GE MDS *PRODUCT RELEASE NOTE*

RELEASE NOTE: TD220MAX Firmware Version 1.2.16
RELEASE DATE: June 25, 2019

FIRMWARE

MDS TD220MAX FIRMWARE – VERSION 1.2.16

Overview

This section describes Software/Firmware updates for the MDS TD220MAX product.

Product: MDS TD220MAX

Version: 1.2.16

Release Date: 25-JUN-2019

Package Element	Version
Bootloader	0.0.2
Kernel	0.0.5
RootFS	1.2.16* CM ACSES 4.10.0*
MCU	1.1.1*
DSP	1.1.4

* = updated

Important Notes:

- **This release note lists changes since the most recent production release, 1.2.15.**
- **Release 1.2.16 has less receive sensitivity compared to 1.2.15 under the following conditions: mobile receiving below 220 MHz when the base System Configuration, Send OTA Beacon setting is 'enabled'.**

New Features

1. Wabtec ACSES CM release 4.10.0 integrated for use when authorized; this release improves stability and supports the 'ACSES Security' feature.
2. Added 'ACSES Security' and 'ACSES Feature1' authorization codes to support new Wabtec CM features.
3. MCU upgraded from 1.0.10 to 1.1.1 (as with any MCU change, first power on will take a few minutes to initialize)
   - Add MEM command to review memory more easily when the ROR is still assembled in the TD220MAX.
4. Add Statistics, CPU Idle and Mem Free percent fields with SNMP support.
5. Add Maintenance, Reset to Factory Defaults menu item. This does not affect the CM flash partition.
6. Add Maintenance, Support Bundle menu item to save product-specific logs rather than the legacy 'mds_eng.log'.
7. Add integrator commands GPS STREAM for debugging and LN, PWD, RM, and TOUCH for provisioning.
8. Add aliases for integrator commands: ALARMS, IPCONFIG, OFF, and REBOOT alias ALARM, IFCONFIG, GPS STREAM OFF, and BOOT respectively. Aliases aren't listed by the help command at this time.

Changes to Existing Features

1. MCU upgraded from 1.0.10 to 1.1.1 (as with any MCU change, first power on will take a few minutes to initialize)
   - Change OWM command to prevent 'No ROR Response' in LCP mode when empty.

2. Change CM Configuration menu Link action to prompt to overwrite if the link name already exists as a link, not a regular file. This removes a Delete step when changing configuration from one xml file to another. (You still have to reboot for the CM to use the newly linked configuration.)

3. Change the CM Process Status screen to sort the results by COMMAND. This groups processes together and may make it easier to see if one is missing.

4. Move the GPS NMEA Data and GPS Found GGA fields to the second column of the Clock Source Status menu.

5. Automatically clear Radio Test Poll test stats only when the test changes to Poll test, not when the test is enabled. The user can decide whether to clear statistics between runs of the test.

6. Add identifying information when 'Setting Frequency Failed' event is logged.

7. Reduce menu blink due to GPS param updates by adapting Mercury-e notification filter.

8. Use the standard ten-minute inactivity timer with the integrator login.

9. Use standard logging for nmeaproc so debug logs will be included in support bundles.

Defect Fixes

1. MCU upgraded from 1.0.10 to 1.1.1 (as with any MCU change, first power on will take a few minutes to initialize)
   - Improve rapid frequency change by updating RX as well as MFREQ1 for STFP commands and processing only one LCP packet at a time.
   - Resolve one mechanism leading to 'stuck in TX': prevent profile flash writes at MCU power-on/reset.

2. Transmit non-zero payload in automatic (non-CM) beacons to reduce MAX-to-X data with beacons Rx Errors.

3. Prevent Radio Test Force Key from dekeying at 2W on mobiles.

4. Correct Radio Test Poll test so multiple runs of the test show OTA Rx Payloads and Rx Last RSSI.

5. Change GPS parsing so sentences like 'GGA,235439.00,**4307.076**,N,07736.674,W,1,15,,172.0,M' preserve the leading zero after the decimal in the latitude.

6. Prevent a 'File not found' error for CM menu actions like Cksum, Delete, or View after adding a file like 'tests/test01.xml' from TFTP host subdirectory 'tests'.

7. Prompt for a Filename when the current CM menu entry is a string ending in '/' as well as the empty string.

8. Selecting Device Information, Date no longer overwrites the selection letter for Console Baud Rate.

9. Add 'Time Synchronization Invalid' details to integrator ALARM command, matching the Current Alarms menu screen.

10. Prevent serial console authcode logins filling the Authorization Code entry field with gibberish.

11. Reduce TSN debug logging to major level so support bundles aren't full of 'transmitter serial number' entries.

Known Errata

1. Receive sensitivity is degraded when the base System Configuration, Send OTA Beacon setting is 'enabled'.

Operational Notes and Limitations

1. Compatibility with TD220, TD220PLUS, TD220X
   - This firmware is for use on TD220MAX units only.
   - TD220MAX is not over-the-air compatible with TD220 or TD220PLUS products.
   - TD220MAX releases 1.2.5 and above are over-the-air compatible with TD220X releases 2.0.16 and higher.

2. At first power on with upgraded firmware, the Starting Information screen may show Device Status "Initializing" for up to five minutes. The radio will start operating when it reaches "Operational" status.

3. The ethernet port operates in 10Mb half-duplex mode.