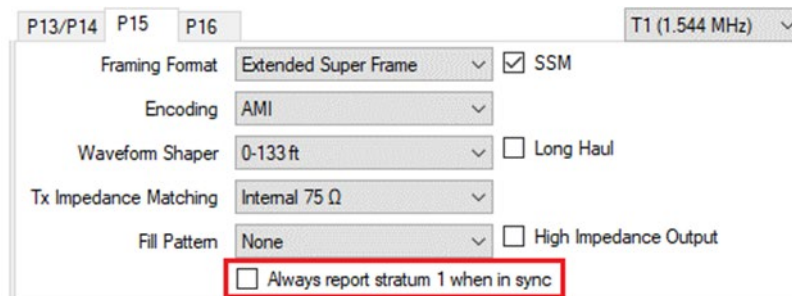# Configuration Tool II Release Notes

VERSION 4.6.1.0 (February 2022)

- **Improvement:** Added the ability to force the TCG 02-G to always indicate the G.811 (stratum 1) quality level while in sync. This is indicated in the Synchronization Status Message (SSM) contained in the P15/P16 T1/E1/J1 telecom output from clocks fitted with the M3 expansion option.

    TCG 02-G firmware version F2.30r, 3.22r or later is required to configure this option.

- **Improvement:** A warning message has been added to notify the user that the E series TCG or TTM 01-E only supports the C37.238-2011 Power Profile as a slave only clock, when configuring an E series TCG or TTM 01-E to use the C37.238-2011 Power Profile.
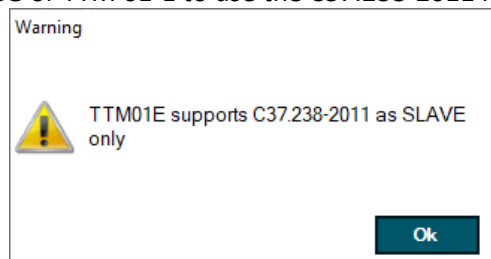
- **Improvement:** Removed the unused Hardware Revision field from the Maintenance tab.
- **Improvement:** The PTP source can now be set above the lowest priority in the clock source priority list without needing a PTP port configured as a forced slave.
  Note: When a PTP port is not a forced slave, it may enter the master state. If all PTP ports on the clock are in the master state, the clock will be unable to synchronize to PTP as a clock source. This could result in the clock appearing to skip PTP and select a lower-priority source.
- **Bug Fix:** Fixed a bug where if a unit was configured to be a G.8275.1 master and the "Port 1 - Not Slave" setting was enabled, then the unit was subsequently configured to be a PTP slave, the port would continue behaving like a master.
  This was caused by the "Port 1 - Not Slave" setting not being automatically cleared when the G.8275.1 profile was not being used.
- **Bug Fix:** Fixed a bug where an unhandled exception error would appear due to the Configuration Tool trying to convert the firmware version number in the PTP tab to a double data type, when the Windows system language was from a country that uses the comma as a decimal separator (European number formatting).

- **Bug Fix**: Fixed a bug that incorrectly described the output ports P10 and P11 on the NTS 03-G+ 4-port as "DCLS", in the I/O tab of the Configuration Tool. This bug was introduced in Configuration Tool version 4.3.1.0. This has been corrected and now reports the port description for P10 and P11 as "AM/DCLS".
 Note that this change only affects the description and does not affect the operation of the outputs. Output ports P10 and P11 are switchable AM/DCLS IRIG-B outputs, that can be switched using the small toggle switch located underneath each port.

- **Bug Fix:** Fixed a bug where comma decimal separators were used in GNSS log files if the Windows system language was from a country that uses the comma as a decimal separator (European number formatting). As GNSS log files are comma separated values (CSV) files, this would cause the decimal separators to be indistinguishable from value separators. Dot decimal separators are now always used regardless of Windows regional settings.
- **Bug Fix:** Fixed a bug that caused an unhandled exception error in the Configuration Tool that occasionally occurred when logging in to a clock.

VERSION 4.5.1.0 (August 2019)

- **Feature:** The process of storing the configuration to the clock now provides a pop-up message to indicate successful storage of the configuration. This is helpful as it provides a status update to the user.
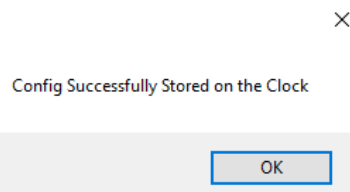
- **Feature:** The Discovery Window of the Configuration Tool now shows the clock serial number in addition to the clock name. This would help in easy identification of clocks based on serial number from the discovery window.

Name	Address	Model	Status
374389 : TNC03 (ADMIN/ETH1) add...	192.168.1.200	TTM01-G [3.21r7, c1.08, 1.06r]	non-holdover,antenna alarm

- **Feature:** The Buttons to clear the Broadcast and Multicast interval on the NTP Tab in the Configuration Tool have been renamed from "Off" to "Clear". The renaming is to improve clarity of the functionality of the buttons.

- **Feature:** The "Load settings from basic network tab" checkbox on the window that appears when the configuration file is loaded is now checked by default.

- **Bug Fix:** A bug where the state of the "Enable maximum inaccuracy check" checkbox was not stored correctly has been addressed in this release.

