaults of 'Deactivation Timer' (0) and 'Tones To Receive Before Starting' (2) are preferred.
    For further information see TN-1016.
- TM9300 Dual Head installations have the following problems:
  - Both microphones must be in a Mic clip before the hookswitch of either is recognized to accept or cleardown in a MPT1327 or DMR Trunked call.
- If a PC App 'Read' of a TM9300 – that had a Keypad Mic connected is attempted before it is powered off and back on – will not respond and will time-out the PC App.
  In the TM8200 this simulates fast scrolling of the up/down key.
- TM9300 Dual Head installations operating in DMR mode will not pass the microphone audio out the other head when GLOBAL > UI PREFERENCES > MULTI-HEAD > LISTEN IN is ticked.
  This does work correctly in analog MPT1327 mode. TIMS 104257.
- The current requirement for service staff or installers to measure the terminals RF power and DC current under load is to switch from DMR mode(s) to Analog (FDMA) which therefore requires configuration of an Analog channel.
  This information is also documented in MMB-00002-04 TM9300/9400 Installation Guide.
- If a datafile for a TM9300 is transferred to TP9300 within the PC App the following may require correcting:
  - GLOBAL > START-UP > AUTO POWER DOWN TIMER can be programmed and actioned by the TP9300 Portable.
  - GLOBAL > SERIAL PROTOCOL > GPS programmed for a TM9300 would use 'ACC' port but should be changed to 'Internal Options' to utilize the portable's internal GPS receiver. The portable GPS Display will show 'Lost Cnx' if set as 'Acc'.
- NOTE: Customers employing AVL as well as encryption will need to upgrade TB9300 base station Firmware to release v1.35.00 prior to upgrading their terminals to ensure that AVL will continue to operate as expected. Failure to do so will result in AVL polling data not being provided by the system.
  If customers update their terminals before upgrading base stations, they can get AVL working again by disabling encryption. TIMS 106688.

Publication Information

Related Documentation	TN-1234-AN – Terminal Firmware Upgrade Procedure TN-1016 and TN-1146 – 5-tone Selcall Configuration TN-2300-SR – DMR Terminal Firmware v2.00.00 and PC App v2.0.0.4 TN-2317-SR – Calibration Application v2.18.0.1
Compliance Issues	None.
Compatibility Issues	None.
CSO Instruction	Inform all service staff and dealers of the released information.
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Distribution Level	Associate.

Document History

Issue	Date	Description	Author
-	29 August 2014	First release	L Clark
b	2 September 2014	Corrected text for GPS	G Brenchley