



GE MDS

PRODUCT RELEASE NOTE

RELEASE NOTE For: NETio EntraNET Firmware Ver 4.5.8 / 1.5.8

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FIRMWARE

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MDS NETio - EntraNET Package Version 4.5.8 (EB 1.5.8)

Overview

This section describes Software/Firmware updates for the NETio / EntraNET

Products: NETio EntraNET Base (EB), EntraNET AP, NETio expansion modules

Versions:

- NETio-EB firmware: Ver 1.5.8
- NETio Expansion Module Firmware: Ver 1.5.5
- EntraNET Access Point Firmware: Ver 4.5.8

Important Notes:

For expansion modules, an automatic firmware upgrade will occur on power-up when a module's firmware is older than what is installed in the Base Module. This process will require up to 20 minutes, via backplane or WeXP. The unit will appear to be inoperative during this time and the expansion module will be inaccessible. It will return to normal operation when the upgrade is complete.

New Features

1. DNP3 Protocol (level 1)
2. MODBUS/TCP Protocol (support function 5,6 and NOT 15,16)
3. Expansion Module Sleep Mode
4. 2.4 GHz Radio Support

Changes to Existing Features

1. Improved Analog Input calibration accuracy in Remote Base and Expansion modules.
2. Dump similar OS error info when watchdog RESET occurs in Remote Base.
3. Host-to-Host (H2H) minimum failsafe setting changed to 500ms. The H2H failsafe timeout range is now 500ms to 6553500ms
4. (Access Point) Removed remote management from web interface.
5. (Access Point) Disabled remote management menus from NETio. The user can no longer remote-manage anything but entraNET remotes. The user should use remote console for NETio Remote base management.

Defect Fixes

1. Failsafe-last now operates properly
2. Improved error handling of WeXP radio. This solves occasional connection issues that could occur after power cycle or configuration changes.
3. Fixed problem where Modbus Polling Digital Outputs caused failures/retries.
4. Broadcast reboot command now reliably boots the unit to the new image. (Previously, active image after broadcast reboot would occasionally not be the new image.)
5. After a firmware upgrade, the firmware version displayed in the menu and with the "ver" command now properly displays the firmware version number. Previously, a "0.0.0" would appear until reboot.
6. "Associated" and "Disassociated" events are now properly cleared so that alarm status shows correct states.
7. Fixed incorrect last Event Log algorithm that could show issues after many events had been logged.
8. A configuration change followed by a reset of an H2H mapping source setting on a base module is now handled properly.
9. After mapping a H2H digital output in the source point wizard, the proper menu is now displayed after the wizard is exited.
10. Small changes made to many commands so that 'config show' now works properly. Included commands: auth, aplist, radio_basic, module, moduleao, wexp and ver.
11. The hiding and showing of menu items has been optimized. This eliminates the occasional wrong menu being displayed.
12. Optimized repetitive command/menu calls for status information such as RADIO RSSI
13. (Access Point) Changing RSG to UDP then back, clears Failsafe. Fixed range checking for keepalive parameter when switching RSG modes
14. (Access Point) Modified radio module initialization procedure so that radio module (TOR) firmware is now programmed properly after a firmware update. (Previously, an occasional radio module firmware update would fail.)
15. (Access Point) Changed RSG UI to prompt user to save any changes before a copy is made.
16. (Access Point) Encryption warning now properly displays message that max length is 40 characters (Previously, 41)
17. (Access Point) 40 character encrypt phrases are now accepted. (Previous max was 39)
18. (Access Point) Serial config web interface now accepts "broadcast" as an input.
19. (Access Point) Invalid input values will no longer be accepted in the wizards.
20. (Access Point) Web UI now properly displays the firmware version on the unicast-remote-upgrade webpage.

Known Errata

1. When a NETio Base Module powers up, digital output points energize briefly (approximately 300 ms)
2. Menu navigation on a NETio Base Module via remote management from an EntraNET Access Point may occasionally cause the NETio Base Module to unexpectedly reboot. The unit will operate fine after reboot.
3. When the encryption phrase is being changed, the unit does not properly exit edit mode when the <ESC> key is entered. Therefore, changes must be made and confirmed before leaving the menu to guarantee proper encryption phrase programming.