- **Bug Fix:** A bug where the C37.238-2017 profile option was shown for clocks that did not support it has been addressed in this release.

- **Bug Fix:** Fixed a bug in the loading of configuration files where certain configuration files could cause the "On the same dates every year" checkbox to be unable to be unchecked.

- **Bug Fix:** Fixed a bug in the download of the change log from the clock, where some entries in the log were incorrectly detected as corrupt and not shown.

- **Bug Fix:** The description shown on the I/O tab when an alarm relay is selected previously included incorrect voltage and current rating information for some clock models. This incorrect information has been removed.

VERSION 4.4.1.1 (May 2018)

- **Feature:** A new feature of NTP over PRP is made available in this release of the Configuration Tool. It allows the PRP operation in a way that is similar to PTP over PRP.

- **Feature:** When the user first starts this configuration tool, they will be presented with Tekron's EULA to accept. Additionally, a link to the EULA has been added on the discovery window of the Configuration Tool.
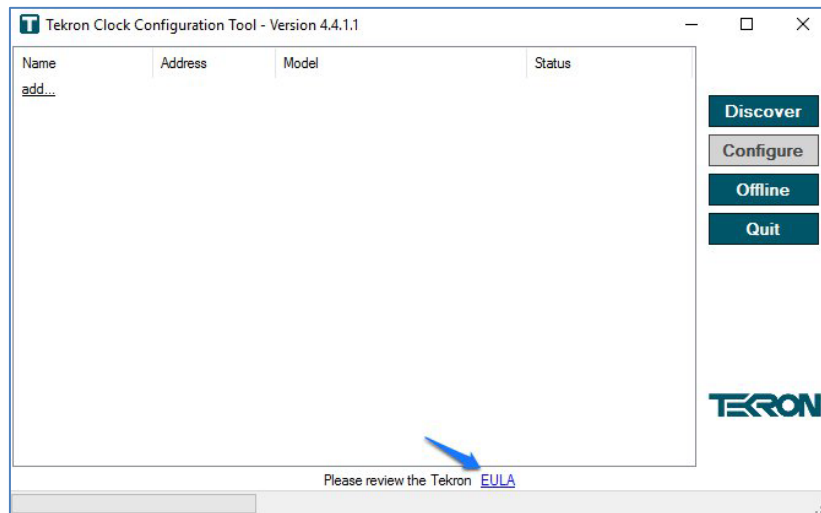
VERSION 4.4.1.0 (April 2018)

- **Feature:** PTP C37.238-2017 and 61850-9-3 Power Utility profile has been added to the Network -> PTP Tab and works with firmware 3.21r6.
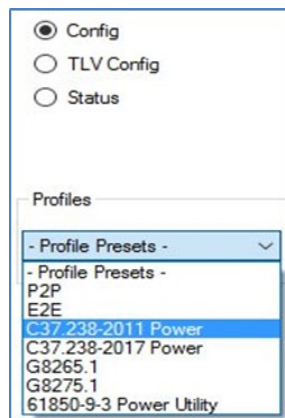
- **Improvement:** Added ability to lockout a user for a period following several unsuccessful login attempts. Both the number of unsuccessful attempts and the period of lockout can be configured on firmware 3.21r6 and above.

By default, this feature is disabled (Logging attempts before lockout set to 0) and this will be the case for clocks upgraded to this version.

To prevent the leaking of security information there is no notification to a user that the lockout is in place, and the standard login failed message will be displayed.

The lockout is based on the user account and operates regardless of the IP address that the attempt is made from or if the attempt is made via SNMP or the Config Tool. Similarly, a failed login via any method or from any address adds to the users failed login attempts count.

The lockout is per account and a lockout on one account does not prevent other accounts from logging in.

Subsequent incorrect login attempts during the lockout period will not increase that period.

SNMPv3 traps authenticated with the credentials of a locked-out user will still be sent.

- **Bug Fix:** Fixed a bug in the Clock tab where the Time display heading for local time would always state "Local Daylight Time".
  The Time display heading has been updated to state "Local Standard Time" when the device is out of daylight savings, and "Local Summer Time" when the device is in daylight savings.
- **Bug Fix**: Fixed memory leaks that were triggering a System.OutOfMemoryException.
- **Bug Fix:** Fixed a bug in the Notifications sub-tab where if only a notification IP address was added, the option to store the configuration was not available, and another setting needed to be changed before storage of the configuration was allowed.

VERSION 4.3.1.1 (February 2018)

- **Improvement:** Convert NTP broadcast/multicast intervals in save files from firmware prior to 3.21r4 as powers of 2 to the raw seconds format used in firmware after and including 3.21r4.
- **Improvement:** Add the ability to directly set NTP broadcast/multicast intervals using an hours, minutes and seconds format, giving access to the full range on values available on firmware 3.21r4 and above.

- **Bug Fix:** Only one of NTP multicast or broadcast interval was able to be set in version 4.3.1.0, this has been corrected and both multicast and broadcast intervals can now be set.
- **Bug Fix:** When connecting to an NTS 0X-E – Fiber Slave the system version number displayed in the Status box of the Time Tab was incorrect.
- **Bug Fix:** Configuration Tool 4.3.1.0 removed the options required to configure PRP on NTS 0X-G clocks this has now been restored.
- **Bug Fix:** Configuration Tool 4.3.1.0 when connected to a TCG and viewing the AM IRIG Out options on the I/O tab showed a "Suppress outputs when" header even when the option was unavailable.

