



LOGIC
DATA SYSTEMS

L-5500 Cellular Router



Firmware Release Notes

5.1.7

January 2014

Revision History

Version	Date	Author	Description
5.0.0	8/10/12	AFH	Initial Production Release
5.0.1	8/20/12	AFH	Internal Beta Release
5.0.1b	8/28/12	AFH	Bug fixes to 5.0.1
5.0.2	10/4/12	AFH	Multiple feature enhancements
5.0.2a	10/19/12	AFH	Bug fixes related to ethernet and WiFi bridging
5.0.3	11/11/12	AFH	Added support for additional serial port
5.0.3a	11/15/12	AFH	Engineering test release
5.0.4	2/4/13	AFH	WiFi and cellular driver updates
5.1.0	3/4/13	AFH	Multiple bug fixes. Changes to cellular connection.
5.1.0a	3/13/13	AFH	Added support for swapping cell images. Multiple bug fixes.
5.1.1	N/A	AFH	Limited test release
5.1.2	N/A	AFH	Customer specific IPSec enhancement.
5.1.3	3/29/2013	AFH	Fixes to IPSec and GPS reporting.
5.1.4	4/10/2013	AFH	Fixes to cellular connection, binary GPS reporting, and AAVL configuration.
5.1.6	6/4/2013	AFH	Fixes to cellular parameters and reporting. Diagnostic additions.
5.1.6d	12/19/2013	AFH	Bug fixes for IPSec and cellular stability.
5.1.7	1/6/2014	AFH	Updated WiFi module drivers.

Release Notes

Version 5.0.0

Release Date: 8/10/2012

Release Summary

Initial production release of L-5500 firmware.

Known Issues

Currently supports CDMA only mode with Gobi image pre-configured for the Sprint network. Swapping of cellular image to alternate carrier to be available in future release.

Version 5.0.1

Release Date: 8/20/2012

Release Summary

Internal beta evaluation release for testing of feature additions and bug fixes.

Feature Additions

- Increased number of fields on pages that displayed cellular info to indicate additional information such as carrier image, roaming status, and misc identifiers.
- Added drop-down selector for currently loaded gobi carrier image on cellular module.
- Added OMA-DM provisioning support for Sprint devices.

Bug Fixes

- Fixed serial port for Garmin connectivity. Previously port available for selection in web GUI but did not internally open.
- Removed configuration options for phantom IO ports.

Known Issues

Changing of carrier image is not currently supported, despite web interface having a drop-down selection for it on the cellular (WAN) page.

Version 5.0.1b

Release Date: 8/28/2012

Release Summary

Production release of version 5.0.1 with bug fixes primarily related to the web UI.

Feature Additions

No features added between 5.0.1 and 5.0.1b. See Version 5.0.1 for feature additions.

Bug Fixes

- Corrected issue where web interface would display zeros or blank fields under certain conditions when the cellular module was roaming or out of range.

Known Issues

- Changing of carrier image is not currently supported, despite web interface having a drop-down selection for it on the cellular (WAN) page.
- GPS reporting engine may ignore time-distance values specified on AAVL page (under Remote Reporting), and transmit position reports up to once per second.

Version 5.0.2

Release Date: 10/08/2012

Release Summary

Bug fixes and feature enhancements related to GPS reporting, cellular image selection, and bridging of WiFi to ethernet interface.

Feature Additions

- Added button on System Upgrade page for resetting device back to factory defaults. Previously a unit could only be restored by uploading a new factory default config file.
- Added radio button to WiFi Access Point configuration page for bridging WiFi to ethernet. This is now enabled by default.

Bug Fixes

- Corrected issue where GPS reporting engine would ignore time-distance values specified on AAVL page and report GPS positions up to every second. Only applicable when the Logic Data Systems/GPS Logic reporting protocol was selected.
- Disabled selection box for selection of carrier image currently loaded on cellular module. Restrictions in cellular module driver currently prevent swapping of carrier image.
- Fixed error where under certain conditions cellular WAN connection would continuously toggle between online and offline mode every 5 seconds.

Known Issues

- When enabling IPSec mode, benign error message is displayed in web page and does not automatically redirect back to previous page. This requires the user to either select the back button or navigate to another page after clicking the submit button.
- GPS reporting may lock up after reset due to timing issue in GPS module.

