

# Actisense

## Actisense Toolkit v1.277 Release Notes

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# Actisense Toolkit — Release Notes

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Release notes for the Actisense Toolkit Windows application.

Releases are listed newest first.

## Version 1.277 — 2026-06-11

### Bug fixes

- Fixed the description strings on disabled toolbar buttons to make it clear why they are disabled.
- Fixed an issue where closing the Serial/CAN or IP device list left the last-selected device still active, so device action buttons (such as Load from Device, Preferred Source Address and Reboot) stayed enabled and could still be used on a device that was no longer visible.

Closing a device list now clears the selection and disables those actions until a device is selected again.

## Version 1.276 — 2026-06-10

### Bug fixes

- Fixed an issue where devices running firmware version 3.078 and later did not appear in the IP Device List. Newer firmware prefixes the device hostname to the mDNS TXT record name (per RFC 6763 §6), which Toolkit previously did not recognise; discovery now matches both the new and legacy formats.

## Version 1.275 — 2026-06-06

### Bug fixes

- Fixed an issue where rebooting a Crosspoint device (PRO-BUF-2, PRO-MUX-2, PRO-NDC-1E, PRO-NDC-1E2K) connected over serial could leave it stuck in its bootloader — appearing as "PRO-BOOT" — until the serial lead was disconnected; Toolkit now keeps the serial link quiet for five seconds after sending a reboot, and after a firmware update completes, so the device restarts cleanly.
- Device discovery now recognises a device that is momentarily in its bootloader and waits for it to restart instead of repeatedly polling it, which previously prevented the bootloader from ever exiting.

## Version 1.274 — 2026-06-05

### New features

- Added a Diagnostics option under the Help button: a selectable trace level (Off to Verbose) writes timestamped diagnostic log files that Actisense support can use to investigate issues, with no special build required. Changes apply immediately, and the newest 20 trace files are kept automatically.

### Improvements

- All Toolkit log and report files are now written to a single folder, Documents\Actisense\Toolkit\Logs, instead of being spread across ProgramData, the Documents folder and the Desktop.

### Bug fixes

- Fixed intermittent device configuration read and write failures, most noticeable on NGW-1: background device discovery could compete with the configuration transfer for the device's attention. Discovery is now paused for the duration of every transfer, and transfers retry more patiently when the device is briefly busy.
- Fixed an issue where a baud rate change sent with a configuration could silently fail to apply.
- Fixed crashes that could occur when closing Toolkit while a configuration transfer or firmware update was in progress or had just completed, following a full review of application shutdown.
- Fixed an issue where an unexpected error during a configuration transfer or firmware update could close Toolkit instead of being reported in the log.

## Version 1.273 — 2026-06-04

### Improvements

- NGW-1 devices can once again be configured. Toolkit now builds a configuration database compatible with the version 2 NMEA 2000 database used by NGW-1 firmware, removing the restriction introduced in version 1.227.

### Bug fixes

- Fixed an issue introduced in version 1.272 where a configuration created offline for an NGX-1 or WGX-1 could be built in a format intended for older devices.

## Version 1.272 — 2026-06-04

### Improvements

- EMU-1 devices running firmware below 3.000 can once again be configured. Toolkit now builds a configuration database compatible with the version 2 NMEA 2000 database used by these devices, removing the restriction introduced in version 1.227 and fixing engine values (such as RPM) showing invalid readings after a configuration was sent to the device.

### Version 1.271 — 2026-06-02

#### Bug fixes

- Recorded EBL log files now give each message its own accurate timestamp. Previously, messages logged in rapid succession could share a single timestamp, making recorded sessions appear as bursts when reviewed in EBL Reader. Affects new recordings only.

### Version 1.270 — 2026-06-01

#### Improvements

- Disabled ribbon buttons now explain on hover why they are greyed out and what to do to enable them, in addition to describing the button's function. For example, "Save Configuration To File" explains that a configuration must be opened or created first when no configuration is open.

### Version 1.269 — 2026-05-10

#### Bug fixes

- Fixed a crash when sorting the device map while a device was selected in the Properties pane.
- Broad crash-hardening pass across the Toolkit, adding null-pointer checks at remaining unguarded sites.

### Version 1.268 — 2026-05-08

#### Known issues

- The "Connect to Data Server" menu option is currently disabled because it is not supported in this release; it will return in a future Toolkit release.

### Version 1.267 — 2026-05-07

#### Improvements

- The Reboot option is no longer offered on the IP device menu, since reboot is not supported over IP.
- `.actc` configuration files are now stored as pure JSON, with embedded versioning for future backward-compatibility. Legacy files written with the previous binary MFC archive header are still loaded correctly.

#### Bug fixes

- Edited NMEA 2000 PGN transmit rates are now preserved when a configuration is reloaded from an NGX-1. Previously the device's live transmit list could silently overwrite the user's edited Tx period for actively-transmitted PGNs (NMEA 0183 was unaffected).
- The "New Config" ribbon button and Ctrl+N shortcut are no longer greyed out when a device is selected.
- "Open Config" now reliably launches the web browser at the device's IP address instead of an mDNS hostname that could fail when Bonjour or Windows mDNS were not healthy.
- Fixed an issue where Load Config, Save Config, firmware update, Reboot, Preferred Source and Open Config menu entries could initially fail on IP-discovered devices because the menu had been built against a stale device record.