VERSION 4.3.1.0 (December 2017)

- **Improvement:** A check box has been added to the GNSS tab to enable/disable anti-jamming mode. This feature is available for clocks with firmware 3.21r3 and later. When anti-jamming is enabled, the clock requires a minimum of 2 satellites to remain in sync. With anti-jamming disabled the clock will remain in sync with a single satellite. It is recommended to leave anti-jamming enabled and to reposition the antenna in situation of low reception.
- **Bug Fix:** The I/O tab was not displayed for legacy TCG 02-E when using Configuration Tool 4.2.1.10 or 4.2.1.16 due to a permissions conflict.
- **Bug Fix:** Fixed a bug that caused the secondary Ethernet module to not be listed in the Configuration Tool Network tab, when connected to a TCG 02-E with M2 expansion.
- **Bug Fix:** For the TCG 02-G with M2 expansion, the secondary Ethernet module would not show a group name change until the Configuration Tool Window was closed and reopened. Also, the group policy title did not receive the new name until the group was de-selected and re-selected. This has been fixed.
- **Bug Fix:** Fixed a bug where each time a configuration change was stored, the System Information section in the Maintenance tab was updated with a duplicate entry of Model, Firmware Version and Hardware Revision.
- **Bug Fix:** Fixed a bug where the clock would go offline when attempting to store configuration changes, after a configuration file was uploaded.
- **Improvement:** The following text was updated in the Settings Access window of the Access Control tab:-
  > 'Io' -> 'IO'
  > 'Gps' -> 'GPS'
  > 'Ptp' -> 'PTP'
  > 'Ntp' ->'NTP'

VERSION 4.2.1.16 (Limited Release)

- **Bug Fix:** Added a "maximum inaccuracy check" option which allows a time inaccuracy threshold to be set. The feature is available in firmware v3.21r3 and TCG firmware 2.25r5.

When the clock leaves sync the time will drift according to the oscillator installed and the time in sync. The outputs will report the calculated time inaccuracy (calculated clock drift) according to the requirements of the time code on the output. When the inaccuracy threshold is reached the lowest level of accuracy will be reported on the outputs and the clock will indicate out of sync.

The "maximum inaccuracy check" option is useful for ensuring that the clock does not exceed a specific accuracy level. The clock will automatically take into account factors such as the fitted frequency reference and time in sync to determine how long to remain in holdover.

The holdover time does not take into account the calculated time inaccuracy and instead uses the set holdover period to determine the time at which the clock should indicate out of sync.

If both "holdover timeout" and "maximum inaccuracy check" are enabled, the clock will leave holdover and indicate out of sync only when both the holdover time has expired, and the inaccuracy threshold has been crossed.

- **Improvement:** Added the ability to suppress individual IRIG-B or Programmable Pulse outputs based on inaccuracy threshold or holdover timeout. The feature is available in firmware 3.21r3 (NTS 02-E, NTS 03-E, NTS 02-G, NTS 03-G) and TCG E series firmware 2.25r5. When "holdover timeout expires" is selected, that particular output will stop providing a time signal when the clock is out of sync and the specified holdover time has expired.

When "Inaccuracy threshold is exceeded" is selected, that particular output will stop providing a time signal when the clock is out of sync and the reported inaccuracy has exceeded the specified maximum inaccuracy. When "Never" is selected, that particular output will continue to provide a time signal even when the clock is out of sync. It will continue to report the calculated time inaccuracy.

VERSION 4.2.1.10 (March 2017)

- **Feature:** Added support for enabling the persistent holdover availability option on clocks that support it. Firmware version 3.20r1 or later is required to enable this option.
  Normally, the clock can only enter holdover if it has been in sync for at least 5 minutes. If persistent holdover is enabled, and the clock has initially been in sync for at least 5 minutes, then the clock can still enter holdover if it experiences a sync switching condition. For example, sync is lost, regained for less than 5 minutes, then lost again. Such a condition may exist when GNSS jamming is present, or in the case of a poor antenna installation.

