Actisense

Actisense Toolkit v1.292 Release Notes

Document Number: **Actisense Toolkit Release Notes**

Revision: **1.293**

Date: **01/09/2026/2026**

Product: **Actisense Toolkit**

Author: **SMD**

Reviewer: **SMD**

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Actisense Toolkit — Release Notes

Release notes for the Actisense Toolkit Windows application.

Releases are listed newest first.

Version 1.293 — 2026-08-19

New features

- The browser view gains an Instancing tab, which watches the NMEA 2000 network and lists every place where two devices have been set up with the same instance number — the mix-up that makes a display show the wrong engine's data, flip between two tanks, or ignore a sensor altogether. Nothing has to be enabled on any device: the Toolkit listens to the traffic it already receives, so conflicts appear within seconds of opening a connection.
- Both kinds of instance are checked and reported in one ranked list, because they matter equally: the data instance carried inside a message (two devices both sending Engine 0, two fuel tanks both numbered 0) and the Device Instance in a device's NMEA 2000 NAME, which is all a display has to go on for messages that carry no data instance (depth, speed, wind, heading). Data instance clashes rank highest; Device Instance clashes on messages that are normally sent by more than one device — position, time, heading, AIS — are listed as informational so they do not drown the real problems.
- Each conflict expands to a plain-language explanation of what was seen, what it breaks on a display and how to fix it, with a table naming every device involved by make, model, serial number and address, and the time the conflict was first seen. The list is cumulative until you press Reset, so an intermittent clash is caught, and a network with no conflicts says so explicitly rather than showing an empty page.
- A duplicated Device Instance can be corrected from the page: a Change button on each device takes a new value, confirms the device and the old and new values, and writes it to the device — the same change as the Device Instance row in the device's properties. The device re-announces itself and the conflict clears within seconds, without restarting the Toolkit. For safety the change is accepted only from a browser on the computer running the Toolkit; a browser elsewhere on the network sees the list read-only and is told why.
- The browser view gains an Analogue View tab, for reading what a device's analogue inputs are actually measuring — an EMU-1's gauge, alarm and tach inputs, or the battery and NMEA 2000 bus voltages an NGX-1, WGX-1 or Crosspoint product monitors.
- Each device reports its own inputs, with the channel name, what it measures, its nominal range and whether calibration is being applied. Nothing is built into the Toolkit, so a product it has never seen before still lists its inputs correctly, and an input the device never reads is left off the list.
- Every input the device measures reads live at once, as soon as the device is chosen: raw converter counts alongside the uncalibrated and calibrated engineering values, with no clicking row by row. A figure the device does not report is shown as unavailable rather than as a zero that would read as a real measurement.
- Each EMU-1 gauge input gets its own section, showing one row per measurement condition — the device reads a gauge with its current feed off and again with it on, and the two are different measurements — labelled with the feed level it was taken at, and the sender resistance the device solves from the pair, the figure a gauge curve is built from, shown beneath it with the condition it was solved at. On devices with the next firmware release, the section heading also shows how the gauge's current feed is configured: Auto, Fixed low, Fixed high or Feed off.
- Any listed input can be plotted as a live waveform, scaled to the channel's nominal range so a small signal looks small, covering what the legacy ActiScope utility used to do.

- Reading every input costs about a fifth of an EMU-1's serial link and far less on networked products; a Selected input only tick box restricts it to one input for a constrained connection. On devices with the next firmware release the whole device is read with a single request instead of one per input.
- The Analogue View is live only: it does not record traces or replay a recorded file.
- Added support for the NGX-1-RM1. It is now identified by name and behaves as a full NGX-1 throughout Toolkit, including the NMEA 2000 to NMEA 0183 conversion database editor, the NGX operating modes and the NGX baud rate change sequence. Previously the unit appeared without a model name and its conversion database could not be read or written, which is its only means of configuration. NMEA Reader recognises it as well.

