Spectracom released a software update for SecureSync. Customers can download this software update at no charge from the Spectracom Corporate website (see How to download and install the new SW.).

This software update will upgrade the unit’s system software from previous versions 4.0.0 – 5.2.0 to version 5.3.1.

The update provides added benefits through new features, enhancements to existing functionality, as well as software fixes, and security updates.

This document lists and briefly describes the newly released features, enhancements and fixes. For your convenience, older 5.x legacy releases are also documented herein. Release notes for 4.x releases are available upon request.

**Note:** In order to apply this software update, your unit must have the system software, version 5.0.2 or higher installed.
# Table of Contents

Table of Contents .......................................................................................................................................................2

Version 5.3.1...............................................................................................................................................................3

Version 5.3.0...............................................................................................................................................................5

Version 5.2.1...............................................................................................................................................................7

Version 5.2.0...............................................................................................................................................................9

Version 5.1.7.............................................................................................................................................................11

Version 5.1.6.............................................................................................................................................................12

Version 5.1.5.............................................................................................................................................................13

Version 5.1.4.............................................................................................................................................................15

Version 5.1.3.............................................................................................................................................................16

Version 5.1.2.............................................................................................................................................................18

Version 5.0.2.............................................................................................................................................................20

Version 5.0.1.............................................................................................................................................................21

Version 5.0.0.............................................................................................................................................................23

Version 4.x ................................................................................................................................................................25

Which SW version is installed on my SecureSync?...................................................................................................26

How to download and install the new SW ...............................................................................................................27

How to contact Spectracom Tech Support ............................................................................................................28
Version 5.3.1

Release features

- **Enhanced fan control** for units equipped with *Front Panel Fan Modification*, offering the choice between “Always On” and “User Defined”. The latter can be used to define a temperature window.
- **Temperature Monitoring Alarms/Clears** can now be set by the user: *Major* and *minor* alarms can be generated and delivered via SNMP and Email, and are logged in Alarm and Event logs. A retry value can be set to determine for how long the measured temperature must remain above the threshold value before an alarm is triggered.
- A new *System Status* page consolidates key temperature and hardware utilization graphs.
- Two *NTP traffic graphs*, plus peak traffic information have been added to the NTP Setup page. The graphs can be saved and downloaded. Currently supported for NTP only (not TimeKeeper).
- All *graphs* now offer a user-friendly way to *delete* the logged data. Most graphs can be *downloaded* (satellite data, disciplining and temperature data, NTP throughput statistics).
- *New SNMP MIB variables* to read oscillator, board and CPU temperatures, including four new temperature monitoring traps (cf. above).
- The *Front Panel* is designed to continue enabling the fan as it did in the past, but additionally accepts input control from the SecureSync Software/FPGA logic to either enable the Fan all the time, or to control the fans enable state via user-defined min./max. temperatures to keep the CPU temperature within the user defined band.
- The *mysql database* is converted to a sqlite database which is returned in the *spectracom.log* file when saved.

Enhancements and fixes

- A CLI Command "*reboot hard*" has been provided to force a restart of SecureSync. This command is de facto a power cycle.
- The most current *Apache2 Error Log* is now returned in the SecureSync log bundle.
- Changed the *Frequency Error threshold* for TCXO units to $1 \times 10^{-6}$ or 1PPM, to avoid immediately generating frequency alarms when SecureSync exits time synchronization, due to a loss of a valid reference, e.g. caused by loss of GPS reception.
- Improvements to oscillator disciplining (not applicable to Rubidium oscillators), including phase noise improvements during synchronization.
• Several changes to how *processes* are launched, detected and runtime status is collected have been made to improve efficiency, reduce memory usage.

• The *build scripts* were improved to detect failures and warnings during build and install.

• *Apache2 error logs* including the most recent one are now included in the Spectracom Log bundle.

• UI names for temperature graphs were changed to *CPU, Board* and *Oscillator temperatures*.

• GNSS licensing error with Multi-GNSS feature was corrected.

• Corrected setting of *Static Routes* so user can set them and ensured they are preserved across a software update.