  Please note, when entering holdover after a period of intermittent sync the holdover period timer is reset. This may cause the clock to enter into an extended holdover period, if the sync switching condition continues to be present. By disabling persistent holdover, you can ensure that the time in holdover is not extended by periods of intermittent sync lasting less than 5 minutes.
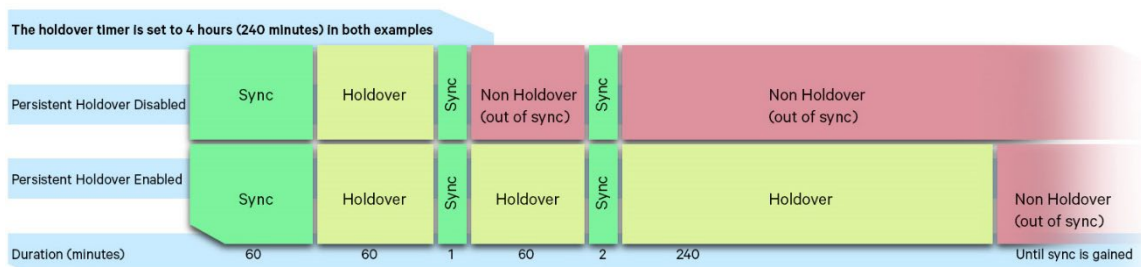
- **Feature:** Configuration files saved for NTS E series can now be loaded for NTS G or G+ series, and vice versa. Previously, this would cause a warning message to appear, stating that the configuration file is not compatible with the connected clock.
- **Feature:** Added support for selecting String-H on the P4 Serial String output of TCG G series clocks. TCG firmware F2.27r2 or later is required to select String-H. Refer to Appendix C of the Configuration Tool user manual for details on the format of String-H.
- **Improvement:** The layout of the NTP sub-tab has been changed. The MD5 Authentication options are now on a separate page, accessed by enabling Advanced Options, then selecting the Authentication radio button.
- **Bug Fix:** Fixed a bug introduced in version 4.2.1.0 that caused legacy clock models to be misidentified, resulting in incorrect configuration options being shown. This prevented correct configuration of some legacy clock models.
- **Bug Fix:** The 'Request delay interval' setting for PTP G.8265.1 profile is now shown correctly. Previously, any setting higher than 1/8 second (such as 1/16 second) would appear as 1/8 second.
- **Bug Fix:** Configuration printouts printed from Offline mode for the NTS 03-E or NTS 03-G Six Port incorrectly included the GPS/GNSS Statistics section.
- **Bug Fix:** The Login Banner button on the Maintenance tab was incorrectly enabled when logged in as a user in the Supervisor group.

- **Bug Fix:** The PRP Link setting is now loaded correctly in Offline mode. Previously, this setting was not loaded correctly and the PRP Link checkbox would remain cleared when it should be checked.
- **Bug Fix:** Fixed a bug that could cause the Configuration Tool to crash in the rare event of an invalid status display update.

VERSION 4.2.1.0 (November 2016)

- **Feature:** Added support for configuring the programmable outputs of the NTS 03-G+ 4 Port Plus IRIG-B Expansion.
- **Feature:** Added support for configuring Parallel Redundancy Protocol (PRP) on PRP capable clocks with a PRP license installed.
- **Feature:** Added support for enabling the factory reset procedure on clocks that support it. When enabled, this feature allows the unit to be reset to factory defaults in order to recover from a forgotten administrator password. Physical access is required to perform the reset procedure. Firmware version 3.20r or later is required to enable this feature. This feature is different from the factory reset performed by the button on the Maintenance tab, as that reset does not require physical access, but requires an administrator password.
- **Feature:** Added a configurable option for suppression of output signals at start-up, when the clock has not yet received a valid time. This option appears for clocks that support it.
- **Feature:** Added a configurable option to disable the holdover time setting, allowing the clock to remain in holdover indefinitely. This leaves it up to client devices to determine when they will stop synchronizing to the clock, based on the advertised quality in the time outputs.
- **Feature:** PTP delay asymmetry is now a configurable option. PTP cannot automatically measure and compensate for delay asymmetry, which means that the presence of delay asymmetry reduces the time accuracy of PTP. If the delay asymmetry is known, entering it manually will allow it to be compensated for, and improve time accuracy.
- **Feature:** Added a Fixed Manual delay mode to the available PTP delay mechanisms, in addition to the existing End-to-End and Peer-to-Peer options. Fixed Manual delay mode may be useful in some non PTP aware networks. Firmware version 3.20r or later is required to use Fixed Manual delay mode.
- **Feature:** Added a PTP Forced Master option. When selected, this option ensures that the port will not operate as a PTP Slave. Firmware version 3.20r or later is required to select Forced Master.

VERSION 4.2.0.3 (Limited Release)

- **Bug Fix:** Fixed a bug that caused the Satellite Visibility chart to remain blank when the operating system regional settings are configured to use "," instead of "." as the decimal symbol.

VERSION 4.2.0.2 (Limited Release)

- **Feature:** Added the ability to retrieve and view the configuration change log from the clock. The View Log button on the Maintenance tab will retrieve and show a list of configuration changes made to the clock, including time of change, user name, old value and new value.
- **Improvement:** Added Frequency Reference information to the System Information section of the Clock tab. This indicates the type of oscillator that the clock is fitted with.
- **Improvement:** Added a Rubidium logo which appears when connected to a clock fitted with a Rubidium frequency reference.
- **Feature:** Added Mobile GNSS option for TTM 01-G, TSC100 and NTS100 clocks. In Mobile GNSS mode, the clock will continually update the position and timing solution, allowing accurate timing when in motion. This allows the clock to be installed on board a moving vehicle or vessel.
- **Improvement:** Holdover time is now configured in days, hours and minutes. Previously, holdover time was configured in minutes only. This makes it easier to configure longer holdover times to take advantage of the extended holdover capability of OCXO and Rubidium frequency references.

VERSION 4.1.1.0 (January 2016)

- Digitally signed release to provide assurance that the software has not been altered since it was published by Tekron.