**Version 1.266 - 2026-05-06**

- CTRL-N opened documents caused crash on toolkit due to detached document device info.

This has been fixed so that the null device info is null checked before being used.

**Version 1.265 - 2026-05-02**

- CTRL-N did not open new document.

**Version 1.264 - 2026-04-30**

- Device function code display for NGX-1-USB.

**Version 1.263 - 2026-04-28**

- Added html help guide as a framework for future development of integrated help via markdown source.

**Version 1.262 - 2026-04-28**

- "Toast" added to warn user if local GW is not in rx all mode, and provides a link to change it.

**Version 1.261 — 2026-04-28****Improvements**

- Toolkit was locking up if shut down immediately after switching local device to NGX mode.

**Version 1.260 — 2026-04-27****Improvements**

- Fixed issues with "Device gone" status not showing correctly in the Properties pane when a device drops off the bus, and with the properties view not refreshing when a new device is selected after the previous one disappeared.

## Version 1.259 — 2026-04-27

### Improvements

- The Device Properties view is now embedded directly inside each device list pane, separated by an adjustable splitter, and can no longer be hidden or unpinned when the Load from Device window is opened.
- The Serial/CAN device list and the IP device list each have their own independent properties view, so selecting a device on one map no longer changes what is shown on the other.
- The splitter position between the device list and its properties is remembered separately for each map and restored on the next launch of Toolkit.
- The Device Function column is hidden by default in both device lists to make room for the embedded properties view; it can be re-added at any time from the column picker.
- Edits being typed into a property field are no longer interrupted by background list refreshes or full property rebuilds, so partially-typed values are preserved until the user finishes editing.

### Bug fixes

- Opening the Load from Device window no longer forces the Properties view to close, even when it has been pinned.
- When a previously-selected device drops off the bus, its last-known property values remain visible and the property grid is disabled with a clear "Device gone" indicator, instead of silently allowing further edits to a device that is no longer present.

## Version 1.258 — 2026-04-27

### Improvements

- Reduced Toolkit's idle CPU usage from approximately 10% to 3% when no configuration, firmware update or message-monitoring activity is in progress.

### Bug fixes

- Fixed a crash when issuing Load from Device, Save to Device, Reboot, a firmware patch, or NGW configuration on a remote NMEA 2000 device while the local NGT-1 or W2K-1 gateway was not in Receive All mode. Toolkit now displays a clear error message prompting the operator to switch the gateway to Receive All mode instead.

## Version 1.257 — 2026-04-24

### Improvements

- First open of the device Properties pane is now instant; cached baud rate, P-Code and operating mode values now persist across network refreshes instead of triggering a fresh serial round-trip.
- Refresh Map and application shutdown no longer stall for several seconds while remote device queries drain; pending queries are cancelled immediately.
- Remote hardware information is only requested when the local NGT-1 is in Receive All mode, removing repeated timeouts and log spam in other transfer modes.

## Version 1.256 — 2026-04-23

### New features

- Properties pane now exposes editable Operating Mode, Baud Rate and Port P-Codes for both local and remote devices, gated by what each model supports.

### Improvements

- Edits made in the Properties pane are written and re-read in a single operation, so the cell shows the live device value immediately rather than going blank during the write.
- Unsupported device fields are no longer offered for editing or polled in the background, reducing unnecessary bus traffic.
- Edit actions are traced in the application log, making it easier to confirm whether a change was accepted by the device.

### Bug fixes

- Editing baud rate, operating mode and P-Codes on a remote NGX (or other Actisense device behind an NGT-1 gateway) now actually reaches the device, instead of being silently dropped.

## Version 1.255 — 2026-04-21

### Bug fixes

- Editing installation strings, Device Instance or System Instance in the Properties pane now refreshes every cached representation of that device (including IP and serial siblings), so stale pre-edit values no longer linger until a manual refresh.

## Version 1.254 — 2026-04-21

### Improvements

- Installation-string changes are now reflected immediately in the device map and Properties pane.
- The NSI mode label is now shown as "NSI Mode" rather than "NSI Mode 1".

### Bug fixes

- Fixed a crash when editing any field in the device Properties pane (Config Info, Device Instance, System Instance) shortly after switching to an IP-discovered device.

**Version 1.253 — 2026-04-21****Improvements**

- The "Show CAN Data" and "Show Details" ribbon buttons have been combined into a single "Show Data View" button, removing the duplicate that opened the same window.

**Version 1.252 — 2026-04-21****Improvements**

- Minor stability cleanups across the Toolkit.

**Version 1.251 — 2026-04-21****Bug fixes**

- A device that was momentarily unresponsive (for example mid-reboot) is no longer destabilised by the Toolkit unnecessarily switching its serial stream type. Stream switching is now only attempted on first connect or for known NGW1-family devices.

**Version 1.250 — 2026-04-20****Improvements**

- Serial EBL log files now contain a wallclock timestamp between every BST message, making local-only command sequences much easier to analyse.
- Broad crash-hardening pass across the Toolkit, with extra null checks on tab switching, baud-rate events, configuration progress dialogs and gauge handling, and safer error reporting from menu actions.

**Bug fixes**

- Fixed an IP device discovery instability that could occur during Toolkit shutdown.