• *Netmask “0”* in Access Restriction is no longer accepted, thus avoiding Apache crash.

• Added an end-of-year happy *new year* message. Note this message is logged when the year changes so it is also an indicator that a problem exists such as the Processor BIOS does not have the correct year set, e.g. when the battery backing up the BIOS settings has discharged.

• The SNMP MIB *SPECTRACOM-SECURE-SYNC-MIB.mib* was changed to add new Oscillator, Board, and CPU Temperature values. Also, four new SNMP Traps were added to indicate Major/Minor Temperature Alarms/Clears based on temperature thresholds and number of reads (user-definable).

**Security enhancements and fixes**

  - Corrected security vulnerability *CVE-2012-2141* by applying the recommended patch to SecureSync version of NET-SNMP.

**Option Card enhancements and fixes**

  - The 1204-06 Gigabit Ethernet card EEPROM used to configure the Intel MAC chip was corrected to fix known issues and errata published by Intel.

  - STANAG In cards [1204-1D, -24] have been provided with enhanced functionality, and an updated UI
Version 5.3.0

Release features

- Support of Anycast over IPv6 utilizing OSPF
- Host disciplining: Linux kernel time set by NTP or PTP can now also be utilized to discipline the oscillator in the timing system. (Rubidium oscillators not supported)

Enhancements and fixes

- Upgrade to GPS receiver firmware version 1.8, allowing QZSS Constellation support and improved performance
- RES-SMT-GG GNSS receiver update firmware was improved to avoid intermittent update failures.
- Updated TimeKeeper to version 7.0.6
- Enhanced temperature monitoring, adding processor board and CPU temperature graphs provided under the Management > Disciplining Menu.
- Fixed issue caused by NTP monitor Daemon NTPMOND, trying to stop NTP when the Timing System and Linux kernel time differ by more than 1 sec
- Software version of GNSS Receiver is no longer displayed when not present.
- LDAP can no longer be enabled with empty input, causing inability to login.
- Display of software versions are corrected on update page
- Web UI message for tcpdump changed from ON/OFF to “Permanently disabled”.
- Clear Logs and Statistics operation corrected to work from Web UI.
- Fixed error with creation of HTTPS certificate request and public/private key pair when entering common name
- Fixed an error causing Radius authentication to fail because the NAS address is being output as 127.0.0.1
- Updated IRIG control field format, Spectracom IEEE C37, to control sync state passed in control fields via signature control settings
- Corrected DOW (Day-of-Week) range in the BBC message 4 format
- Corrected Low Phase Noise Rubidium DAC value to remain constant when time is set by user
- Corrected Web UI to allow update of Main Default Gateway
- Updated translation of Web UI into French
- Improved Username management during upgrade
Security enhancements and fixes

- **Net-SNMP** 5.6.2.1 has been updated with a security patch to correct CVE-2015-5621.
- **Open SSH** has been updated to version 6.9.
- Updated **OpenSSL** from 1.0.1m to 1.0.1p.
  
  Among other things, the following vulnerabilities have been addressed:
- Updated **NTP version** from 4.2.8p2 to 4.2.8p3 to address CVE-2015-5146.
  (NTP CVE-2014-9295 was fixed in 5.2.1 by updating to 4.2.8p2).
- **NTP** – Corrected GUI to avoid issue with allowing exploit of vulnerability CVE-2014-9295
- **Apache** CIPHERS were strengthened to remove weak ciphers, and Apache timeouts were adjusted to improve transfer of update images via web browser.
  (Apache was updated to 2.2.29 in 5.2.1)

Option Card enhancements and fixes

- 1204-32 Gb PTP card: Fixed spelling errors in miscellaneous journal log entries associated with this Option Card.
- Model 1204-06, Gigabit Ethernet Option Card: Updated Gigabit Ethernet driver to version 3.1.0.2
Version 5.2.1

Release features

- Added tcpdump functionality, with the ability to delete tcpdump, if so desired
- Added Assisted GPS Rinex server license, and improved A-GPS functionality
- Added IRIG control field format, Spectracom IEEE C37, to extend leap second notification to a month
- Added NTP throughput statistics logging