VERSION 4.1.0.24 (December 2015)

- **Feature:** Added support for configuring the NTS100 Time Server.
- **Feature:** Added configurable delays for antenna and power alarms on TCG clocks. The activation of the antenna failure and power supply failure alarms can now be delayed by a user defined time period from 0 to 25.5 seconds, specified in tenths of a second.
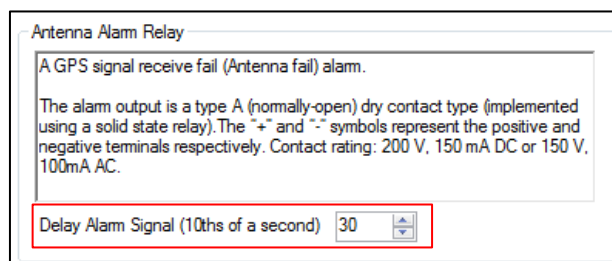
- **Improvement:** When the PTP Forced Slave option is selected, the 'Advertised delay interval' setting is now hidden, as this setting has no effect when the clock is a PTP slave.

- **Improvement:** When the PTP Forced Slave option is selected, the 'Announce interval' setting is renamed to 'Master announce interval', to indicate that this setting should be set to match the announce interval of the PTP master clock. The master announce interval determines how often announce messages are expected to be seen from the master clock, and allows the clock to determine when the master is no longer announcing. If the master announce interval is set lower than the actual announce interval, the slave clock will not synchronize to the master. If set higher than the actual announce interval, there will be an unnecessary delay before the slave clock switches to an alternate time source.
- **Bug Fix:** Antenna alarm relay no longer appears on the I/O tab when connected to a TCG with legacy D1 hardware. The D1 hardware does not include an antenna alarm relay.
- **Bug Fix:** The Link Local address radio button on the Network – Basic tab is now hidden when it is not selected and the configuration is stored.
- **Bug Fix:** ToolTip pop-up help text has been corrected for the IRIG-B stream configuration options.
- **Bug Fix:** Updated Test Source dialog box text and ToolTip pop-up help text to match the behaviour of the Test Source in firmware versions 3.13r and later. It is no longer necessary to ensure that all other time sources are disabled, as the test source now overrides any other active time sources.

VERSION 4.1.0.22 (Limited Release)
- **Feature:** Added support for configuring the P3 output port on the NTS 02-E and NTS 03-E time servers. The NTS must be running firmware 3.18r or later to support configuration of the P3 output port.
- **Improvement:** An error notification is now shown if attempting to store a configuration with the invalid IPv4 address of 0.0.0.0 to the clock.
- **Bug Fix:** Fixed a bug that could cause the Reload, Save, Load and Print buttons to be incorrectly disabled when logged in as a user with access restricted to show only one tab.
- **Bug Fix:** Reset GPS button no longer appears when connected to a non-admin port. Previously, the Reset GPS button appeared when connected to a non-admin port and had no effect when clicked.
- **Bug Fix:** The Log to File checkbox on the GPS/GNSS statistics page now remains checked when the Reload button is clicked while logging is in progress. Previously, clicking the Reload button while statistics logging is in progress would result in the Log to File checkbox becoming unchecked, but the logging would continue.
- **Bug Fix:** Improved USB connection recovery following a loss of connection. Previously, the configuration tool could be unable to discover a clock connected via USB after a connection loss, such as in the case of a cancelled password change during login.
- **Bug Fix:** The configuration tool no longer loses the connection to the clock when an invalid license key is entered on the Maintenance tab.
- **Bug Fix:** The text for the P2 input and P3 output on the I/O tab when connected to an NTS 02-E or NTS 03-E now refers to C37.118.1 instead of IEEE 1344.

- **Bug Fix:** Fixed bug that could cause network information to be incorrectly hidden when a user is logged in via an admin port, but correctly shown when logged in via a non-admin port, when that user is allowed access to system information, but denied access to network, NTP, PTP, security and notifications settings. Network information is now shown consistently across all ports.

VERSION 4.1.0.21 (Limited Release)

- **Improvement:** PTP profile names have been changed to be more specific. The 'Power' profile button is now labelled 'C37.238' and the 'Telecom' profile button is now labelled 'G8265.1'.
- **Bug Fix:** Fixed the invalid default file name given when saving a GPS log file while connected to a non-admin port. The default file name previously contained a forward slash character, which would result in an invalid file name error if saved without editing it.

VERSION 4.1.0.19 (Limited Release)

- **Improvement:** The clock configuration printout now represents the current configuration in the tool rather than the configuration stored in the clock. The printout will contain a warning message if the printed configuration does not match the configuration stored in the clock, or if the printout was printed while in offline mode.
- **Bug Fix:** The configuration tool now uses the IP address from the packet header instead of the IP address from the clock settings when communicating with a legacy clock. This fixes an issue that could cause the configuration tool to be unable to connect to a legacy clock that is behind a NAT router.
- **Bug Fix:** Added missing setting names to clock configuration printouts.

