spectracom

Also applies to NetClock.

SecureSync version 4.8.9 Update Instructions

Spectracom SecureSync software upgrade instructions for Archive Software Version updates to Version 4.8.9

This document provides instructions on how to upgrade the Spectracom SecureSync from previous Archive software versions, to the most current Archive software version of version 4.8.9.

Unless there is one or more than one PTP Option Cards (Model 1206-12) installed, in order to upgrade the SecureSync directly to version 4.8.9, the currently installed version of software needs to be version 4.4.0 (or higher). "Process A" of this document discusses how to upgrade versions 4.4.0 (or higher) to version 4.8.9.

For your information, if the current version of installed Archive software is not already known, it can be obtained from the "**Tools**" → "**Versions**" page of the SecureSync's web browser. Refer to: Viewing the current versions.

Ability to perform a software upgrade via CLI command (instead of using the web browser), such as for scripting software updates
Starting in Archive software version 4.8.8, the software update can be initiated using a CLI command (issued via telnet, SSH or the front panel Serial port), instead of using the web browser, if desired. This entails performing an FTP/SCP transfer of the software update file into the SecureSyn**c's** */home/spectracom* directory **and then issuing the** *sysupgrade* CLI command to initiate the software upgrade.

The syntax for issuing the *sysupgrade* command is:

- **Standard upgrade** (Such as upgrading versions 4.8.8 to 4.8.9 for example): "sysupgrade" followed by the upgrade file name (Example: *sysupgrade update489.tar.gz*).

- **Forced upgrade** (Such as downgrading versions 4.8.9 to 4.8.8 for example, but can also be used with Standard upgrades, also): "sysupgrade force" followed by the upgrade file name (Example: *sysupgrade force update489.tar.gz*).

- **Clean upgrade** (Such as first performing a Forced upgrade from 4.8.8 to 4.8.9, for example. Then automatically resetting the NTP server back to factory default settings and deleting all log files): "sysupgrade clean" followed by the upgrade file name (Example: *sysupgrade clean update489.tar.gz*).

Simplified update instructions:
- If the current Archive software is versions 4.8.5 or below, please continue to the "**Notes**" below for additional, specific information pertaining to the software version 4.8.9 update process.

- If the current Archive software version is version 4.8.6 or higher, please skip directly to Process A to update the SecureSync to version 4.8.9.

If the currently installed software version is any version prior to version 4.4.0, the SecureSync must first be upgraded to version 4.4.0, before it can be upgraded directly to version 4.8.9. Also discussed in this document

is how to update a SecureSync with version 4.2.1 to version 4.4.0 (Described in "Process B") as well as instructions on how to first update earlier installed versions to version 4.2.1 (Described in Process C) in order to update version 4.2.1 to version 4.4.0 (Described in Process B), so that the software can be updated to version 4.8.9 (Described in Process A).

Notes about updating SecureSync to version 4.8.9 software
(Applicable to Archive versions 4.3.1 through 4.8.9)

A) Login banner may be lost during the upgrade process

Archive software version 4.3.1 implemented a login banner message that can be optionally displayed when users are logging in. If it's desired for a message to be displayed, the desired login message is entered in the **Network** -> **General Setup** page of the browser, **Banner** tab.

During the software upgrade process, this banner may potentially be lost. To alleviate the need to re-type the banner into the field if one has been entered and after the update has been performed, simply copy/paste this text field to a temporary document. If this field is blank after performing the software upgrade, simply paste the banner text back into this field and then press Submit.

(Applicable to Archive versions 4.8.5 and below)

B) Specific to the available PTP Option Card (Model 1204-12) if installed:

PTP Option Cards (Model 1204-12) have one Ethernet jack and should be identified with a small "12" label screened onto a corner of the metal plate of the Option Card itself).

1) When there are software updates that need to be automatically applied to the PTP Option Cards during the upgrade process, the upgrade process will take an additional 5 to 7 minutes longer, for each PTP Option Card that is installed in the SecureSync.