Enhancements and fixes

- Updated Linux kernel from 3.17.7 to 3.18.11 to improve system stability and functionality
- Improved how Radius detects and fills in NAS-IP address in its packets
- Improved local clock functionality: When a local clock has been modified by the user, features that the clock is applied to will be updated automatically.
- Added ability to pull serial number from SNMP
- Added ability to pull system memory, CPU, and CF card disk usage information from SNMP
- Updated SNMP trap username min/max length to 1 and 31 respectively
- Improved SNMP stability
- Extended the scope of journal logging of Web UI configuration settings
- Fixed issue with submitting NTP stratum 1 configuration
- Updated Show Clock page to improve clock and system status info displays
- Fixed issue when attempting to clear a scheduled leap second
- Software version and model and serial number will be logged in the system log on startup
- Improved internal network configuration for added stability
- Fixed issue where Radius/LDAP could be turned on after an update
- Fixed issue reporting negative phase error numbers via SNMP ssSysStaEstPhaseError OID
- Fixed issue where disabling an AM IRIG output would not disable the associated AM carrier
- Front panel ResetPW command now disables Radius/LDAP when resetting spadmin password
- Fixed issue with TimeKeeper PTP Client domain configuration
Security enhancements and fixes

- Updated NTP version from 4.2.6p5 to 4.2.8p2
- Updated OpenSSL from 1.0.1k to 1.0.1m
- Updated ciphers for SSL and SSH to address RC4/ARC4 issue

Option Card enhancements and fixes

- Added support for RS-423 1PPS output
- Fixed issue with saving configurations for STANAG option cards
Version 5.2.0

Release features

- **A phase error limit field** was added to the Edit window of the Disciplining page allowing for an automatic disciplining tracking restart, once the phase error limit is exceeded, thus avoiding manual intervention.
- Added **static IPv6 routing** capability by allowing manual configuration of IPv6 routes via the SecureSync CLI.
- **External PLL lock** support for special configurations of SecureSync. This feature allows an external oscillator to be locked to SecureSync’s 10 MHz output via an external PLL, with the lock state of the external PLL monitored by SecureSync.
- The System Status panel on the Web UI home page now includes a **temperature readout** for enhanced oscillator disciplining monitoring. The data can also be readout as a temperature-over-time graph in the Web UI, and is logged in the SecureSync log files.
- Added **two-step mode** to Gb PTP card (option card 1204-32), and the ability to **add an offset to 1PPS**.
- Integrated **TimeKeeper monitoring** functionality for **PTP v.2** and **NTP** (*license required, contact Spectracom for details.*)
- Added basic **PTP v.1 support** via **TimeKeeper** into SecureSync (*license required, contact Spectracom for details.*)
- Added **Anycast routing** functionality for **NTP**. For more information on this subject, see the Tech Brief publication “NTP over Anycast”, which is located [here](#).
- To facilitate diagnostics, **version numbers** of software components, option cards and GPS receiver are now displayed on the Upgrade/Backup page of the Web UI. Timing system and software version number have also been added to the system log.
- The **disk/memory status** is now displayed on the Upgrade/Backup page
- Added the ability to **re-calibrate oscillator control parameters** for non-standard rubidium oscillators.
- A note was added to the login page of the Web UI, to inform the user that **cookies** need to be enabled in browser.

Enhancements and fixes

- Implementation of a software fix to resolve an issue where **Linux processes** could become frozen and not processed.
- Added the **Linux kernel map** for improved diagnostic purposes.
- Improvements to **LDAP group authentication**, addressing reported login issue.
- Removed **password expired message** (LDAP/RADIUS only) that was displayed when logging in as a remote user.
- Improved **LDAP configuration status reporting** in the Web UI, as well as add/delete functionality.
- Improved the software **update patching process**, addressing patching configuration issue when upgrading from older revisions.
- Implemented a fix, now correctly displaying the **SecureSync SW version number** when obtaining it via SNMP.
- Fixed issue, now correctly **applying DST rules** to the local time display in the Web UI.
- Fixed **submission error** on the GNSS Edit page on systems equipped without a GNSS license.