VERSION 4.1.0.18 (Limited Release)

- **Improvement:** An "Are you sure?" confirmation dialog is now displayed when clearing existing GPS/GNSS statistics.
- **Improvement:** A command-line option has been added to allow a saved clock list to be automatically loaded when launching the configuration tool. Appending the file name of a saved clock list to a shortcut used to launch the configuration tool will cause that list to be loaded automatically.
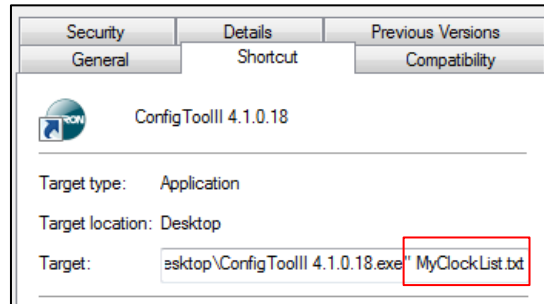
- **Improvement:** The layout of the PTP TLV Config page when connected to a legacy clock has been changed to use the same layout as used for non-legacy clocks.
- **Bug Fix:** Serial Parity and Baud options no longer appear when connected to a legacy D1 hardware clock. D1 hardware clocks do not have configurable parity or baud rate.
- **Bug Fix:** Power alarms are no longer indicated when connected to a legacy D1 hardware clock. Unlike newer hardware, D1 hardware does not support the detection of power supply failure when equipped with dual power supplies.
- **Bug Fix:** The "Don't allow username in password" system policy setting now prevents a prefix of the username over 3 characters long from being used anywhere in the password. Previously, this setting only prevented the complete username from being used in the password.
- **Bug Fix:** Fixed a bug that caused the User and Access Control tabs to not appear when configuring a TCG 01-G or TCG 02-G in offline mode, which prevented the setup of user accounts.

VERSION 4.1.0.17 (Limited Release)
- **Improvement:** The clock source priority settings are now a list that can be reordered by dragging and dropping. An 'Override Quality' checkbox has been added which, when selected, will force the chosen priorities to take effect instead of the default behaviour. The default behaviour is to use the clock source with the best accuracy, and only use the configured priorities when multiple clock sources have the same accuracy.
- **Improvement:** The PTP clock source is now blocked from being set above the lowest priority when the PTP Forced Slave option is not set, as this is an invalid setting. The clock source cannot switch to PTP from another valid sync source when Forced Slave is not set, because all PTP ports are acting as PTP masters and therefore cannot be PTP slaves, as a port cannot be a master and a slave simultaneously. A message dialog appears if setting the PTP source above the lowest priority is attempted.
- **Improvement:** An incoming data indicator has been added to the GPS/GNSS Live Satellite Visibility display. This indicator flashes green when live satellite data is being received from the clock, flashes yellow when the GPS/GNSS receiver has been reset, and flashes red if there is a problem with the data.
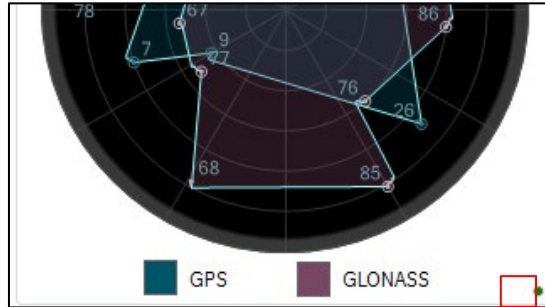
- **Improvement:** The number of channels supported by the GPS/GNSS receiver is now shown on the GPS/GNSS tab.
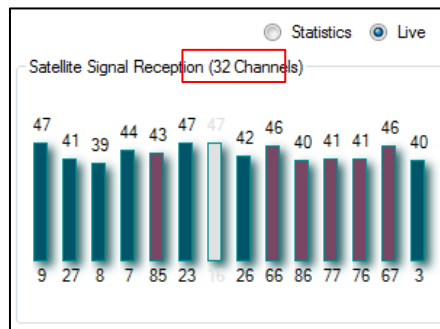
VERSION 4.1.0.15 (Limited Release)

- **Improvement:** A pop-up message dialog will now appear when manually adding an IP address to the configuration tool to confirm that it is working, and a pop-up dialog will also appear if the configuration tool cannot contact a clock at the given address.
- **Improvement**: The configuration tool now gives clearer warnings when test mode is in use. On the Clock tab, the configuration tool now shows a "Sync Forced" alarm when the "Sync relay is always on" setting is selected, and a "Test Source In Use" message when the test source is active.
- **Bug Fix:** The configuration tool can now correctly configure the TTL A output of the TTM 01-E. Previously, storing changes to the configuration of the TTL A output could fail without generating an error message.
- **Bug Fix:** The Telecom profile quick set button now correctly resets the TLV Config settings. Previously, the TLV Config settings were not reset to the default values when the Telecom profile was selected.
- **Bug Fix:** Fixed bug that could cause the Clock tab to not appear when logged in as a user with access to Information settings but limited access to other settings. A user with access to Information settings is permitted to view the System Information, which appears on the Clock tab.

VERSION 4.1.0.13 (Limited Release)

- **Bug Fix:** The PTP announce interval setting is now shown when the clock is a Forced Slave. The configured announce interval determines the foreign master timeout, which determines how often a slave clock must see announce messages in order to recognise a master as valid.
- **Bug Fix:** The GPS tab and the Enable GPS checkbox no longer appear when configuring a Fibre Slave clock. Fibre Slave clocks are not equipped with a GPS receiver.
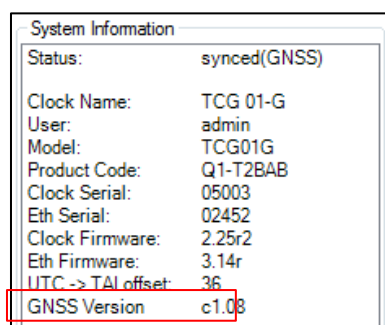
VERSION 4.1.0.12 (Limited Release)

- **Bug Fix:** Improved stability of configuration tool when running on Windows XP and on systems with low memory.