**Version 1.249 — 2026-04-20****Improvements**

- "Open configuration in web browser" now appears on the Serial/CAN device list when the physical device also has an IP-discovered sibling (for example PRO-MUX-2), even before its Actisense hardware information has been cached.

**Bug fixes**

- Serial device discovery now holds off briefly during a reboot, preventing Crosspoint devices from being held in the bootloader after a reboot is sent.

### Version 1.248 — 2026-04

#### Bug fixes

- Local devices now show consistently in the device list; previously they could occasionally fail to appear because local discovery ran independently of remote discovery.

### Version 1.247 — 2026-04-17

#### Improvements

- Device information management has been overhauled to prevent the wrong device being selected when serial/CAN and IP entries refer to the same physical device.

#### Bug fixes

- Fixed a remaining issue where device properties did not display correctly on the Serial/CAN device map.
- The Reboot option no longer appears incorrectly on the IP device list for devices that have both serial and IP interfaces; it remains available via the serial/CAN entry.
- Fixed crashes and save/load issues in the Custom Gauge Manager.

### Version 1.246 — 2026-04-15

#### Improvements

- Context menus now hide options that are not available for the selected device (for example "Change Firmware" for a device with no firmware options).

#### Bug fixes

- Toolkit window positions are again saved and restored correctly.

### Version 1.245 — 2026-04-15

#### Improvements

- The firmware update progress dialog now reads "Changing" firmware version rather than "Upgrading" or "Downgrading", reflecting the unified Change Firmware action.

### Version 1.244 — 2026-04-15

#### New features

- "Upgrade Firmware" and "Downgrade Firmware" have been merged into a single "Change Firmware" action. For non-NGX devices the action shows a dropdown of all available firmware versions; for NGX devices the file browser is retained. Selecting a version older than the current one triggers a downgrade confirmation warning.

#### Improvements

- Firmware transfer over BST-FT now waits one second between the start response and the first data block, giving the device time to prepare for the transfer.

#### Bug fixes

- Fixed a crash when selecting a device that has no command endpoint; a warning dialog is now shown instead.
- Remote NMEA 2000 devices now reliably populate Product Info, Config Info and Hardware ID; previously these could fail to appear due to thread contention with the runtime message dispatch.

**Version 1.243 — 2026-04-13****Bug fixes**

- Fixed an issue that prevented the PRO-NDC-1E2K from connecting to the Toolkit over a serial port.
- Fixed a crash when working with the PROMUX2-SM1.

**Version 1.242 — 2026-04-13****Improvements**

- Remote device discovery is now automatically disabled when the local device is in convert mode, eliminating futile request/retry cycles for Product Info, Config Info and Hardware Info.
- The device map and Properties pane refresh promptly when the operating mode changes.

**Bug fixes**

- Fixed a crash when selecting an IP device caused by an unnecessary attempt to fetch P-Code over the IP address.
- Stale device map entries are now cleared after an operating mode change, so the list always reflects the current set of valid devices.

**Version 1.241 — 2026-04-10****New features**

- The Toolkit can now change P-Code settings on both local and remote devices.
- The Data View can now be sorted by PGN, timestamp, priority or source address.

**Improvements**

- New BST-FT transfer algorithm for firmware version 3.057 and newer.

**Version 1.240 — 2026-04****Improvements**

- Stability improvements to background task handling.

**Version 1.239 — 2026-04-02****Improvements**

- Further stability improvements.

**Bug fixes**

- Fixed a race condition when updating the Properties window grid pane.

**Version 1.238 — 2026-03-31****Bug fixes**

- Final fixes to firmware upload to NGX over BST-FT, including correctly waiting for the start-of-transfer acknowledgement before sending the first data block.

**Version 1.237 — 2026-03-30****Improvements**

- Context menus now omit unavailable items rather than greying them out.

**Bug fixes**

- Fixed rendering issues with NVS values in the Properties pane.

**Version 1.236 — 2026-03-30****Improvements**

- The Operating Mode control has been removed from the communications panel and is now only changed from the Properties pane, removing the possibility of the two going out of sync.
- Common settings such as operating mode are now refreshed from a shared store, keeping all views consistent.

**Bug fixes**

- Operating mode changes now reflect correctly between the Properties pane and other views for the local device.
- Fixed the Cancel option on firmware upload via BST-FT for NGX.
- The Toolkit now consistently refreshes devices when an NGX is started late or its operating mode is changed.
- The Toolkit window now resizes correctly.
- Fixed a timeout race in the IP device list that could grey out devices that should remain active.

**Version 1.235 — 2026-03-23****Bug fixes**

- Fixed log list output.

**Version 1.234 — 2026-03-23****Improvements**

- Database send to a device is now blocked unless the device is in convert mode.

**Version 1.232 — 2026-03-18****Improvements**

- Stabilised the IP Device Map; control no longer jumps and devices can be selected reliably.
- Improved the responsiveness of Properties pane updates after a selection change.
- Broad efficiency improvements in the device map and Ethernet service.

**Version 1.231 — 2026-03-17****Improvements**

- The `.actp` file reader now accepts numeric values written either as plain JSON numbers or as strings, broadening compatibility with older firmware packages.

**Version 1.230 — 2026-03-17****New features**

- The Toolkit now auto-switches remote devices to convert mode before uploading a convert database, and prompts the user to change mode for local devices.