**Security enhancements and fixes**

- Upgraded **Net-SNMP** software package from Version 5.6.1 to Version 5.6.2.1.
- Updated **OpenSSL** package from Version 1.0.1j to 1.0.1k, thus closing a reported security vulnerability.
- Updated **GLIBC** package from version 2.15 to 2.19 (addressing “**GHOST**” vulnerability, among other things)

**Option Card enhancements and fixes**

- Implemented a fix in FPGA to **improve 1PPS signal** to option cards, including IRIG, and addressing possible 5-ns **1PPS signal jump**. Previously occurring in SecureSync units equipped with a standard rubidium oscillator.
- Enhanced **STANAG option card** functionality, addressing a reported issue.
- Implemented a fix addressing an issue with how **local clock** settings had been applied to an **output**.
- Fixed **HaveQuick output** display in Web UI **Status Summary** panel, now correctly reporting the configured format and state.
Version 5.1.7

Release features

• No new features added

Enhancements and fixes

• Fixed validation rules for SNMP V1/V2 IP address settings to allow set from returned value of “default” for the IP address
• Disciplining updates with phase error limiting to reduce transient phase error effects.
• Resolved an Apache web browser configuration issue in the 5.1.6 release
  o Upgrading from software versions 5.1.4 or below to version 5.1.6 caused the web browser to become inaccessible. The fix to restore the web browser was to upload a clean config backup file.
• Includes firmware version 1.0.7 update for the Trimble RES-SMT-GG GNSS receiver (commercial GPS receiver installed in units that shipped after April 1, 2014. Not applicable to SAASM GPS receivers.)
  o Fixes erroneous GPS time offset corrections potentially being applied.
  o Fixes erroneous leap second notifications potentially being asserted.
Version 5.1.6

Release features

- No new features added

Security enhancements and fixes

- Bash update to version 4.2.53, in order to patch the “ShellShock” vulnerability.
- Updated OpenSSL to Version 1.0.1i
Version 5.1.5

Release features

- Software in the newer “RES SMT-GG” GNSS receiver can now be updated via SecureSync’s Web UI.
  - RES-SMT-GG GNSS receivers started shipping in SecureSyncs on April 1, 2014 (see also Release Notes for Version 5.1.7 above).

Enhancements and fixes

- Added prevention of erroneous timescale offset information
- (Applicable only to SecureSyncs with a Rubidium oscillator installed) Fixed an intermittent, potential issue affecting output references’ 1PPS.
  - This potential 1PPS issue only affects installed Option Cards (not the outputs on the chassis) and operation changes on a power cycle.
- Enhanced front panel LCD display indications of the shutdown sequence status
  - “Stopping System” is now displayed for several seconds before “Power off system” is displayed.
- Fixed a minor issue with LDAP and Radius authentication which required a user account be created, if the time server had been “cleaned”.
- NTP broadcast address is now user-configurable instead of being a static factory default value.
- Prevented a potential one second time error adjustment during operation, when synced to NTP for the Time reference and to an external 1PPS input for the PPS reference.
- When creating a Local Clock, manually configured DST rules can now be saved.
- Telnet and SSH login no longer prompts twice for a password.
- Management -> SNMP page of the browser now allows SNMPv1 and v2 configurations to be deleted.
- “SysObjID” in the Management -> SNMP page of the browser can now be edited.
- Optional Login banner will now be preserved during software updates.
- Improved operation of MySQL database (MySQL database is used with the new Web UI).
- Improved the "Scaled DAC Value" graph's scaling/display in the Management -> disciplining page of the browser.
- Configuration changes made to the User-defined Minor and Major alarms are now logged in the Journal log.
• Addressed an error with Oscillator log entries reporting all negative frequency error values as “0.00e-16”.
• Interface -> Main page of the Web UI (for configuring the GNSS receiver and A-GPS) and the Management -> Reference Priority table were not operating correctly with certain web browsers.