Version 5.0.2a

Release Date: 10/19/2012

Release Summary

Bug fixes for conditions experienced when ethernet and WiFi are bridged.

Feature Additions

No feature additions between 5.0.2 and 5.0.2a. See Version 5.0.2 for feature enhancements.

Bug Fixes

- Corrected issue where specified subnet was being overridden with default subnet when WiFi and ethernet are bridged.
- Corrected issue where WiFi status page indicated wrong IP address and subnet while in bridged mode.
- Corrected issue where error message was displayed on web UI after enabling or disabling IPSec.

Known Issues

GPS reporting may lock up after reset due to timing issue in GPS module.

Version 5.0.3

Release Date: 11/11/2012

Release Summary

Added software support for second serial port (adjacent to the SIM card slot) for use with Garmin message system.

Feature Additions

- Second serial port located on rear of device (next to SIM card slot) can now be used for Garmin communications. Front serial port may be used for TCP PAD, Zoll Data's Road Safety, or a Garmin navigation device.

Bug Fixes

- Corrected error where digital input 2 was not being reported properly. Previously digital input 2 always indicated "Normal" even when pulled to ground.

Known Issues

GPS reporting may lock up after reset due to timing issue in GPS module.

Version 5.0.3a

Release Date: 11/15/2012

Release Summary

Engineering test firmware release for LTE testing.

Feature Additions

- Support for LTE modem chipsets

Bug Fixes

- None

Known Issues

GPS reporting may lock up after reset due to timing issue in GPS module.

Version 5.0.4a

Release Date: 02/04/2013

Release Summary

Device driver updates for cellular and WiFi modules. Changes to handling of cellular connection for increased stability.

Feature Additions

- None

Bug Fixes

- Corrected error where dropped connections occasionally required reboot of device.

Known Issues

GPS reporting may lock up after reset due to timing issue in GPS module.

Version 5.1.0

Release Date: 03/04/2013

Release Summary

Multiple bug fixes. Preliminary release for support of Verizon LTE radio modules (beta evaluation customers only).

Feature Additions

- When Verizon LTE network is available and an LTE compatible module is being used, the data call will automatically choose LTE mode.
- Support for Bluetooth modules.

Bug Fixes

- Corrected error where GPS reporting may be disabled following start up due to problems synchronizing the L-5500's internal clock, occasionally requiring reset of device.
- Corrected error where IP traffic would not pass between WiFi and ethernet interfaces using bridged mode. This resulted in WiFi client devices being unable to communicate across bridge with ethernet devices.
- Improved reconnection when cellular session is unexpectedly dropped.

Known Issues

- Carrier APN, username, and password are ignored for LTE calls. Defaults are currently used based on firmware of cellular module.

Version 5.1.0a

Release Date: 03/13/2013

Release Summary

Multiple bug fixes to version 5.1.0.

Feature Additions

- None

Bug Fixes

- Corrected bug that prevented changing of cellular carrier image. Customers may now select carrier from the *Activation* tab of the *Cellular (WAN)* page.

Known Issues

- Carrier APN, username, and password are ignored for LTE calls. Defaults are currently used based on firmware of cellular module.
- Access Point settings on *WiFi (WLAN)* page indicate a setting for hiding the WiFi SSID broadcast. This setting is currently ignored and has no effect on WiFi operation.

Version 5.1.1

Release Date: 3/25/2013

Release Summary

Feature addition to allow viewing of device log files using web interface.

Feature Additions

- Added ability to view internal device log files from the System Upgrade page.

Bug Fixes

N/A

Known Issues

- GPS location may stop reporting, requiring reset of modem or reconfiguration via AAVL configuration page.
- Invalid checksum reported for TAIP PV message

Version 5.1.2

Release Date: N/A – Not released publicly

Release Summary

Customer specific update for IPSec functionality.

Feature Additions

- Added ability to specify IPSec PFS using web interface.

Bug Fixes

N/A

Known Issues

- GPS location may stop reporting, requiring reset of modem or reconfiguration via AAVL configuration page.
- Invalid TAIP checksum for PV format
- IPSec tunnels go offline when rapid disconnect and reconnect of cellular connection occurs.

Version 5.1.3

Release Date: 03/29/2013

Release Summary

Bug fixes and feature enhancements related to IPSec tunnel management and GPS reporting.