**Improvements**

- Upload of a convert database is blocked unless the target device is in convert mode.
- "Open configuration in web browser" is now available for every virtual device on a unit that has a web app, not just the main device instance.
- Broad stability improvements to device map handling.

**Bug fixes**

- Fixed reflection of operating mode in the Properties pane.

**Version 1.229 — 2026-03-16****New features**

- Added the ability to read and change a remote device's operating mode from the Toolkit.
- The Properties pane now allows the baud rate of a local or remote device to be changed, where the device has a serial port and the new value is acceptable for its current mode.
- For devices that are configured via a built-in web app, the Toolkit now displays the product URL instead of attempting to configure the device directly.

**Bug fixes**

- Fixed a duplicated `HTTP` prefix in product URLs.

**Version 1.228 — 2026-03-16****Improvements**

- Added a warning to the database configuration page.
- Database transfer is now blocked unless at least one Rx and one Tx PGN, and one Rx and one Tx sentence, have been selected, preventing a device from being left with no conversions.

**Version 1.227 — 2026-03-16****Improvements**

- Added model ID lookups for all devices in the device map, including the W2K2-VAN.

**Bug fixes**

- Fixed many device selection issues caused by missing model ID lookups.

**Known issues**

- NGW conversion is currently blocked because the latest Toolkit uses the version 3 NMEA 2000 database.
- EMU-1 firmware versions below 3.000 are blocked for the same reason.

**Version 1.226 — 2026-03-10****Bug fixes**

- Reboot now works for Device Instance 0.

**Known issues**

- Downgrade is currently disabled for Crosspoint products; the corresponding `.actp` files have been removed from the installer.

**Version 1.225 — 2026-03-10****Improvements**

- The reboot delay now applies to every virtual device in a group, so a reboot cannot be sent to a sibling virtual device while the main device is still rebooting.

**Version 1.224 — 2026-03-09****Bug fixes**

- The Toolkit no longer picks up old firmware files left in the Program Data shared folder.

**Version 1.223 — 2026-03-08****New features**

- A reboot delay greys out menu options for five seconds after a reboot is sent, preventing accidental actions during the reboot process.

**Improvements**

- The "Enable logging" setting is now remembered between sessions, so log files are not produced when logging is off.
- Improved BST-FT client robustness and serial port handling.

**Bug fixes**

- Fixed an issue with updating an NGX while in transfer mode.
- Various remote BST-FT fixes.

**Version 1.222 — 2026-03-01****Improvements**

- The reboot command now adapts to the device model, since this is performed differently on the NGT compared to newer devices.
- Switching to convert mode now resets stale device map entries, fixing incorrect device search results after a mode change.

**Version 1.221 — 2026-02-25****Improvements**

- Boot-mode handling now adapts to the device model, since this is performed differently on the NGT compared to newer devices.
- Switching to convert mode resets stale device map entries.

### Version 1.220 — 2026-02

#### Improvements

- PGN 127257 has been removed from the NMEA 2000 configuration grid, preventing users from enabling an unsupported conversion in the standard NGW, AIS, W2K and xGX configurators.

#### Bug fixes

- Loading an older `.actc` configuration file that references a PGN no longer present in the database no longer hangs the Toolkit; the missing PGN is logged instead.

### Version 1.219 — 2026-02

#### Improvements

- The convert-mode check used before uploading a convert database to an NGX now queries the remote endpoint when necessary, rather than always relying on the local cached configuration.

### Version 1.218 — 2026-02

#### Bug fixes

- Uploading a convert database to an NGX while it is in transfer mode is now correctly blocked and the warning message is shown; previously the upload was allowed to go ahead.

### Version 1.217 — 2026-02-22

#### New features

- A warning is now displayed when uploading a convert database to an NGX in transfer mode.

#### Bug fixes

- Fixed a bug in the user units shown in the Data View.
- Fixed a crash that could occur when the Data View was full and a new message arrived.
- Fixed Data View scrolling, which previously jumped to the bottom whenever new messages were added.

### Version 1.216 — 2026-02-15

#### Improvements

- The Microsoft Visual C++ runtime is now statically linked, simplifying installation and avoiding errors caused by missing system DLLs.

### Version 1.215 — 2026-02-11

#### Improvements

- The Data View pane now updates dynamically as new message types arrive, so in most cases the Toolkit no longer needs to be shut down and the log viewed in NMEA Reader.

#### Bug fixes

- Uploading a configuration now works correctly after selecting a new PC interface.

### Version 1.214 — 2026-02-10

#### Improvements

- Added the W2K2-VAN model and Vanemar manufacturer ID to the device map.

#### Bug fixes

- Fixed a crash when re-selecting a new PC serial interface.

### Version 1.213 — 2026-02-05

#### Improvements

- Major refactoring to improve routing, threading, stability and performance of the Toolkit.
- The degree symbol in gauge names has been replaced with `deg` to avoid character-encoding issues.

#### Known issues

- The IP Data view has been removed because it was not being used.

### Version 1.212 — 2025-12-16

#### Bug fixes

- The firmware upgrade dialog now shows the correct target version in the filename instead of `a.Men`.

### Version 1.211 — 2025-12-12

#### Bug fixes

- Fixed an issue creating new EMU-1 configuration files caused by non-UTF-8 characters in stored data.