**Security enhancements and fixes**

• Updated OpenSSL to Version 1.0.1h
  - Addresses potential vulnerabilities such as the following: CVE-2014-0195, CVE-2014-0198, CVE-2014-0221, CVE-2014-0224 and CVE-2014-3470.
• Updated Apache to Version 2.2.27.
• Web browser Login password is now cleared after each login attempt.
• Validation of passwords in the Management -> HTTPS page of the browser now allows all ASCII characters, but doesn’t allow any spaces.

**Option Card enhancements and fixes**

*(Models 1204-32 Gb PTP Option Card, if installed):*

• Improved switching between Active Master and Passive Master modes (with more than one PTP Master on the same network).
  - Previously, this card was having difficulty listening to PTP Announce Messages being sent from other PTP Masters, so it was remaining an Active Master when it should be a Passive Master.
**Version 5.1.4**

**Release features**
- Added ability to configure the MTU (Maximum Transmission Unit) for each installed Ethernet Interface
  - The MTU value for each Ethernet interface can be displayed/configured via the Management -> Network page of the browser.

**Enhancements and fixes**
- Fixed settings validation issues related to SNMP configuration.
- Resolved an error message being displayed when trying to delete SNMPv1 or v2 access configurations.
- Addresses an issue with “Assisted GPS” (“A-GPS”) always running/asserting “Rinex server” log entries in the System log each hour (if the time server does not have access to the Internet).
- Fixes an issue with certain erratic System log entries being asserted.
- Changed the scale value of the “Y” Axis of the “NTP Status Summary” graphs to “(Seconds)”.
- Fixed an issue with the front panel display trying to display a Serial Number for the GPS receiver (Applicable only to units with no GPS receiver installed.)
- Main default gateway port number was not being displayed as the same value in both the web browser and the “gw4get” CLI command.

**Security enhancements and fixes**
- Updated OpenSSL to Version 1.0.1g to address CVE-2014-0160 (“Heartbleed”).
- Updated OpenSSH to Version 6.6p1.
  - Addresses potential vulnerabilities such as CVE-2014-2532 and CVE-2014-5107
- Updated PHP to Version 5.3.28.
  - Addresses potential vulnerabilities such as CVE-2013-6420, CVE-2013-4113 and CVE-2013-2110
- Prevents ability to login to the web browser again, if the “Log Out” button wasn’t pressed before closing the browser.
- Added ability to disable the “Classic Interface” web browser (Port 8080).
  - Can be disabled via the Management -> Network page of the Web UI
**Version 5.1.3**

**Release features**

*(Models 1204-13, 1204-30 and 1204-2F Programmable Frequency Option Cards)*

- Released support for new Programmable Frequency output Option Cards, Models 1204-13, 1204-30 and 1204-2F.

*(Models 1204-10, 1204-11, 1204-25 and 1204-1B HaveQuick/Stanag Output Option Cards, if installed):*

- Added support for additional formats
  - Added DOD-STD-1399 BCD Time Code to HAVE QUICK / STANAG option cards
  - Added ICD-GPS-060A BCD Time Code to HAVE QUICK only option cards
  - Added STANAG 4430 STM to HAVE QUICK only option cards

*(All Models):*

- Added “A-GPS” (Assisted-GPS) capability for enhanced “Skylight” indoor antenna operation/weak GPS reception

**Enhancements and fixes**

- Fixed SNMP enterprises.18837.3.3.2.1 MIB (ntpSysStaCurrentMode) from causing SNMP to potentially halt/crash.
- Added ability for hostname to accept either dashes or capital letters.
- Corrected an issue that was preventing users from logging into the new browser, with user rights, via LDAP or Radius. Users that can authenticate will now be logged in with admin rights.
- Fixed an issue that prevented the **Tools -> Upgrade/Backup** page from reporting the GPS receiver had been replaced by a GNSS (GPS + Glonass) receiver.
- Added an indication of “completion” when a software upgrade or license file has finished being installed.
- Fixed an issue preventing files from being able to be scp transferred into the SecureSync.
- Removed a “-4” from the ntp.conf file for NTP restrictions that was being added during software updates from previous versions of software.
  - The “-4” being in the file was preventing NTP Symmetric key from working, after updating to software version 5.1.2.
Option Card enhancement and fixes

(Models 1204-32 Gb PTP Option Card, if installed):

- Option Card now sends IGMP group join requests to switches that have IGMP enabled.
  - Previous software versions weren’t able to join the IGMP group, preventing the PTP Master from being able to send multicast packets when IGMP is enabled in network switches.
- Addressed an issue with the “Sourceport ID” not being set to the proper value
  - This issue was causing the “Sourceport ID” field in Delay Response messages to be set to the wrong value of “256”.