Feature Additions

- Added TM, LN, and VR sentences for TAIP GPS reporting protocol. VR (version) sentence reports firmware version of L-5500 as opposed to GPS chipset version.

Bug Fixes

- Corrected bug where rapid disconnect and reconnect of cellular data session would cause IPSec tunnels to go down and stay offline until reboot or subsequent disconnect/reconnect event.
- Corrected regression bug introduced in 5.1.1 and 5.1.2 where incorrect port may be selected by GPS process, preventing location data from being updated.
- Corrected bug where incorrect checksums were calculated for NMEA and TAIP GPS reporting protocols.

Known Issues

Under certain circumstances, cellular connection and/or IPSec tunnel may go offline and remain offline until router reboot.

Version 5.1.4

Release Date: 04/11/2013

Release Summary

Bug fixes related to cellular connectivity, IPSec tunnels, GPS reporting, AAVL configuration.

Feature Additions

- Upgraded to newer version of IPSec application (from 2.6.34 to 2.6.38).

Bug Fixes

- Number of GPS satellites reported by binary Logic Data Systems protocol was previously inaccurate. Now satellite count accurately reflects GPS correct data.
- Corrected bug introduced by version 5.1.3 where cellular connection was not properly handled and resulted in modem requiring reset to come online after certain conditions.
- Corrected error that caused tunnels to go offline and remain down following rapid cellular disconnect and reconnect (less than 10 seconds).
- Corrected restriction on AAVL settings page that prevented UDP ports less than 1024 to be entered.

Known Issues

None at this time.

Version 5.1.4

Release Date: 04/11/2013

Release Summary

Bug fixes related to cellular connectivity and IPSec tunneling.

Feature Additions

- Preliminary additions for Bluetooth connectivity (Bluetooth only units).

Bug Fixes

- Configured DNS to use static source port, alleviating time-outs when DNS look ups to the cellular network exceed several seconds.
- Reduced MTU (max transmission unit) to prevent fragmentation of larger packets. Increased throughput and reliability for large downloads.
- Altered IPSec scripts for up / down events to prevent leaking private IP addresses on the cellular network, significantly reducing session disconnects.

Known Issues

None at this time.

Version 5.1.5

Release Summary

Internal testing and development version. See Version 5.1.6 for feature enhancements and bug fixes.

Version 5.1.6

Release Date: 06/03/2013

Release Summary

Bug fixes related to reporting of cellular parameters on web UI. Additional diagnostic logging tools and enhanced reconnection algorithms.

Feature Additions

- Added ability to download and view system logs from System page.
- Added function to capture debug snapshot of current cellular conditions.

Bug Fixes

- Corrected error that allowed router to respond on WAN interface to DNS requests.
- Fixed bug that incorrectly reported cellular service type. Previously service type rapidly alternated between 1xRTT and 1xEV-DO, despite having constant EV-DO connection.

Known Issues

Received signal strength indicator (RSSI) on web UI page shows last snapshot of RSSI measured value. Because this value rapidly changes, it should not be relied upon for accurate presentation of current cellular signal conditions.

Version 5.1.6d

Release Date: 12/19/2013

Release Summary

Bug fixes related to stability and recovery of cellular connectivity and IPsec VPN.

Feature Additions

- Increased logging in syslog for cellular application.
- Altered kernel configuration for more efficient use of processing power and reduced power consumption.

Bug Fixes

- Received signal strength indicator (RSSI) modified to show signal strength for all radio interfaces being used (i.e. EV-DO, 1xRTTY, etc) rather than last one measured.
- Altered status page to show current data bearer technology (EV-DO, EV-DO Rev A, etc) for more accurate indication of current conditions.
- Corrected bug where Mobile IP parameters were not able to be accessed under certain conditions due to conflict with GPS process.
- Corrected issue where IPsec process may not re-activate following rapid disconnect and reconnect of WAN interface.

Known Issues

Received signal strength indicator (RSSI) on web page may not be accurate if the cellular connection has been idle for some time.

Version 5.1.7

Release Date: 1/6/2014

Release Summary

Updated drivers for WiFi module.

Feature Additions

- Additional logging of cellular events to temporary (RAM) log.

Bug Fixes

- Corrected issue where WiFi clients are unable to authenticate and attach after long periods of time.

Known Issues

Received signal strength indicator (RSSI) on web page may not be accurate if the cellular connection has been idle for some time.