VERSION 4.1.0.11 (Limited Release)

- **Improvement:** The configuration tool will now display the current TAI -> UTC offset in Offline mode, based on the current date and time and an internal table of leap second additions, and will also display the date of the last leap second addition.
- **Improvement:** Saved configuration files now include the TAI -> UTC offset used by the clock, the UTC time at the clock, and the local time at the PC. This information is for reference only and is shown but not loaded when the configuration file is loaded by the configuration tool.

VERSION 4.1.0.9 (Limited Release)

- **Feature:** Added support for configuring the PRPTP Translator.
- **Improvement:** The GPS/GNSS receiver firmware version is now shown under System Information on the Clock tab.
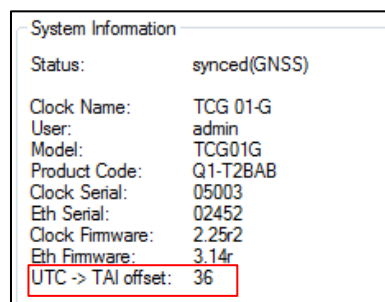

- **Improvement:** Added support for extended holdover time on legacy TCG clocks.
- **Bug Fix:** PTP Forced Slave is now correctly always selected for the PTP Translator and PRPTP.

- **Bug Fix:** When the IP address of a clock is changed, the IP address shown in the Discovery window will now update to the new address automatically. Previously, the Discovery window would not update until the clock is rediscovered.
- **Bug Fix:** Fixed a bug that prevented the local time from being set to be behind UTC on legacy clocks. Negative UTC offsets were treated as positive, resulting in the local time being ahead of UTC instead of behind.
- **Bug Fix:** Fixed a bug that could cause the links for adding users and groups to appear when the user does not have sufficient access to create users or groups. Attempting to add a user or group in this case did not have any effect on the connected clock.
- **Bug Fix:** Fixed a bug that could cause the configuration tool to crash when deleting a new user that hasn't yet been saved.
- **Bug Fix:** Location and satellite data on the GPS/GNSS tab is now correctly cleared when the GPS/GNSS receiver is reset using the Reset GPS/GNSS button.
- **Bug Fix:** A warning dialog is now displayed if the logged in user has no access to any settings as set on the Access Control tab. Previously, the user would be shown a blank configuration window in this case.
- **Bug Fix:** The 'Store configuration to clock' button is now correctly disabled when the configuration has not been changed. Previously, the button was left enabled if an output setting was changed, then set back to the previous setting.
- **Bug Fix:** The descriptions for serial strings String-C and String-E have been updated to match the output of the clock. These descriptions stated the location of the on-time point incorrectly.
- **Bug Fix:** Fixed a bug where the Factory Reset button was missing in the Maintenance tab, when connected to a PTP Translator.

VERSION 4.1.0.6 (Limited Release)

- **Improvement:** The current UTC -> TAI offset is now shown under System Information on the Clock tab.

- **Improvement:** Added support for enhanced clock status reporting from legacy clocks. The configuration tool will now correctly indicate whether the connected clock is in holdover. Previously, the configuration tool indicated non-holdover when the connected legacy clock was in holdover.

- **Improvement:** Both passwords are now set in one dialog when changing passwords on a clock with two-password authentication enabled.
- **Improvement:** A confirmation dialog is now shown when refreshing the configuration window will cause unsaved changes to be lost. Previously, no warning was given.
- **Bug Fix:** Leading and trailing white space is no longer trimmed from login usernames and passwords. Previously, this could cause a user to be unable to log in if they were to set a password containing leading or trailing white space.
- **Bug Fix:** Fixed a bug that caused notification subscriptions to not appear on the Network – Notifications sub-tab when configuring a non-admin port while connected to an admin port.

VERSION 4.1.0.5 (Limited Release)
- **Bug Fix:** Fixed a bug that caused the configuration tool to crash when saving a configuration with the serial string output configured for a 9 data bit format.

VERSION 4.1.0.4 (Limited Release)
- **Feature:** Added String-H option to Serial String options on clocks that support it.
- **Bug Fix:** The clock firmware version for legacy TCG clocks running D or E firmware versions now appears as unknown, rather than as an invalid version number.
- **Bug Fix:** The supervisor mode option no longer appears when the clock is in insecure mode.

VERSION 4.1.0.3 (March 2015)
- **Feature:** Added support for configuring TCG 01-G and TCG 02-G P4 (Serial port) to provide a 9-bit serial output. The 9 bit serial string consists of 8 data bits and a parity bit. The old 8 bit serial strings are still supported.

Configuration Option	No. Data Bits	Parity	No. Stop Bits
8-O-1 (New)	8	Odd	1
8-E-1 (New)	8	Even	1
8-N-1	8	None	1
7-O-1	7	Odd	1
7-E-1	7	Even	1

- **Feature:** The editor window title now includes the clock model number if the clock designation is not set.
- **Improvement:** Unnecessary constraint checks performed when entering test mode have been removed. Test mode previously required that the clock had not been synchronised to a time source since being powered on.
- **Bug Fix:** Change to discovery requests to ensure that legacy clocks are correctly discovered. Legacy clocks running Ethernet firmware prior to 2.039 send every alternate packet as a

broadcast. The tool now sends two discovery requests to ensure that the clock responds with both unicast and broadcast messages.