(Models 1204-06 Gb Ethernet Option Card, if installed):

- Implemented a fix to a potential, but seldom observed, condition which could cause received packets to be dropped.
- Added ability to re-disable Ethernet interfaces Eth1, Eth2 and/or Eth3, if they have since been enabled.
- Added network configuration qualification checking based on Ethernet port status/state.
  - Gb Ethernet ports settings can only be changed if the port has been enabled.
- Fixed a broken link in the new web browser that resulted in an error message when clicked.

(Models 1204-02 and 1204-04 ASCII Output Option Cards, if installed):

- Local Clock not being properly assigned to RS-485/RS-232 outputs
  - Corrected an issue with the new web browser that caused the ASCII data to output UTC time, plus 8 seconds, when a local clock was applied.

(Models 1204-10, 1204-11, 1204-24, 1204-25, 1204-29, 1204-1B and 1204-1D Havequick/Stanag Output Option Cards, if installed):

- Made timing of outputs more robust.

Security enhancements and fixes

- Added ability for SNMP passwords to be able to include “{ }” characters.
Version 5.1.2

Release features

- Implemented a new design of the web browser interface.
  - To help with the transition between the earlier and new web browser designs, the previous web browser design is still currently available, via the “Classic Interface” button in the top-right corner of the new web browser. (Note that a future software update will remove the ability to switch between the two web browser designs).
  - Please note the new web browser design removes the IPSec functionality (this function is still available via the “Classic Interface” web browser).
- New web browser design implements the ability to view NTP clients that are requesting time from the time server.
  - The “Management” -> “NTP Setup” page of the new web browser has a “View NTP Clients” button, which opens a table of the last 600 NTP clients that the time server received NTP requests from, including the average duration (in seconds) between the NTP requests from that client and how long ago (in seconds) the time server last received a NTP request from each client.
- Auth (Authentication) log entries can now be sent to Syslog server(s), as desired.
- Added Ethernet interface enabling/disabling (applicable to the Model 1204-06: Gigabit Ethernet Option Card, if installed- All three Ethernet connectors on this module are disabled by factory default).
- Added support for IPv6 DHCP functionality and SLAAC addresses.
- Added graphs to the GPS Status page of the new web browser to show number of satellites tracked over time and the signal strength of each receiver channel.
- Released support for new option card, model 1204-32: 1GB PTP Master Option Card

Enhancement and fixes

- Corrected an issue that was preventing NTP from correcting the time with more than a one second time error.
- Corrected the operation of NTP to allow NTP to be able to initially sync (or subsequently resync) if the System Time is manually set, or if an input reference changes by greater than 1000 seconds.
- Moved NTP to a slightly higher system priority
  - Addresses a condition which was causing NTP to periodically take 1 to 2 milliseconds to respond to NTP time requests, instead of it responding right away.
- Addressed an issue with the NTP log rotation.
- Users who can successfully login using LDAP or Radius will now have administrative privileges (fields will no longer be grayed-out after logging into the web browser).
- Fcron scheduler is now restarted if the System Time/date is manually set to values in the past.
- SNMP traps associated with the available User-defined Major/Minor alarms for GPS thresholds were switched.
- Fixed an issue that could potentially cause the Compact Flash card with Archive versions 5.0.0 through 5.0.2 installed to become full of data.
  - After a very long period of time, time servers with Archive software versions 5.0.0 to 5.0.2 installed could potentially become full of file snippets. This was related to the email functionality.
- SNMP MIB 1.3.6.1.4.1.18837.3.3.2.1.0, ("NTP_CURRENT_MODE") now reports 0 or 3 to avoid sluggish SNMP performance
  - Response times for SNMP Gets of this particular MIB were about 6 seconds or so, far longer than all other MIBs (due to how this status information is obtained from NTP). This potentially required SNMP script time-outs to need to be lengthened to account for the delayed responses from this MIB.