## Version 1.210 — 2025-12-10

### Improvements

- Web UI files are no longer included in the Toolkit installer; they are now bundled inside the firmware ZIP file, reducing installer size.
- Removed the oldest `RF-xxxx` firmware files and added newer Crosspoint firmware files.
- The system menu Move command now works more consistently.
- Actisense hardware information is only displayed in the Properties pane for Actisense devices.
- Hardware information acquisition is faster, as it is now collected as part of the product info fetch phase.
- Added the NGW, EMU and NGX user manuals back to the installer.

### Bug fixes

- Fixed a load issue with encrypted `.actp` patch files.

### Known issues

- The PRO-BUF-1 user manual option has been removed; the built-in web interface help replaces it.

## Version 1.209 — 2025-12-08

### Bug fixes

- Fixed "Open device config" for W2K2 devices, which was not adding the `w2k` segment to the URL.
- Fixed a crash when creating an NMEA 0183 conversion database for the NGW-1.

## Version 1.208 — 2025-12-01

### New features

- The Toolkit now uses the version 3 NMEA 2000 database.

### Bug fixes

- Fixed a range of issues in the device map that prevented the Toolkit retrieving model ID and similar data, especially when switching from one interface to another.
- Fixed an issue with setting grid controls.
- Fixed a threading issue that caused some hanging operations.

**Version 1.201 — 2024-02-21****New features**

- Added Tilt and Trim support for the EMU-1.

**Version 1.200 — 2024-02-19****Bug fixes**

- Fixed temperature gauges where removal of the degree symbol caused the gauge lookup to fail during database build, resulting in the gauge not being sent to the device.
- Fixed a crash when sorting columns in grid controls.
- Fixed a timestamp issue on NMEA 2000 messages.

**Version 1.93 — 2023-10-03****Improvements**

- The NGX no longer switches automatically to Receive All mode.
- Many stability and memory leak improvements.

**Bug fixes**

- Fixed an issue with database upload, download and configuration of the NGX database image.

**Version 1.90 — 2023-04-12****Improvements**

- MDNS discovery enhancements.
- Network map enhancements.

**Bug fixes**

- Fixed memory leaks in the Properties pane.
- Fixed a crash on shutdown in the release build.

**Version 1.89 — 2023-03-29****Improvements**

- Full MDNS response decoding for the latest model and platform IDs.
- Cleaned up runtime device discovery.

**Bug fixes**

- Fixed memory leaks.
- Fixed errors in the grid pane.

**Version 1.86 — 2022-03-10****Improvements**

- The Device Class and Instance now adjust according to the device's NMEA database version, which is read from the NMEA Product Info.

**Version 1.85 — 2021-10-28****Improvements**

- The device map now distinguishes W2K virtual devices that share the same CAN name but have different instances, so all of them are visible.

**Version 1.84 — 2021-08-24****Bug fixes**

- Fixed handling of illegal characters in FTP directory listings during firmware updates.

**Version 1.83 — 2021-08-24****Improvements**

- Ping operations now use the device's IP address rather than its host name, limiting DNS lookups to one per task.
- The Toolkit and Firmware Pack version numbers are now included in the programmer log, so they appear in the exported log sent to Technical Support.
- Improved error logging for FTP file transfer failures.

**Bug fixes**

- Fixed an IP device list issue where pressing Refresh disabled the upgrade and downgrade options.

**Version 1.75 — 2021-08-06****Improvements**

- Finalised web file and configuration upload operations after rationalising the recovery options.
- Improved user log feedback when a Main App over-the-air update fails.
- Increased the maximum "wait for stop" timeouts for IP devices by ten seconds.

**Bug fixes**

- Added a step to detect and repair an auto-generated `index.htm` on IP devices.

**Version 1.73 — 2021-07-16****Improvements**

- Added a check that the Main App firmware update completed successfully.

**Version 1.72 — 2021-07-09****Improvements**

- Reworked Crosspoint support, with initial focus on the PRO-MUX-1 and NDC-5.

**Known issues**

- The PRO-BUF-1 is currently disabled in this build; the PRO-BUF-2 is expected to work but is untested.

**Version 1.71 — 2021-06-02****Improvements**

- Re-released to include the latest EMU-1 firmware (v1.037), which was missing from version 1.70.

**Version 1.70 — 2021-05-21****Bug fixes**

- Fixed a runtime device discovery bug that prevented the Toolkit from enabling Transfer/Receive All mode on an NGT-1 with firmware v2.210.

**Version 1.69 — 2021-05-17****New features**

- The Toolkit is now distributed as a 64-bit build.

**Version 1.68 — 2021-04-08****Improvements**

- A full default layout, including split views, is now applied on first run and when Reset Views is activated.

**Bug fixes**

- Attempted fix for a bug affecting pane and window tab title text.

**Version 1.67 — 2021-03-29****Improvements**

- Inherited several memory leak fixes.

**Bug fixes**

- Fixed a file mapping bug affecting firmware web file selection.
- Fixed a COM port bug that prevented the offline option from working.

**Version 1.66 — 2021-01-12****New features**

- The status bar now shows the local and remote Device Command Timeout values.

**Improvements**

- BST-BEM commands sent to a remote device via an NGT-1 now use a dynamic timeout that depends on NMEA 2000 bus loading.

