



GE MDS *PRODUCT RELEASE NOTES v4.3.8 Rev A*

RELEASE NOTE For: MDS Master Station Firmware Version 4.3.8
RELEASE DATE: October 25, 2017

FIRMWARE

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MDS™ Master Station COVERING FIRMWARE – v4.3.8

Overview

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

- Products: MDS Master Station
 - Variants: MPRS, MPRL
- System Firmware Version: v4.3.8
 - SD Radio Module Firmware: v3.6.7
 - LN Radio Module Firmware: v2.0.6

MDS™ Master Station Learning and Development YouTube Channel



<http://goo.gl/isGFM2>

IMPORTANT NOTES:

- Version 4.3.8 is for both MPRS and MPRL.
 - This firmware does NOT support MPRU, or 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.

New Features

- **MDS Master Station with LN Radio Modules (MPRL) since v4.1.7:**
 - Simplex mode / simplex configuration support
 - LN4A support
 - LN1 & LN2 support
 - Serial pass through
 - Added ability to specify packet size in ping command.
- **MDS Master Station with SD Radio Modules (MPRS) since v3.2.6:**
 - Modem RX improvements
 - 2khz frequency offset compensation for modem 9600/19200N,19200,38400N, 9600M, 19200M
 - 1.5khz frequency offset compensation for modem 19200E, 38400E
 - 1khz frequency offset compensation for modem 4800F/3200
 - Analog and "Modem none"
 - Modem none Analog RSSI
 - Modem none Interface-level PTT delay facility (required if the local tap responds before the repeater is done repeating)
 - Analog repeater with local drop
 - Added Transmit Timeout when using modem 'none'
 - Customer frequency tuning
 - Added RX Timeout configuration
 - Added multi-host support
 - DLINK
 - Added DLINK owner name & message strings
 - Added "generic DLINK broadcast"
 - Added DLINK tail-end-network support
 - Added remote detection service
 - Added remote broadcast reboot image selection
 - SDM4D band support
 - Added buffer delay option when operating in transparent mode.
 - Added ability to specify packet size in ping command.

Changes to Existing Features

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

- **MDS Master Station with LN Radio Modules (MPRL) since v4.1.7:**
 - None
- **MDS Master Station with SD Radio Modules (MPRS) since v3.2.6:**
 - Secondary serial payload port is now only available if the primary port is configured.
 - Systems configured to only use the secondary payload port will have their configuration migrated on first boot so that only the primary port is configured. This will have no operational impact.
 - Sending a DLINK remote management broadcast request from a repeater now requires that the repeater be configured for local-data mode [920]

Resolved Issues (Fixed) & Improvements

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

- **MDS Master Station with LN Radio Modules (MPRL) Since v4.1.7:**
 - Fix for https access with chrome 56+
 - Issue where LN terminal server can lock up when there is heavy distortion on the serial line has been resolved. [1315]
 - When using remote syslog, the facility name used may not have been the facility name configured in an event rule. [956]
- **MDS Master Station with SD Radio Modules (MPRS) since v3.2.6:**
 - DLINK Improvements:
 - DLINK TCP stability improvements [1062, 1104]
 - DLINK improvement when using 9600B modems [1101]
 - If the DLINK serial port was configured for 8E1, DLINK communications would fail. [1362]
 - Repeater Improvements:
 - General repeater stability improvements [1106]

- Repeaters will now properly respond to passive DLINK requests [864]
- Improved performance of analog repeater with local-data [1098]
- Fixed a condition where a repeater in a store-and-forward network could get into a locked state [1047]
- Web Improvements:
 - Fix for https access with chrome 56+ [1139]
 - VLANs can now properly be configured for Ethernet ports [913]
 - Better messaging to inform when serial ports are configured in a way that may not provide the handshaking/flow-control support expected. [1270]
 - Parameters that are not applicable to the currently configured radio mode (x710/transparent/packet-with-mac) are now hidden to reduce UI complexity. [1322]
 - When upgrading firmware, after firmware load is complete, the web page will now automatically refresh, allowing you to select the new version of firmware to reboot to. Previously, a manual refresh was required to see the newly uploaded version. [1190]
- When using remote syslog, the facility name used may not have been the facility name configured in an event rule. [956]
- When operating in packet-with-mac mode, using modem 38400N, in a network with repeaters and peer-to-peer enabled, the MAC could enter a locked-up state. [869]
- Fixed a condition where the MPRS NIC could possibly get stuck in a TX state. [1103]
- Fixed a condition where serial data could be corrupted if using serial DLINK, and COM1 and COM2 baud or format settings were not configured to the same values. [1255]
- Reduced latency for all 'A' modems. [1100]
- Fixed a condition where IP Payload could lock up when large amounts of data were received [1214]
- Reduced time from system boot, to radios-ready. [1138]
- Improved 400MHz RX center frequency accuracy.
- Improved the behavior of DCD when using modem 'none'.

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):**
 - The "Local IPs" configuration parameter for Terminal Servers is not currently functional. Custom firewall rules can be used instead to limit connectivity. [461]
 - 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]
 - SNTP does not generate log events when the time changes. [776]
 - 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]
- **MDS Master Station with LN Radio Modules (MPRL):**
 - If operating 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):**
 - 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]
 - Due to a limitation of SD data compression when operating with certain modems, this feature has been removed. [825]
 - There is a known performance degradation using SD 19200N store and forward with a repeater network doing serial polling. [866]

Operational Notes and Limitations

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

- **MDS Master Station Platform (Common):**
 - If standard console is disabled on COM2 it will not run the recovery console. Use COM1 or USB to manage locally if COM2 is disabled. [768]
 - 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 “\\”. [1212, 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]
- **MDS Master Station with LN Radio Modules (MPRL):**
 - If the modulation is forced to 64 QAM, it is recommended that FEC (forward error correction) is enabled.
- **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]

- Applies to AUDIO ONLY: If replacing an existing GEMDS legacy Repeater (2100/X790: configured in Switched Carrier mode) the new MDS Master Station MUST have VOX enabled or be configured for Continuous keying. [326]
- 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 130000ms. 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