VERSION 4.1.0.2 (Limited Release)

VERSION 4.1.0.1 (Limited Release)

- **Bug Fix:** Fixed bug introduced in version 4.1.0.0 which caused the configuration tool to be unable to communicate with the clock via USB.
- **Bug Fix:** When changing a user password, the name of the user whose password is being changed is now displayed instead of the currently logged in user.

VERSION 4.1.0.0 (March 2015)

- **Feature:** Offline Mode capabilities added to tool. It is now possible to edit and save a configuration file without connecting to a clock. The saved configuration can be loaded and stored to a clock at a later date.
- **Feature:** Legacy clock compatibility added to tool. The configuration tool will now discover and configure clocks running legacy Ethernet firmware versions 2.xx and 1.xx. For example TCG 01-E, TCG 02-E and TTM 01-E can now be configured.
- **Feature:** GNSS Commissioning added. It is now possible to view and log satellite statistics to determine the suitability of the antenna position.
- **Feature:** Added encryption and password protection to saved configurations. Configuration files saved with earlier configuration tool versions are still supported.
- **Feature:** Source priority selection added to tool. It is now possible to configure the order in which time sources will be used for synchronisation, for clocks which support multiple time sources. The default setting is to use GNSS/GPS, then PTP, then IRIG-B, then NTP.
- **Feature:** Configuration printout has been reformatted to improve readability.
- **Feature:** Configuration tool now uses background communication with clock to improve the responsiveness of the user interface.
- **Feature**: Added ability to restrict configuration access to only admin ports. When the 'Admin port access only' option is selected, the clock can only be configured through the 'admin' Ethernet port. Non-admin ports still operate as time servers and can be configured from the admin port.
- **Feature**: Increased range of options for PTP message send rates. The announce interval can now be set from 1/8 second to 16 seconds, instead of 1 second to 8 seconds. The sync interval can now be set from 1/128 second to 16 seconds, instead of 1/2 second to 2 seconds.
- **Feature:** The change list viewer now supports grouping and sorting to improve readability. When a configuration is loaded from a file, a list of configuration changes appears for

confirmation. The change list window now displays old and new values in columns and groups related settings to improve readability.

- **Feature:** Added a 'Restart Unit' button, which allows the clock to be remotely reinitiated in a manner similar to removing and reapplying power.
- **Feature:** (Fibre slave clocks only) The time quality information from the fibre IRIG-B input is now displayed on the IRIG-B input tab.
- **Improvement:** Factory reset button is not shown for Ethernet firmware older than 3.11r1. Ethernet firmware versions older than 3.11r1 contain a bug which can occasionally cause corrupted settings during a factory reset.
- **Bug Fix:** Tool no longer crashes if the USB cable is disconnected while it is in use.
- **Bug Fix:** P4 communications settings are no longer changed when the serial string selection is changed. This avoids unexpected changes occurring to the configuration.
- **Bug Fix:** Supervisor mode password change now works correctly.
- **Bug Fix:** Corrected description of NMEA RMC serial string to match the actual output of the serial string. The description previously included an extra comma between latitude degrees and minutes, which has now been removed.
- **Bug Fix:** Two-password DES now correctly uses the Privacy password instead of the Authentication password for encryption. Previously, this bug could make it impossible for a user to log in if two passwords are required, DES privacy is selected, and the Privacy password is different from the Authentication password.

VERSION 4.0.4.0 (July 2014)

- **Improvement:** Configuration tool will force new password to be different from current password.
- **Improvement:** Added a warning message when two passwords are used and the privacy password has changed from none to AES or DES. The new password is password.
- **Improvement:** Added warning message for incorrect password changes.
- **Improvement:** When leaving insecure mode a dialog box will remind the user of the default login details.
- **Improvement:** Supervisor mode change user password now accepted.
- **Improvement:** Delete group button added.
- **Improvement:** Add popup help for NTP tab.
- **Improvement:** PTP Translator support.
- **Bug Fix:** USB comms and test mode set time fixed (Introduced in 4.0.3.0)
- **Bug Fix:** Fixed a bug that could cause an error when a clock is unexpectedly removed from the network.

VERSION 4.0.3.0 (May 2014)

- **Improvement:** TCG 01-G and TCG 02-G support

- **Improvement:** New DCF77 tab created to match the IRIG-B tabs. This is needed because the "Use UTC time" is a global DCF77 setting not output specific. The IRIG-B tab labels have been changed to remove the word "Stream" to make room.
- **Improvement:** The user "add" window now contains a reminder of the default password.
- **Improvement:** Active alarms are now visible on Clock tab when Notification access is disabled.
- **Improvement:** Notification labels - Historic changed to Historic SNMPV1 and Syslog (old) to Historic Syslog.
- **Improvement:** Add power alarms suppress check box.
- **Improvement:** Support for slave PTP Telecom profile.
- **Bug Fix:** SNMP public and private access selection now pointing to correct groups.
- **Bug Fix:** Time display on Clock tab now visible when users have no access to the Test access control group.