Bug fixes

- Fixed an issue where reprogramming an EMU-1 almost always failed on the first attempt, reporting a series of errors before aborting, and only succeeded when the update was started a second time. Two faults combined: a failed connection attempt at the start of the update was counted twice and sent a surplus command, which left the device's replies one message out of step, and a brief interruption in communication — which is recovered from automatically — did not resume the interrupted step once the connection returned, so the update waited for a reply that could no longer arrive and gave up after about thirty seconds. Both are fixed; the interrupted step is now repeated as soon as the device reconnects. This applies to every stage of a firmware update and to all programmable products, not only to the EMU-1.
- A device that genuinely cannot be reached during a firmware update now reports a clear failure in well under a minute, instead of continuing to retry, and a brief interruption the Toolkit recovers from is reported as a retry rather than as an error.
- Fixed an issue where an Operating Mode change could revert to the previous mode a moment after being made, if the Properties panel was rebuilt while the change was still being written to the device. This completes the same fix applied to P-Code and baud rate in 1.292, and covers the Switch to Rx-All button on the warning banner. A mode the device rejects still reverts, as before.
- Fixed an issue where an Operating Mode, P-Code or baud rate change on a WGX-1 or Crosspoint device could be undone by the device's own periodic settings announcement arriving while the change was still being written. The new value is now held until the write completes; a change made on the device's web page still reaches the Toolkit as before.

Known issues

- The Analogue View depends on device firmware that is newer than the current public releases (for example EMU-1 v3.106). Until a device is updated it is listed in the Analogue View with no channel list, and no readings or waveforms are available for it.

Version 1.292 — 2026-08-12

New features

- The browser view gains a System Status tab, showing how hard every port on every connected device is working: receive and transmit bandwidth and loading, and how much received data was filtered out or dropped, updated about once a second.
- Each port is listed under the name printed on the device's case — CAN, SERIAL, IN1 — on devices running firmware v3.107 or later; devices on earlier firmware show every figure against numbered buffers instead.
- Every figure carries a peak reading beside it, so a brief spike stays visible after the live value has fallen back, and a single Reset Peaks button clears the peaks for every device at once.
- Each device also shows its NMEA 2000 receive and transmit error counts and its current operating mode, and a device that has stopped reporting is dimmed and marked Not reporting rather than left showing figures that would be read as current.
- Several devices can be watched side by side, including devices elsewhere on the NMEA 2000 network, and the tab explains what to turn on if nothing is listed — a device only sends these figures when its P-Code output is enabled.

Bug fixes

- Fixed an issue where a P-Code or baud rate change could revert to its previous value a moment after being made, if the Properties panel was rebuilt while the change was still being written to the device. A change the device rejects still reverts, as before.

Version 1.291 — 2026-08-11

Improvements

- The P-Code setting is now available for the EMU-1 in the device Properties panel, controlling its proprietary NMEA 2000 engine output; previously it was only offered on devices with a serial port.
- The message details pane now explains why a device restarted: the Startup Status message's Reset Status field shows the reset cause in words — for example "Power-on/Power-down reset" — instead of a bare hexadecimal code, with older products listing each contributing reset source.

Bug fixes

- Fixed an issue where devices reachable over Ethernet or Wi-Fi — such as the W2K-2, WGX-1 and PRO-NDC-1E2K — did not appear in the Devices list unless a COM port was open, and disappeared when it was closed. Network devices are now discovered and shown from the moment Toolkit starts, whether or not a COM port is in use.
- Fixed an issue where changing an NGX-1's baud rate could drop the connection until a power cycle on devices running forthcoming NGX-1 firmware; the new rate is now stored and applied to the live connection in one step, and devices on current firmware behave exactly as before.
- Fixed an issue where the P-Code setting in the device Properties panel could show the opposite of the device's own web page, and could appear to change by itself after the device restarted. A matching firmware update completes the fix on the device side.

Version 1.290 — 2026-08-01

New features

- The live Data View can now be opened in a web browser: a new Web View panel on the ribbon provides an Open in Browser button, which shows the message list and message details as a web page updating in real time alongside Toolkit. The page is only available to browsers on the same PC.
- Several browser windows can be open at once, and each selects and inspects messages independently — of one another and of Toolkit's own Data View window. Clearing the list, the sort order and the hexadecimal display option remain shared with Toolkit.
- The web page keeps the details of the selected message in view beside the message list, so selecting a row far down a long list no longer leaves its details off-screen; on a narrow window the two panes stack.

Improvements

- The device Properties panel now follows serial baud rate and P-Code changes made from a device's own web page, updating on its own within a few seconds rather than waiting for Refresh — completing the behaviour added for Operating Mode in 1.288. Applies to devices reachable over Ethernet or Wi-Fi, such as the WGX-1 and PRO-NDC-1E2K, and requires the accompanying device firmware update; devices on current firmware behave as before.

Bug fixes

- Fixed an issue where Toolkit showed an error message at every launch on PCs whose Documents folder has been moved — most commonly by OneDrive — if an earlier Toolkit version had saved its log location there. The saved location is now repaired automatically, and a log folder that cannot be created no longer interrupts startup.

