 GE MDS *PRODUCT RELEASE NOTE*

RELEASE NOTE: TD220X Firmware Version 2.1.10
RELEASE DATE: June 27, 2022

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MDS TD220X FIRMWARE – VERSION 2.1.10

Overview

This section describes Software/Firmware updates for the MDS TD220X product.

Product: MDS TD220X
Version: 2.1.10
Release Date: 27-JUN-2022

Package Element	Version
Bootloader	0.0.3
Kernel	0.0.5
RootFS	2.1.10* CM ACSES 4.15.0
MCU	2.2.4
DSP	0.1.8

* = updated

Important Notes:

- **This release note lists changes since the most recent production release, 2.1.9.**
- **Release file tdx-krmd-2_1_10.mpk SHA256 sum:**
  af9bbdb0667a324105cf7816644339463e3879dda300944f49891e6066215c16

New Features

1. Log 'Resource Low' event when CPU Idle is 10 percent or less (after a 90-second guard time at bootup for application and integrated CM startup). This should help identify configurations that overtax the unit but note that the event will be logged for operations like reprogramming or image copy. Add settings Log Resource Low, CPU Idle Limit, and Mem Free Limit to menu, cfgscript, and SNMP to explicitly control resource logging. Rename Statistics / Logging to Performance Information and add a Resource Logging menu for the settings. Record the state of resource logging and the limits in the event log at power on.

2. Add Radio Test, Force Key, TX Key Timeout setting to menu, cfgscript, and SNMP. Make the timeout optional since the hardware thermal shutdown protects the radio hardware. A setting of zero disables the timeout. A non-zero setting employs the timeout regardless of Output Power setting (previously an Output Power > 2W used a 20-second timeout). When the timeout is zero or a test other than Force Key is used, the Radio Test screen now shows Elapsed Time. If thermal shutdown occurs, the 'PA Temperature Too Hot' alarm is displayed on the Radio Test screen. The test continues to run but the hardware outputs minimal power. When the unit cools, the alarm clears.
    NOTE: Previous releases have code that checks the force key timeout is > zero and if not, resets it to 20 seconds. Rebooting to an earlier release will set the timeout to 20 seconds if you've set it to zero with this release.

3. Add Performance, Process Status screen and integrator TOP command to show top-based CPU utilization.

4. Add Wireless Packet Statistics, Tx Last Age to show the age of the last transmission in seconds.

5. Add Wireless Packet Statistics, Dropped Packet Statistics, ID Mismatch count to show when received STFP messages have a different radio ID than the unit's STFP Configuration.

6. Parse NMEA RMC sentence for the date so GPS units can set the date as well as the time. The GPS receiver must be configured to output RMC as well as GGA sentences for this to work.

Changes to Existing Features

1. Change CM Process Status screen from ps-based to top-based.
2. Allow <Backspace> to cycle booleans as it does for enums.

Defect Fixes

1. Set modem power for Radio Test menu to ensure the displayed Output Power setting is used. Without this, the test uses the power value from the most recent STFP message transmitted.
2. Resolve GPS time sync issue when RTC battery is dead by defaulting the system time to 2013 rather than 1920.
3. Use TFTP port functions for CM menu file transfers. The TFTP Server Port setting was added in release 2.1.7.
4. Retry once if an attempt to reboot fails.
5. Prevent 'Invalid Choice' message when Reprogramming, Image Verify fails.

Known Errata

1. None

Operational Notes and Limitations

1. Compatibility with TD220, TD220PLUS, TD220MAX
   - This firmware is for use on TD220X units only.
   - TD220X is not over-the-air compatible with TD220 or TD220PLUS products.
   - TD220X releases 2.0.16 and higher are over-the-air compatible with TD220MAX releases 1.2.5 and above.
2. After upgrading, the Starting Information screen may show Device Status "Initializing" for up to five minutes.
3. The ethernet port operates in 10Mb half-duplex mode.