**Version 1.65 — 2020-12-03****New features**

- Added Device Parameters to the Properties pane.

**Improvements**

- Includes the new EMU-1 firmware v1.032 (RF-00052).

**Bug fixes**

- Fixed hiding of the Custom Gauge graph axis edit window.

**Version 1.64 — 2020-11-24****Improvements**

- Added hiding of the Custom Gauge graph axis edit window.
- Added a check for blank gauges.

**Version 1.63 — 2020-11-23****Improvements**

- Improved Preferred Source Address and View Config ribbon icons.
- Improved exit message box wording.

**Bug fixes**

- Various Custom Gauge edit control fixes.

**Version 1.59 — 2020-11-04****New features**

- Added Preferred Source Address functionality.
- Added EMU engine hours to the Properties pane.
- Added a Web Browser option.

**Improvements**

- The "Reset Views" command now destroys all dockable windows so they are restored cleanly.
- Standardised on an "Actisense Logs" folder inside the user's Documents folder.
- Replaced the EMU group in the Properties pane with Device Parameters.
- Reduced the Preferred Source Address range to 0–251 and improved the descriptive text.

**Bug fixes**

- Fixed various Custom Gauge save and load issues.
- Fixed issues with database upload to and from the EMU-1.

**Version 1.54 — 2020-10-16****Improvements**

- Improved the Custom Gauge Manager.
- Generates unique names for each library gauge.

**Version 1.53 — 2020-08-14****Bug fixes**

- Changed the Talker IDs for the HDT and THS sentences from **HC** to **HE** in the Standard, AIS and Fast Heading configurators.

## Version 1.52 — 2020-02-28

### Improvements

- Defined default column widths for Data View windows.

### Bug fixes

- Fixed an incorrect equation used for the VDO 24 V EU 0–2 Bar engine boost pressure gauge.
- Fixed spelling errors in menus.

### Known issues

- The "Create new from Library gauge template" option in the Custom Gauge Manager is disabled until known issues have been resolved.

## Version 1.51 — 2020-02-07

### New features

- Added a menu option to open the NGW-1 Configuration manual.

## Version 1.45 — 2019-02-11

### New features

- The Toolkit now saves its log to "Error Log.txt" on the user's Desktop whenever an exception is caught, so it can be emailed to Support.

### Improvements

- Logging is now available during application start-up.
- Added detection and reporting of `.actp` parsing errors.
- The full path of every opened `.actp` file is logged.

## Version 1.44 — 2019-01-10

### Improvements

- Reduced background CPU load by approximately 5% by removing a redundant Ethernet status update.

### Bug fixes

- Fixed reprogramming issues caused by a debug timeout value that had been left in the code.
- Fixed the retry mechanism in the firmware programmer.
- Fixed a large number of memory leaks following EMU-1 reprogramming.

**Version 1.43 — 2018-11-16****Improvements**

- Tweaked the gauge equations for the new VDO Viewline temperature and pressure gauges.

**Version 1.42 — 2018-11-12****New features**

- Added new VDO Viewline gauges for pressure (0 to 10 Bar) and temperature (40 to 120°C).

**Version 1.41 — 2018-08-17****Improvements**

- Added the relevant units text to the Custom Gauge table and graph parameters.

**Bug fixes**

- Fixed an issue that prevented the read configuration being written back after reprogramming the EMU-1.
- Fixed a bug that prevented the first point on the Custom Gauge curve from being shown when its output value was 0.0.

**Version 1.40 — 2018-07-24****Improvements**

- The "stale device" greyed-out status now also works with non-Actisense devices.
- Improved the Ethernet data status algorithm.

**Version 1.39 — 2018-07-23****New features**

- Added import and export to the Custom Gauge dialog.
- Added save-to-file and load-from-file for Custom Gauges.
- Custom Gauges can now be entered in display units while being saved in NMEA 2000 standard units.

**Improvements**

- Faster Ethernet network discovery, with each endpoint processed in its own thread.
- Stale or inactive devices are now shown greyed out in both the IP and Serial/CAN device list views.
- New icon for the Custom Gauge Manager.
- Added X-axis divisions on the Custom Gauge graph.
- The configuration panel now refreshes after a new Custom Gauge is created.
- A click in the Custom Gauge table now adds a new row instead of defaulting to 0.0.
- Released to support Raymarine with NGW-1 firmware v2.633.

**Bug fixes**

- Fixed PRO-BUF-1 discovery over IP.

## Version 1.38 — 2018-06-14

### Improvements

- Added latest ribbon graphics and finalised on-screen text for the user manual.
- Added informational text to the "Send to Device" dialog, matching the existing text on the "Load from Device" and "Blank Config" dialogs.
- Improved Dynamic Control drawing to create blocks of configuration rows with different column names.
- The user is now shown a clear message when a Load or Send operation is unavailable, instead of the menu being silently disabled.

### Bug fixes

- A device configuration can no longer be sent to a device that cannot handle it.

## Version 1.37 — 2018-04-16

### New features

- Defined the file extension `*.actj` for Actisense JSON files; the file type field within indicates which type of JSON is stored.
- Added a Copy Gauge option, accessed by renaming a gauge during edit.

### Improvements

- Improved the Custom Gauge Manager GUI.
- The Custom Gauge feature now ignores any gauge table points whose default input value is 0.
- The Custom Gauge feature now creates the `Shared/custom/gauges` sub-directory if it does not already exist.