Version 1.289 — 2026-07-30

New features

- The Diagnostics window now has a Readout tab, which collects Toolkit's internal diagnostic figures into a single block with a Copy to Clipboard button, so the whole readout can be pasted straight into a support request rather than described or captured as a screenshot.
- The Readout tab reports the command timeouts Toolkit applies when configuring a device, alongside the baud rate and NMEA 2000 bus load they are derived from — the same timings that were removed, unlabelled, from the status bar in 1.287, now named and explained.
- It also reports the COM port and whether it is open, PC receive load, NMEA 2000 bus load, total network LEN, how many devices have been discovered against how many are currently shown under the connection-type filter, the Toolkit version and build, the trace level, the log folder, and the connected gateway's model, firmware version and operating mode.
- The figures are a snapshot taken when the tab is opened rather than a continuously updating display, and a Refresh button re-reads them, so a value holds still while it is being read or copied. Anything Toolkit cannot currently determine is shown as a dash rather than as zero, so a figure that is genuinely zero is never mistaken for one that is unavailable.
- Source addresses, destination addresses and PGN numbers can now be shown in hexadecimal rather than decimal, so readings can be compared directly against equipment that presents node addresses in hex — such as Maretron displays and their message viewer — without converting each value by hand. The option is Hex Values in the View section of the ribbon, and is also on the right-click menu of the Data View message list.
- The hexadecimal setting applies to the Data View message list and message details, and to the N2K Src column of the Devices list, and is remembered between sessions. Sorting by source address, destination address or PGN continues to order by value. Decimal remains the default, and exported CSV files are always written in decimal, so existing spreadsheets and scripts are unaffected. EBL Reader offers the same option, and each application remembers its own preference.

Improvements

- The Diagnostics window's trace level, debugger and log folder controls are unchanged, and now sit on a Settings tab beside the new Readout tab.
- PGN numbers in the CAN packet view no longer carry a leading zero, so they read the same as in every other view.

Version 1.288 — 2026-07-27

Improvements

- If Toolkit encounters an unrecoverable internal fault it now closes and writes a fault report, instead of showing an "Unknown error" message and continuing to run. The message names the report file, which is saved with the other Toolkit logs (by default C:\ProgramData\Actisense\Toolkit\Logs) and can be sent to Actisense support. Note the change in behaviour: Toolkit now closes after such a fault rather than staying open, because continuing from an internal fault risks corrupting the configuration being worked on.
- Toolkit now records errors to a log file by default, so there is something to send to support if a problem occurs. No files are written until something goes wrong, only the twenty most recent sessions are kept, and the level of detail can still be changed from the Diagnostics window.

Bug fixes

- Fixed an issue where Toolkit could stop responding when closed while a device was selected in the Devices list, requiring it to be ended from Task Manager. Diagnostic logs are also now written as they are produced, so a log captured from a session that ended badly retains the entries leading up to the problem rather than losing them.
- Fixed an issue where changing a device's Operating Mode from its own web page left the Properties panel showing the previous mode until Refresh was clicked. The panel now follows the change on its own, normally within a few seconds, and on products that present two virtual devices — such as the WGX-1 — whichever of the two entries is selected. Affects devices reachable over Ethernet or Wi-Fi, such as the WGX-1 and PRO-NDC-1E2K. Baud rate changed from a device's web page is not yet reflected in the same way.
- Fixed an issue where Send to Device failed with an "Unknown error" message and the configuration pane showed "No EMU selected" while the device was still highlighted in the Devices list. Reported on an EMU-1, but any model could be affected: the send began by refreshing every device's menus, and entries on the bus that had not yet claimed an address were treated as a request to deselect the current device. Such entries first became visible in the Devices list in version 1.287, which is why the problem appeared in that release.
- Fixed an issue where a configuration transfer that failed was reported as successful — the document was renamed and marked as synchronised even though the settings had never reached the device.
- Fixed further causes of Toolkit closing unexpectedly, both during shutdown and when a background task encountered an error. A background task that fails is now recorded in the Toolkit log and stops on its own instead of closing the application.

Version 1.287 — 2026-07-26

New features

- The Diagnostics window now has an Open Folder button beside the log folder path, which opens the Toolkit log folder directly in Windows Explorer. It opens whichever folder is currently shown in the box, including one just picked with Browse, and creates the folder first if Toolkit has not yet written any log files to it.

