



GE MDS *PRODUCT RELEASE NOTES v5.0.7 Rev A*

RELEASE NOTE For: MDS Master Station Firmware Version 5.0.7
RELEASE DATE: August 29, 2018

FIRMWARE

©2018 GE MDS LLC, 175 Science Parkway, Rochester, NY 14620 USA
Phone +1 (585) 242-9600, FAX +1 (585) 242-9620
<http://www.gegridsolutions.com/communications/wireless.htm>

MDS™ Master Station **COVERING FIRMWARE – v5.0.7**

Overview

This section describes Software/Firmware updates for the MDS Master Station.

- Products: MDS Master Station
 - Variants: MPRS, MPRL
- System Firmware Version: v5.0.7
 - SD Radio Module Firmware: v3.7.7
 - LN Radio Module Firmware: v2.2.6

MDS™ Master Station Learning and Development YouTube Channel



<http://goo.gl/isGFM2>

IMPORTANT NOTES:

- Version 5.0.7 is for both MPRS and MPRL.
 - This firmware does NOT support Evolution/Migration Master station (serial-router).
- Once running 4.x system firmware, 3.x system firmware **cannot** be downloaded into the Master Station. To preserve the ability to boot back to 3.x firmware, **do not** overwrite your inactive 3.x firmware image.
 - See the section labeled “Special Instructions: Booting to 3.x firmware in the inactive image (MPRS Only)” later in the release noted for detailed instructions.
- Both active and inactive Radio Modules have their own firmware that the MPR upgrades together and keeps in sync. The Radio modules use different versioning than the Master Station system firmware. See the firmware version list in the Overview section for the expected radio module firmware versions.

Supported Radio Modules

- **MDS Master Station with LN Radio Modules (MPRL)**
 - LN1B
 - LN2X
 - LN4A
 - LN4E
 - LN7A
 - LN9C
- **MDS Master Station with SD Radio Modules (MPRS) since v4.3.8:**
 - SDM4B
 - SDM4C
 - SDM4D
 - SDM9C
 - SDM9K

New Features

- **Features applicable to all MDS Master Station since v4.3.8**
 - Added Scheduled Failover support. Enable this feature to force a failover on a scheduled interval.
 - Added Standby Equipped setting. The unit will alarm when redundant power supply and Radio Module are not detected. This setting is automatically enabled for redundant configurations and can be enabled or disabled by the user.
- **MDS Master Station with LN Radio Modules (MPRL) since v4.3.8:**
 - Added remote management of connected remotes
 - Addition of VRCs to QAM mode ("native serial")
 - Simplified web UI
- **MDS Master Station with SD Radio Modules (MPRS) since v4.3.8:**
 - Added DLINK QAM Broadcast command. This command broadcasts a DLINK command to all Orbit remotes in backwards compatible mode, instructing them to change radio mode to QAM (Standard) mode.

Changes to Existing Features

Note: numbers in brackets [] represent internal issue tracking numbers.

- **MDS Master Station since v4.3.8:**
 - Terminal server enhancements
 - Polled modes for UDP and TCP servers to support queued transactions
 - MODBUS TCP enhancements to support the same modes as standard TCP
 - Support for policy routing on static routes
 - To change user passwords, type **change-password user <username>** at the CLI. For example, to change the admin password, type *change-password user admin*
 - Binding to a specific IP address is no longer supported in Terminal Server.
- **MDS Master Station with LN Radio Modules (MPRL) since v4.3.8**
 - Improved ability to monitor and control Store and Forward links
 - Improved web/GUI response for Remote Management on constrained bandwidth links
 - To facilitate fast serial network configuration, a VRC will be automatically created for each Ln interface on the device.
- **MDS Master Station with SD Radio Modules (MPRS) since v4.3.8**
 - None

Resolved Issues (Fixed) & Improvements

Note: numbers in brackets [] represent internal issue tracking numbers.

- **MDS Master Station since v4.3.8:**
 - SNTP does not generate log events when the time changes. [776]
 - To prevent potential issues with passwords that contain special characters, use the **change-password** command to change user passwords. [1212]
 - Addressed an issue preventing a firewall's eth-rule from being implemented. [1183]
 - COM2 now properly runs the recovery console, even when standard console is disabled. [768]
 - Ensured that the VPN Wizard properly deletes GRE connections. [1210]
 - Fixed an issue causing the CLI to timeout after 30 minutes. [1373]