### Bug fixes

- Fixed font overlapping and sizing issues in the gauge plot.
- Fixed issues with floating point values in the gauge table.

## Version 1.36 — 2018-04-02

### New features

- Added a beta of the Custom Gauge feature for the EMU-1.

### Improvements

- The "New Config" wizard can now also be used for editing an existing configuration, removing the duplicate "Based on" combo from the configuration UI.
- Simplified online and offline configuration document creation.

### Bug fixes

- Fixed a PGN override issue that failed to show the override when both the Rx and Tx directions were set to disabled.
- PGN overrides are now only read when the read database image is not blank.
- Fixed a bug that resulted in configuration settings being combined together because the previous settings were not cleared first.

**Version 1.35 — 2018-03-20****Improvements**

- Added "Operation complete" feedback on the configuration progress panel.

**Bug fixes**

- Fixed an unhandled exception when the configuration name was changed in the "Send to Device" wizard.
- Fixed the behaviour when a blank User Config is read from an NGW-1 and the "Choose a starting config" wizard appears: the device baud rate and P-Code settings are no longer used to override the chosen configuration.
- Fixed an issue that prevented the bottom of the NGW-1 PGN list from being seen.

**Version 1.34 — 2018-03-14****Improvements**

- Minor tweaks to improve the default layout, particularly on Windows 8.

**Version 1.33 — 2018-02-15****Improvements**

- Added additional information to the Blank Online and Blank Offline wizards.
- The user is now prompted with the standard Windows overwrite message when attempting to overwrite an existing file.
- The NMEA 0183 and NMEA 2000 enable lists now highlight overrides applied directly to the NGW-1 and changes made by the user since the document was opened.
- Tweaked the NGW-1 Standard configuration to offer the maximum number of NMEA 0183 to NMEA 2000 conversions while staying roughly within bandwidth limits in the reverse direction.
- The Autoswitch setting is now preserved during firmware upgrade and downgrade.
- Updated the NGW-1 firmware version check; "Load From Device" is now disabled for NGW-1 firmware between v2.540 and v2.600.

**Bug fixes**

- Fixed an issue where the green sync indicator could go green even though an error had occurred during "Send to Device".
- Fixed Sentence and PGN Tx Rate value persistence between "Send to Device" and a subsequent "Read from Device".

**Version 1.32 — 2018-02-02****Improvements**

- The Toolkit now reconnects with the new baud rate after a successful "Send to Device".
- Improved serial port communication robustness.

**Bug fixes**

- Fixed application of NGW settings, P-Code and baud rate for a local NGW device.

**Version 1.31 — 2018-01-29****Bug fixes**

- Added a fix to repair a beta unit reporting a random "Unknown Model Sub ID (665)".
- Correctly implemented rendering of Device Class and Function codes for devices both before and after the release of NMEA 2000 Edition 3.100.

**Version 1.30 — 2018-01-24****Bug fixes**

- Fixed random crashes caused by the IP Device Discovery process.
- Fixed a crash when the user updated writable device property fields, for example when changing the device installation details.

**Version 1.29 — 2018-01-16****Improvements**

- Updated firmware update for Crosspoint multi-platform products to use the new directory structure.

**Version 1.28 — 2018-01-08****Bug fixes**

- Fixed loading of NDC-5 and PRO-BUF-2 bootloaders and boot-bootloaders.

**Version 1.27 — 2017-12-18****Improvements**

- The N2K Bus Load value now reads 0% at start-up.
- The Sub Model ID for the selected device is now shown in the Properties pane.

**Bug fixes**

- Fixed the upgrade and downgrade options for Crosspoint multi-platform devices (PRO-MUX-1, NDC-5 and PRO-BUF-2).

## Version 1.26 — 2017-11-16

### New features

- Official release for Crosspoint1-MP beta customers (PRO-MUX-1, NDC-5 and PRO-BUF-2) for firmware upgrade and downgrade.

### Improvements

- Web programming now supports a Model ID list within an `.actp` file, allowing a single `.actp` file to be used on multiple platforms.

### Bug fixes

- Fixed IP device discovery crashes.

### Known issues

- NGW configuration editing and save/load from file is still in progress.

## Version 1.25 — 2017-11-06

### Improvements

- The "Based On" GUI combo no longer sorts the given pairs, matching the configuration document and the matching combo elsewhere in the UI.

### Bug fixes

- Fixed web programming so the device-restart step is performed at the end of an upgrade or downgrade, allowing firmware to read the updated user-defined OMS file on start-up.

## Version 1.23 — 2017-10-26

### Improvements

- Ethernet discovery is now stopped during web programming to avoid conflicts and the display of a wrong or partially populated device, and is restarted afterwards.

### Bug fixes

- Fixed the programmer to handle bootloader-only recovery for IP products (PRO-BUF-1, PRO-MUX-1 and NDC-5): the device is first programmed via serial and the web files are then uploaded over Ethernet.

**Version 1.22 — 2017-10-04****Improvements**

- The Toolkit now expects `file_mapping.json` under `C:\ProgramData\Actisense\Shared\`; the installer must place this file in this folder.

**Bug fixes**

- Fixed web programming for the PRO-BUF-1, which does not support the "set timestamp" JSON command.