**Option Card enhancements and fixes**

*(Models 1204-14, Simulcast CTSSS Option Card if installed):*

- Alarm outputs will transition away from NC/NO/Alarm state when set to "None".
- Addressed an anomaly that was occurring with the 9600 baud output
  - Once-per-second, a stray signal was being added to the 9600 baud output (if this signal was configured to be outputted).
Version 5.0.2

Release features

- Added an RFC 2783 interface for our timing system to source a 1PPS signal to NTP, to discipline the Operating System

Enhancements and fixes

- Strengthened the upgrade process to prevent loss of configuration information in systems with large accumulated NTP statistics and log files.
  - NTP statistics are not preserved and large log files are truncated
- Revised thread priorities.
Version 5.0.1

Option Card release features

- Added logging of Input Reference changes to the Event log
  - When an Input Reference change occurs, a log entry is asserted to indicate what the newly selected “Time” and/or “1PPS” input reference has been selected.

Enhancements and fixes

- Resolved an issue with setting/displaying the main network gateway on the front panel
  - This issue introduced in the version 5.0.0 software upgrade caused characters for the gateway address to run off the edge of the LCD display and also caused difficulty setting this value using the keypad.
- Fixed an issue (introduced in the version 5.0.0 software upgrade) that was causing about a 30 second delay while connecting to SSH, Telnet or FTP.
- Added the ability to view the Authentication (Auth) log via the web browser (Tools -> Logs page).
- “Reference Change” log entries are now being sent to the Event log.
- Changes associated with a user either creating or updating a Local Clock are now logged in the Journal log.
- Resolved an issue with certain Journal log entries being sent to the wrong log.
  - Log entries for a user enabling/disabling Services (such as HTTP, Telnet and FTP) and the IPv4 Gateway were being sent to the Timing log instead of the Journal log.
- Differentiated the reporting of Rubidium oscillator error messages.
- Improved switching between GPS Modes (Standard, Mobile and Single Satellite)
  - Previous software versions periodically required a Mode selection change be submitted more than once for the change to occur.
- Fixed an issue with the propagation of the Local System Clock, if a previously created Local Clock was modified.
  - If a previously created Local Clock was edited, the output ports using that Local Clock would no longer be configured to use a Local Clock.

Security enhancements and fixes

- Removed the “arcfour” (ARC4, RC4) cipher from SSH.
- Reduced the SSH tryouts to 3.
**Option Card enhancements and fixes**

(Models 1204-02 and 1204-04 ASCII Output Option Cards, if installed):

- Resolved an output issue with a flag in some ASCII time code message formats.

(Models 1204-10, 1204-11, 1204-25 and 1204-1B HaveQuick Output Option Cards, if installed):

- Resolved HaveQuick functionality regression introduced with the version 5.0.0 software update.

(Models 1204-06 Gigabit Option Cards, if installed):

- Added monitoring of the Gigabit Option Card’s network interfaces.
Version 5.0.0

Release features

- No new features added

Enhancements and fixes

- Upgraded the Operating System to a newer version in order to address a memory consumption condition
  - Earlier versions of software could potentially consume too much memory, rendering the web browser inaccessible, until a reboot/power cycle was performed.
- Upgraded NTP to a newer version
  - NTP was upgraded to version 4.2.6p5.
  - Resolves potential “buffer overflow” messages from being asserted in the NTP log.
  - Mitigates potential vulnerabilities associated with NTPQ/NTPDC.
- Removed the GPS Dynamics code for the GPS receiver mode selection
  - The GPS Dynamics code (Stationary, Land, Sea, Air) for mobile operation is no longer necessary.
  - Removed this configuration from the Setup -> Inputs -> Onboard GPS receiver page of the browser.
  - The Dynamics code is no longer displayed on the front panel when GPS information is selected to be displayed or with the CLI interface commands associated with GPS Mode.
- IPv4 main default gateway is now tied to the default gateway of a specified interface rather than as an independent setting.
- Removed the NTP Local Clock Reference selection from the Network -> NTP Setup page of the browser, NTP servers tab
  - In earlier versions, if a Stratum 1 reference had excessive 1PPS jitter (such as an unsynchronized IRIG generator), NTP could potentially resonate back and forth between selecting the Stratum 1 server and its own internal reference. A better method of going to Stratum 16 when no NTP servers are present, without needing to use the NTP Local Clock driver, was implemented.