- Addressed logging issues. [1289] [1169] [776]
- Improved user experience in web UI. Enter key no longer closes wizards accidentally, and custom columns and dynamic parameters now display properly after page refresh. [1174] [1037] [988] [999] [1383]
- **MDS Master Station with LN Radio Modules (MPRL) Since v4.3.8:**
 - Improved radio handling of DNP3 traffic. [1535]
 - Addressed serial data lockup with the 19200N modem. [1392]
 - Resolved an issue causing the unit to reboot when failing over in passthrough mode. [1378]
- **MDS Master Station with SD Radio Modules (MPRS) since v4.3.8:**
 - When configured with a receiver frequency of 400.000, 425.000, 450.000, 475.000, or 500.000MHz, the radio will operate with reduced performance [700]
 - DLINK performance is improved in Packet with MAC mode.
 - Improved DLINK stability under heavy DLINK traffic. [1525]
 - Improved handling of large packets when using IP Payload. [1399]
 - Improved robustness of IP Payload. [1387]
 - Fixed SD Ethernet lockup detection and handling. [1402]
 - Fixed an issue affecting compatibility between custom RXTOL setting and the CPFSK, 4800B and 9600B modem receiver. Note that RXTOL setting is no longer required. [1492]
 - The web UI now informs users that the secondary payload port has no handshaking lines, and that the primary payload must be configured before the secondary payload. [1261] [1262]
 - Improved 4800B modem receiver performance.
 - Improved MPRS9K data passing performance in packet with MAC mode.
 - Fixed an issue that caused false Synth out of Lock alarms on SDM4 units.

Special Instructions: Booting to 3.x firmware in the inactive image (MPRS Only)

To switch between 3.x firmware and 4.x system firmware on an MPRS follow the procedure below.

1. As part of the upgrade process from 3.x to 4.x, the system will create a configuration snapshot for the currently running system called "Auto"
2. IMPORTANT: Once you are running 4.x firmware, be sure to not overwrite the 3.x firmware in the inactive firmware location, or you will not be able to revert back to that version. E.g. copying active firmware to inactive location, or installing a new 4.x version to the inactive firmware location.
3. Should it be determined that reverting to the old 3.x firmware is necessary, perform the following command on the CLI to reboot to the old firmware, and restore the system using the configuration snapshot created in step 1

> request system recovery rollback which-image { inactive } snapshot Auto

4. You will be prompted to confirm this action:
The current system configuration will be erased and replaced with the snapshot. Proceed? [no,yes]
5. Type 'yes' and press enter, and the system will restart to the previous 3.x configuration

Known Errata

Note: numbers in brackets [] represent internal issue tracking numbers.

- **MDS Master Station Platform (Common):**
 - If a remote syslog server is unreachable, syslog events logged during that time may not be sent upon reconnection. [651]
 - Managing an IKE/IPSec VPN via the web interface is not functional. The CLI must be used for managing IKE/IPSec VPN connections. [1070]
 - Syslog is not fully compliant with RFC5424. [1033]
 - In the initial setup wizard, the radius server authentication type may attempt to reset to CHAP. Review the summary and ensure the authentication type is correct. [1202]
 - Ping statistics may not be displayed after the ping command is interrupted by the escape key sequence. [1354]
 - A QoS modify policy will act like it is automatically applied to all interfaces. [1556]

- When using QoS, undesired behavior will occur if a shaping policy is the next-policy of priority policy. [1555]
- **MDS Master Station with LN Radio Modules (MPRL):**
 - None
- **MDS Master Station with SD Radio Modules (MPRS):**
 - Changes may not be applied immediately when changing Data Device Mode to either DCE or CTS Key mode. They will be applied after a reboot or failover. [1377] [1267]

Operational Notes and Limitations

Note: numbers in brackets [] represent internal issue tracking numbers.

- **MDS Master Station Platform (Common):**
 - Some Web Wizards do not run correctly in Internet Explorer, use Edge, Firefox or Chrome. [962]
 - In the CLI, deleting a single entry in a leaf-list will delete the entire list. Do not use brackets in the command when deleting an element in the list. [1325]
 - While the MDS Master Station supports management and routing via IPv6, not all services have support for IPv6. [1342]
 - The HTTP Protocol is not supported for exporting files. Files can be sent through a browser but not directly uploaded to an http server. [875]
 - If running a serial port at 300 baud it is recommended that vtime be set to at least 35ms. [1184]
 - The Firewall (Access Control Wizard) may get into a state where the summary screen displays changes that were not made by the user. It is recommended to cancel and restart the Wizard. Verify accuracy of all changes on the summary screen before saving the configuration. [1180]
 - If the system event log is very full, attempting to search the event log via the event log table on the Web UI may result in the system becoming unresponsive for a period of time. [1002]
 - Configuring multiple Terminal Servers on the *same* TCP port generates a warning, but accepts the configuration although the configured Terminal Servers will not work correctly.
 - A com port configured as Console mode only supports 8N1 formatting even though the serial settings can be set otherwise, operates correctly when in data mode. [1326]
 - SCEP operations require certificate information to contain a Common Name, otherwise the operation will fail. No direct indication of failure is provided.
 - On a Microsoft CA server, the SCEP template used should not include Extended Key Usage.
 - In the Web UI, there are no preconfigured file servers. This facility is only accessible from the CLI.
 - The USB port is currently intended for console access only.
 - Note: If the USB port is in use as a console OR Terminal Server and the system is rebooted (or connection interrupted) the USB cable may need be disconnected and reconnected and the Terminal Session on the connected device may need to be restarted.
 - Any member of a disabled bridge will be disabled. Members must first be removed from the bridge in order to regain access to the interface.
 - Date/Time settings are expressed in GMT format.
 - The “\” character is an escape character for the CLI. If you want to enter a “\” into a text field (such as a user password), you will need to use “\\”. [1234]
 - STP is not functional over interfaces belonging to a VLAN.
 - Tab completion is not available on the CLI when deleting list entries. The entry name must be manually entered using the name as displayed by the show command.
 - Displaying the active routes will not show all configured routes when connectivity to an affected subnet cannot be established.
 - In some versions of Firefox, the rollback to snapshot page is not rendered correctly. You must double click the snapshot field to have the options appear. [976]
 - A user may not modify an already saved 'user snapshot'. Instead, delete and remake the snapshot with the necessary changes. [992]
 - If attempting to ping an IPv6 link local addresses, you must also specify the outgoing interface. [1320]
 - To clear the Remote Detection Service table, disable the service, then reenale.
 - Error message boxes may appear in the Destination NAT, ACL, and Interface Setup wizards. [1590] [1589] [1588] [1583] [1567] [1566] [959]