Improvements

- The NMEA 2000 network's total LEN is now shown permanently on the status bar, immediately right of Bus Load, as the summed load in milliamps and the number of devices contributing to it. It refreshes every second with no device selected and no window open, where previously the figure only appeared in the Properties panel after a qualifying device was selected. Each physical device is now counted once: products that present two virtual devices on the bus, such as the NGX-1 and WGX-1, were previously counted twice and inflated the total. Devices that report their LEN as unavailable remain excluded, as before.
- The device Properties panel is reordered so the interactive sections are reachable without scrolling: Name, NMEA Product Info, NMEA Config Info, Hardware Info, Baud Rate and P-Code, with the on-demand Tx and Rx PGN lists last. Previously the two PGN list sections sat above the Baud Rate and Operating Mode selectors and pushed them below the fold. A device's IP address is now shown in the Devices list's IP Address column rather than as a row in the Properties panel.
- Operating Mode now appears once in the Properties panel instead of twice. It is a row of the Hardware Info section alongside Model ID and Sub Model ID, and remains editable — with the orange highlight and its dropdown — on devices that support changing it. Where the mode cannot be changed, such as a device reached over Ethernet, the row is shown read-only.
- Discovery is quieter on the NMEA 2000 bus for devices reachable both over Ethernet and on the bus, such as a W2K-2 or WGX-1: details already retrieved over the network are reused rather than requested again over NMEA 2000, leaving the bus less busy while the device entry remains fully populated.
- The unlabelled pair of millisecond figures on the status bar has been removed; it reported internal command timings of no practical use and was the only panel on the bar that did not name itself.
- The ribbon's Help button is now labelled "Help" rather than "User Manual", which sat directly beneath the Help panel heading and read as a second, different item.

Bug fixes

- Fixed an issue where updating an NGX-1 from v1.x firmware over NMEA 2000 could stop part-way through and report the transfer as cancelled. A single lost frame anywhere in the roughly seventeen-minute transfer ended the update, with failures seen in the field at around 21% and 29% complete. Lost frames are now recovered automatically, and an update that genuinely cannot complete reports a timeout and the point it reached, rather than appearing to have been cancelled by the operator.
- Fixed an issue where Toolkit could exit with a "Fatal program exit requested" error when closed, rather than shutting down cleanly. The failure was intermittent and occurred only while closing, so no configuration or log data was affected.
- Fixed an issue where devices found over Ethernet repeatedly disappeared from and reappeared in the Devices list — roughly once every eight seconds for each device — discarding their settings and any Tx and Rx PGN lists already retrieved each time.
- Fixed an issue where the Operating Mode of a PRO device could not be changed from the Properties panel. PRO-NDC-1E2K, PRO-NDC-1E, PRO-BUF-2, PRO-MUX-1, PRO-MUX-2 and NDC-5 showed the current mode but offered no way to change it, although the devices themselves have always accepted the command; each now offers exactly the modes its own firmware supports. PRO-BUF-1 and PRO-NBF-1 have no selectable mode and are unaffected.

- Operating mode names now match the names shown on the device's own web page and in its documentation: "Combine slow" and "Combine fast" are now "Combine 1" and "Combine 2", and "Autoswitch smart" is now "Autoswitch".
- Fixed an issue where sending a configuration containing a Custom Gauge to an EMU-1 was rejected with a message asking for firmware v1.010 or higher, on firmware that already met that requirement. Custom Gauges could not be used on any shipping EMU-1.
- Fixed an issue where the Preferred Source Address option was offered for device firmware that does not support it.
- Fixed an issue where the merged Devices panel kept its previous "Serial/CAN Device List" title after upgrading from a Toolkit version that predates the merged device list.

Version 1.286 — 2026-07-25

New features

- The Serial/CAN and IP device windows are merged into a single Device List, so every discovered device appears in one place. A device reachable both ways — for example a W2K-2 or WGX-1 visible over Ethernet while also on the NMEA 2000 bus — now appears as a single entry, with a new Connection column showing how it was found (N2K, Local, IP, or N2K+IP) and its IP address shown alongside its NMEA 2000 details.
- The right-click menu on a dual-connected device offers the combined set of actions, each carried over the connection that supports it — configuration, reboot, and firmware actions over NMEA 2000, and Open in Web Browser over the network. All virtual devices of a dual-connected product show its combined connection state.
- Added N2K, Local, and IP filter checkboxes at the top of the Device List to control which connection types are shown; the selection is remembered between sessions, and the list can never be filtered down to empty.
- Device List entries are colour-coded by connection type: black for NMEA 2000 devices, dark blue for network-only devices, dark green for devices connected both ways, and orange for the local gateway.