4. Immediately following a change to the hoptime, the NETio Base Module's time to associate to an EntraNET Access Point may be 20-30 seconds. Subsequent associations will occur in the proper amount of time.
5. WeXP RSSI readings may not be updated if viewed while broadcast reprogramming of expansion modules is in progress.
6. COM port configuration changes do not properly take affect until after the unit is rebooted.
7. When an expansion module is powered cycled, the WeXP LEDs on other backplane-connected Expansion Modules may blink off and then back on.
8. The displayed version information of the NETio Base Module's inactive image is not updated after the unit has been remotely reprogrammed. A manual reboot is required to correct this display problem.
9. It is possible that a packet or two of upstream (Base to Access Point) serial or Ethernet data can be lost during encryption auto key rotation.
10. When exercising the Transmitter Test (TXKEY) in the Radio Test menu of a NETio Base module, transmitter output power may not be accurate.
11. Disabling range mode analog outputs does not de-energize the outputs. The analog output will remain at the last programmed value if disabled. It is recommended that the output be programmed using Force Mode/Value to program the output to the desired value.
12. When operated in areas with moderate to high amounts of 2.4GHz interference, the WeXP connection between a NETio base module and an expansion module may be lost temporarily. This causes a loss of data and the assertion of a failsafe condition. Typically, the connection is lost once every 30 days, depending on the amount of interference in the environment. The expansion module will automatically re-establish its connection in 15-30 seconds. GE MDS testing has shown that using a failsafe timeout of 10-15 seconds provides the best combination of short recovery time and decreased rate of occurrence.
13. If while managing a wireless expansion module and the base module logs out due to inactivity (after 10 minutes), the expansion LED will keep blinking. A reboot or going back into the same menu managing the expansion module and then escape up one menu level will clear the problem.
14. When using remote base to daisy-chain another MODBUS device (COM1 set to "passthrough" mode), baud rates of 1200 and 2400 bps do not function properly.
15. The uptime timestamp shown in "Device Configuration" menu and "Event Logs" does not increment correctly after a month (31 days). This is a display problem only, the unit functions fine after 31 days.
16. The tags that identify the individual I/O points do not display the user-configurable tag as they should.
17. (Access Point) Copying non-saved Remote Serial Gateway entries does not work correctly.
18. (Access Point) Adding or removing associated remotes via SNMP does not work correctly.
19. (Access Point) RSG statistics clear is missing from SNMP.
20. (Access Point) Sending/receiving an RSG configuration script not available using SNMP
21. (Access Point) An EntraNET Access Point configured to use DHCP may not properly update its IP configuration when Ethernet Bridging is enabled.

Operational Notes and Limitations

1. When setting DNP3 protocol menu->MODE to "Enabled", the Modbus Protocol Menu->Modbus Protocol must be "Disabled". Similarly, when setting Modbus Protocol Menu->Modbus Protocol to "Enabled", DNP Protocol Menu->MODE must be "Disabled". Otherwise, the setting will not be allowed and will be reverted to "Disabled".

2. Mixed mode (entraNET remotes and NETio base modules associated to the same access point) is not supported in MODBUS TCP mode. Only NETio only will operate in MODBUS/TCP mode.
3. When a wirelessly connected expansion module is powered off, DNP polls for the expansion I/O points are replied back with "bad" data values. However, the "Internal Indication" bit is set to offline. Make sure all DNP responses are checked against errors before using the return data values.
4. When enabling encryption, care should be taken when defining the encryption phrase to be used. Encryption phrases should not contain sequences of repeating characters and should contain at least two distinct characters and should be less than or equal to 40 characters.
5. (Access Point) Remote Management of a NETio Base Module from an EntraNET Access Point is not recommended if network security is a concern. This is because the passing of configuration information between the units is not encrypted.
6. It may take a NETio Base Module up to 30 seconds or longer to synchronize and associate with an EntraNET Access Point when encryption is enabled. This is due to the increased amount of over-the-air messaging involved in association/authentication.
7. When co-locating WeXP systems, the use of different channels and system IDs is recommended for best performance. This reduces system-to-system interference.
8. Use of a failsafe time of 5 seconds or greater is recommended. This reduces the occurrence of false failsafe timeouts.
9. When using I/O regeneration mode across a system with multiple access points, use of a failsafe time of greater than 5 seconds is necessary. This is due to the increased time to send messages across such a network.
10. An expansion module's failsafe timeout must be longer than the sleep interval. This allows the unit to go through its sleep/wake cycle and not trigger failsafe events. The minimum sleep interval is equal to failsafe timeout/2 - 400ms. When configuration change is made, the expansion unit will check to make sure that the failsafe timeout and sleep interval times are not out of range.
11. Because it is not fully optimized, the use of the NETio Base Module command-line user interface is not recommended for I/O module configuration. It is recommended that the menu interface be used instead for I/O configuration.
12. For 2.4GHz operation, when frequency Band is set to Band B, WeXP channels 15 and 21 are not recommended.