- QoS traffic flows may not be prioritized properly if QoS settings are modified while it is in use. To prevent this, stop the traffic flows before changing QoS settings, and restart them after applying the new configuration. [1554]
- When using QoS, DSCP traffic and custom IPv4 protocol may not be prioritized correctly. [1550] [1547]
- Internal software warnings may be present in the event log after upgrading from firmware version 4.3.8. This does not affect operation. [1448]
- The Inms interface may receive a new DHCP address upon reboot when it is unbridged and operating as a DHCP client. [1440]
- An internal software error may be generated upon changing TCP terminal server configuration from streaming to polled. [1439]
- An internal software error may be generated when starting a remote reprogramming session. [1432]
- An internal software error may occur when changing serial port settings. Should this occur, reboot the device. [1428]
- When using Next Hop in Static Route leave Outgoing Interface Blank. [1598]
- **MDS Master Station with LN Radio Modules (MPRL):**
 - Per Orbit RN ONaL 50, if the modulation is forced to 64 QAM, it is recommended that FEC (forward error correction) is enabled. [1327]
 - NIC communications may take extra time to establish on the first boot following upgrade to firmware version 4.3.8 or higher. [1434]
 - When using the web proxy, connected remotes may be displayed incorrectly. [1431]
 - If operating an LN NIC in a simplex configuration using a single antenna port and no duplexer, simplex-mode must be enabled. When operating in simplex mode, the TX LED will be illuminated even when the transceiver is not actively transmitting. [1092]
- **MDS Master Station with SD Radio Modules (MPRS):**
 - Operating as a Repeater with local-data when using modem "none" may not work properly when using SDM9C or SDM9K Radio Modules. In this case, set the repeater mode to "repeater" instead of "repeater-with-local-data". This does not apply when using SDM4B or SDM4C Radio Modules. For these modules, "repeater-with-local-data" should be used. [542]
 - If the operational mode of the radio is changed (e.g. from transparent to packet-with-mac), all mode specific parameters will assume their default values, even if previously set to a different value (e.g. MAC AP vs. Remote). [611]
 - An SD Radio Module configured as a DLINK root will not send local DLINK messages over the air if the radio is also configured for Repeater Mode "repeater". An SD repeater that is also a DLINK root must be set to "repeater-with-local-data". [750]
 - When using PulseNET or PulseNET Enterprise to monitor an MPRS in Packet w/ MAC mode, the Passive Collection Repeat Interval (in PulseNET) must be changed from the default 5000ms to a recommended value of 13000ms. This value must be changed for EACH MPRS being monitored in PulseNET. [1303]
 - An MPRS in transparent mode using ip-payload may require a reduction in the transparent-rx-timeout value, if the data streams are longer than 1480 continues bytes. [1215]
 - When operating in RTS keying mode, full-duplex operation is not supported. For full-duplex operation, continuous keying must be used. [324]
 - When operating as a DATAKEY Repeater with SDx/x710 radios as remote endpoints in 9600 modem, it is recommended that the following parameters be configured in the remotes for acceptable polling performance.
 - SDx/MPRS Polling Remote SCD: 8ms
 - x710/SDx Remote SCD: 12ms
 - SDx/MPRS Polling Remote and x710/SDx Remote PTT
 - For baud 96008N1: 0ms
 - For baud 96008E1: 4ms
 - When operating as a CKEY Repeater with SDx/x710 radios as remote endpoints in 9600 modem, it is recommended that the following parameters be configured in the remotes for acceptable polling performance.
 - SDx/MPRS Polling Remote SCD: 6ms

- x710/SDx Remote SCD: 8ms
- When using PulseNET or PulseNET Enterprise to monitor an MPRS in Packet w/ MAC mode, the Passive Collection Repeat Interval (in PulseNET) must be changed from the default 5000ms to a recommended value of 130000ms. This value must be changed for each MPRS being monitored in PulseNET. [1328]
- An underbaud condition may occur when operating in transparent mode in a network with SDs or x790 units, if the Master Station's over-the-air data rate is greater than the serial port data rate. To avoid potential gaps in transmission, increase the SCD (soft carrier dekey) on x790 or data key hold time on the Master Station to at least 5. [1888]
- The unit may generate an alarm after committing initial configuration. [868]