Improvements

- All Toolkit log files are now written to a single location, defaulting to C:\ProgramData\Actisense\Toolkit\Logs, which can be changed from the Diagnostics window. This also resolves rare cases where logging failed on systems with a relocated Documents folder.
- The device Properties panel now shows the IP address of any device that is reachable over the network.

Version 1.285 — 2026-07-24

Bug fixes

- Fixed an issue where a malfunctioning device that repeatedly announces itself on the NMEA 2000 network — such as an EMU-1 with faulty firmware stuck in a restart loop — never appeared in the device map, leaving no way to see or recover it from Toolkit.

Improvements

- The device map now lists devices as soon as they announce themselves on the NMEA 2000 network; devices whose details are still being read (or that never provide them) are shown in grey, and can be selected and operated on — for example to attempt a firmware recovery. Fully discovered devices continue to show in black, and the local gateway in orange.

Version 1.284 — 2026-07-19

Bug fixes

- Fixed an issue where choosing Change Firmware from a device's right-click menu immediately started programming the newest firmware version without offering a choice; the menu now opens a list of all available versions, with the current and latest versions marked, so the version to program is always chosen deliberately.
- Clicking the ribbon Change Firmware button itself (rather than its dropdown arrow) likewise programmed the newest version straight away; it now opens the same firmware version list. Devices with only one available version, and the NGX-1's firmware-file chooser, behave as before.

Version 1.283 — 2026-07-18

New features

- Added Tx PGN List and Rx PGN List sections to the device Properties panel for NMEA 2000 devices. Right-click a section and choose Refresh to ask the device which NMEA 2000 PGNs it transmits and receives; each entry is shown with its PGN number and name. Devices that do not report this information show "-".

Version 1.282 — 2026-07-17

Bug fixes

- Restored firmware updates for PRO devices over the serial bootloader; a warning now reminds you that the built-in web updater remains the preferred method.
- Restored EMU-1 firmware updates and fixed problems that could occur during the transfer.

Version 1.281 — 2026-07-16

Bug fixes

- Fixed an issue where Toolkit could hang permanently — requiring it to be closed from Task Manager — if an EMU-1 firmware update failed or the device became unresponsive. A failed or interrupted update now always completes within a bounded time and reports a clear error that can be dismissed.
- Improved the Cancel button during an EMU-1 firmware update: cancelling before programming begins now aborts cleanly and is reported as cancelled, while cancelling is prevented once programming is underway (to avoid leaving the device only partly programmed), with an on-screen explanation.
- Fixed an issue where the Change Firmware window showed a blank message box instead of stating which firmware version the device is currently on and which version it is about to be updated to. The "from version 'X' to version 'Y'" message is now shown again on every route into the window — right-click, the ribbon button, and a version chosen from the ribbon list.
- Toolkit is now tolerant of invalid firmware programming files; a file containing a bad sector definition no longer causes a crash.

Improvements

- Firmware update activity is now always recorded to a log file (in Documents\Actisense\Toolkit\Logs) so that a failed update can be diagnosed, without needing to enable advanced options.

Version 1.280 — 2026-07-09

Bug fixes

- Fixed an error dialog ("device info empty") that could appear when sending a configuration to an EMU-1, NGX-1 or NGW-1. The target device is now looked up using its own connection type (serial/CAN or IP) rather than a shared lookup that could match the wrong entry, so a connected EMU-1 is reliably offered in the Send to Device list and its configuration can be saved.
- Fixed an issue where saving a configuration database to a PRO-NDC-1E2K reached over a NMEA 2000 network silently failed — the Send to Device dialog closed with nothing written to the device and no error shown. Toolkit now sends the configuration over the device's NMEA 2000 connection so it is written correctly.
- Fixed an issue where a configuration database transfer that could not be started closed without reporting the problem; such failures are now shown to the user.

Version 1.279 — 2026-07-01

New features

- Added support for reading and writing the configuration database of the PRO-NDC-1E2K. Its built-in NMEA 0183 to NMEA 2000 converter can now be configured from Toolkit — using Load from Device and Save to Device — in the same way as other supported devices.

Version 1.278 — 2026-06-30

Bug fixes

- Fixed an issue where the device Properties panel could flicker continuously while a live EMU-1 was selected, resetting the scroll position on every refresh and making it difficult to view or update engine hours; the panel now updates live values in place.

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.