**Version 1.21 — 2017-09-25****Improvements**

- Web programming now sets the current timestamp via JSON, so that firmware creates files and folders with an updated timestamp after a flash format and reboot.

**Version 1.20 — 2017-09-22****Improvements**

- Updated web programming so that overlay and web file upload for Crosspoint multi-platform devices works correctly with folders over FTP.

**Version 1.19 — 2017-09-21****Bug fixes**

- Fixed web programming, including overlay and upload of web files via FTP, for Crosspoint multi-platform devices. Tested with the PRO-MUX-1.

**Version 1.18 — 2017-09-07****Improvements**

- The first column of the IP device list now contains the IP address.

**Version 1.17 — 2017-09-01****Bug fixes**

- The "Based on" option in the configuration wizard popup panel is now correctly disabled when "Load from Device" is used.

**Version 1.16 — 2017-08-17****Improvements**

- Improved "Reset Views" to restore all dockable windows to their default locations and widths.
- Improved synchronisation between dockable windows and panes.
- Added an NGW-1 firmware version check that disables the "Load From Device" option for NGW-1 firmware earlier than v2.540.

**Version 1.15 — 2017-07-04****Improvements**

- The NGW configuration NMEA 2000 and NMEA 0183 grid controls are now scrollable.
- The Tx Rate is now selected from a combo-box.
- Added a user-friendly description for each PGN ID and sentence formatter.

**Version 1.14 — 2017-06-23****New features**

- Added support for NGW configuration load and save, both to the device and to a file.
- Tx and Rx PGNs can be enabled or disabled, the Tx rate set, and Tx and Rx NMEA 0183 sentences enabled, disabled or rate-limited.

**Known issues**

- Ethernet discovery is temporarily disabled in this release to test the NGW in isolation.

**Version 1.13 — 2017-06-06****New features**

- Added background IP/Ethernet device discovery using DNS-SD.
- Added an "IP Devices" window to display details of all discovered IP devices.

**Version 1.12 — 2017-03-13****New features**

- Added a user manual menu option, with selection between EMU-1 and PRO-BUF-1.

**Improvements**

- Improved EMU control validation with duplication and conflict checks.

**Known issues**

- NGW options are currently disabled.

### Version 1.11 — 2017-02-17

#### Improvements

- The web programming state machine now retries the FTP connection up to three times before failing.
- Device restart during FTP overlay and serial flash format is now detected using ping rather than a fixed sleep period.

#### Bug fixes

- Fixed an issue where the Upgrade and Downgrade device options in the ribbon and menu did not refresh automatically after a firmware update. Works for the EMU-1 and PRO-BUF-1 with a Main App, but not for devices that only have a bootloader.

### Version 1.10 — 2017-02-13

#### Improvements

- The Toolkit now shows device properties even when the device information is not yet complete.
- Removed the minimum bootloader version check.

#### Bug fixes

- Allowed the firmware upgrade option for bootloader-only devices, currently tested with the EMU-1.

### Version 1.9 — 2017-02-06

#### Improvements

- The Toolkit now runs on Windows XP.

### Version 1.8 — 2017-01-26

#### Improvements

- Increased the FTP connection timeout to 10 seconds.

#### Bug fixes

- Firmware updates over Ethernet no longer trigger a Windows Firewall prompt on first use.
- Fixed an FTP overlay crash when the target folder under "My Documents" did not exist; the Windows temp folder is now used as a fallback during programming.

## Version 1.7 — 2017-01-19

### New features

- Added support for Crosspoint1 firmware upgrade and downgrade via Ethernet FTP overlay, for both `.actp` files and Web UI ZIP files.
- Settings stored in the on-device JSON file are now saved before, and restored after, a firmware upgrade or downgrade over FTP.

### Known issues

- Ethernet-based discovery is not supported for Crosspoint devices in this release; a serial connection is still required for discovery.

## Version 1.6 — 2016-11-30

### Improvements

- The runtime device list now shows all devices in the Toolkit while they are still acquiring Product Info, CAN Config and Hardware Info.
- Improved reliability of device discovery on busy NMEA 2000 networks.

### Bug fixes

- Fixed a crash that could occur when refreshing network devices on an NMEA 2000 bus loaded above 25%, or with a PC receive load above 65%.

## Version 1.5 — 2016-08-10

### New features

- The Toolkit now prevents more than one instance from running at the same time.

### Improvements

- Removed the green sync symbol from offline configuration documents.
- Removed the first-opened document name from the application title bar.
- "Send to Device" critical exceptions are now displayed on the UI.

### Bug fixes

- Fixed a crash that occurred when a document was attached to a device and that device was then removed.

### Version 1.3 — 2016-01-26

#### New features

- Configuration files now use the `.actc` extension.

#### Improvements

- The network tree control no longer flickers while loading.
- After "Send to Device", the Toolkit now configures to the selected configuration and switches to the device tab.

#### Bug fixes

- Fixed a load-from-device crash.
- Device properties are no longer shown after the device has been taken off the bus and the device list refreshed.

### Version 1.1 — 2015-10-28

#### Improvements

- The Toolkit registry settings are now correctly stored under the Actisense parent registry entry.
- If the registry entry is not found, the Toolkit now defaults to a baud rate of 115200.

### Version 1.0 — 2015-10-28

#### New features

- First release for beta customers.