Security enhancements and fixes

- Upgraded SSL to version 1.0.1e to mitigate potential vulnerabilities
(CVE-2013-0169) “Lucky Thirteen” issue mitigated. TLS protocols 1.1 and 1.2 as well as DTLS protocols 1.0 and 1.2 can allow remote attackers to conduct distinguishing attacks and plain-text recovery attacks.

- Disabled SSL compression to mitigate potential vulnerabilities
  - (CVE-2012-4929 and CVE-2012-4930) SSL/TLS CRIME attack against HTTPS mitigated.

- A few configuration fields in the “Network” Setup pages of the web browser were changed from text fields to “password” fields to prevent credentials from being in “plain sight” to users. These fields include the following in the “NETWORK” pages -> tabs:
  - HTTPS/SSH SETUP, -> HTTPS tab: “Private Key Passphrase” and “Challenge Password”
  - NTP SETUP -> Autokey tab: “Passphrase”
  - LDAP SETUP, LDAP -> Servers Configuration tab: “Credential to Bind Server with”
  - RADIUS SETUP -> Server Configurations tab: “Secret Keys”
  - IPSEC SETUP -> SA Manual Configuration tab – all “Key” fields
  - SNMP SETUP -> Notifications and Users tabs: “Auth Passphrases” and “Priv Passphrases”
Version 4.x

Release notes for SecureSync software versions 4.x are available upon request. Please contact Spectracom Technical Support, or your local Spectracom representative.
**Which SW version is installed on my SecureSync?**

*To determine the software version currently installed on your unit:*

**A) Using the new Web UI (Software versions 5.1.0 and above)**

Log in to the unit’s Web UI. Click on “Tools”, then “Upgrade/Backup”. The “System Configuration” table on this page contains a “System” field. The number next to this is the current Archive software version:

![Software revision reported in the Tools -> Upgrade/Backup Page](image1)

Figure 1: Software revision reported in the Tools -> Upgrade/Backup Page

**B) Using the “Classic Interface” (Software versions 5.0.2 and below)**

Log in to the unit’s Web UI. Click on “Tools”, then “Versions”. The “System Version” table on this page contains a field named “Archive version”. The number next to this is the current Archive software version:

![Archive software revision reported in the Tools -> Versions Page](image2)

Figure 2: Archive software revision reported in the Tools -> Versions Page
How to download and install the new SW

Downloading SecureSync software update
The SecureSync software update can be downloaded from the Spectracom website. To obtain the SecureSync software update file, please visit:
https://spectracom.citrixdata.com/share#/view/s8ffe0765c8f40e0b

Installing SecureSync software update
Instructions on how to install the new software update can be found in a separate document, which is also made available under the link provided above.

SecureSync user manual updates
Manual updates reflecting the software changes have been uploaded to the Support page of Spectracom’s website. Please refer to: http://spectracom.com/support/securesync-and-netclock-9400-support to download the latest version of the SecureSync manual.

Hard copies of the new SecureSync user manual may also be purchased from the Spectracom Sales department at US +1.585.321.5800.
How to contact Spectracom Tech Support

Should you have any questions or comments regarding any of the above-mentioned features or fixes, please contact one of the global Spectracom Technical Support centers for more information:

**USA**  

**FRANCE**  
techsupport@spectracom.fr | 3 Avenue du Canada | 91974 Les Ulis, Cedex | +33 (0)1 64 53 39 80