2) When using a PTP Option Card in the PTP Slave Mode, the synchronization of the PTP Option Card will not be reliable while performing the upgrade process. We recommend first disabling the PTP input reference in "Reference Priority Setup" table (located on the Setup -> Reference Priority page of the web browser). In the Index (row) that lists PTP in the Time and/or PPS columns just change the "State" field of that same Index to "Disabled" and then hit Submit. You can switch it back to "Enabled" once the software upgrade has been completed.

Please disregard altogether both "**1**." and "**2**." (below), if either of the following conditions apply:

1) No Model 1204-12 PTP Option Cards are installed in the rear panel Option Bays.

2) If the current Archive software version is version 4.8.6 (or higher).

1. Ability to update more than one installed PTP Option Card:

Note: If there is only one Model 1204-12 PTP Option Card is installed, skip to Number 2 below.

Important Note: Software updates of versions 4.8.5 and below can only be applied to one installed PTP Option Card. This issue has been addressed with the version 4.8.6 software update process. However, in order for more than one PTP Option Card to be updated during the version 4.8.6 update process, the NTP server needs to first be updated to a special release of version 4.8.5 software (version 4.8.P).

If there is more than one PTP Option Card installed (and the current software version is not version 4.8.P), please contact Spectracom for more information or to obtain the version 4.8.P software update file and associated update instructions.

2. **Need to temporarily configure installed PTP Option Cards as PTP Slaves (All software versions prior to version 4.8.0):**

   Note: With changes incorporated in the version 4.8.0 software update, any updates applied to a current software version of 4.8.0 or higher will no longer require the installed PTP Option Card(s) to be reconfigured as PTP Slaves. Versions 4.8.0 and above software installed allow updates to the PTP Option Cards, even if they are configured as a PTP Master. This section can be disregarded if updating from version 4.8.0 (or higher).

   SecureSyncs with software versions 4.7.0 (or below) and have at least one PTP Option Card installed (Model 1204-12) it's important to make sure that all of the installed PTP modules are configured to be in the PTP Slave mode (not as a PTP Master) during the upgrade process. If the PTP module has been re-configured as a PTP Master (factory default configuration is "Slave" mode) when the upgrade process begins, the PTP module will not be updated with any applicable software update that may pertain to the PTP module.

   If the PTP module is currently configured as a PTP Master, temporarily reconfigure it as a PTP Slave before starting the upgrade. You can switch it back to the PTP Master mode, as applicable, once the software upgrade has been completed. Change the "Mode" setting to "Slave" via the web browser.

C) **Notes about updating SecureSync from versions 4.6.0 (and prior) to version 4.8.9 software (this section can be disregarded if updating from Archive versions 4.7.0 or higher):**

   ➢ Due to a significant configuration file changes incorporated in software version 4.6.0 (changes involving the network configurations for all available Ethernet ports, including such changes as new gateway addresses for each port of the multi-port Ethernet Option Card, Model 1204-06), all IP addresses (on the base Ethernet port and the ones on the Gigabit Option Card) that are currently configured as static addresses will be reconfigured as DHCP once a version 4.6.0 and above update process has been completed. When using static IP addresses, the network ports will need to be reconfigured as the desired static values, once the update has been completed.

   For this reason, if you are using a static IP address to update SecureSync remotely, you will lose connection to the appliance once the update has completed and until the unit has been locally re-configured to the desired static values.

   Note: If the Gigabit multi-port Option Card (Model 1204-06) is installed and the network ports are configured with unknown static address, we recommend you capture the current network settings before performing the software update so they can be reconfigured with the same values afterwards.

   ➢ Due to a fairly significant configuration file change incorporated in software version 4.2.1 (a change involving the addition of a network access table to support the available multi-port Ethernet Option Cards), earlier versions of software (to include versions 4.0.0, 4.1.0 and 4.2.0) need to first be updated to version 4.2.1 prior to being updated to version 4.4.0 (The update process is very similar for both updates, just using two different update files. The update process needs to be performed twice in order

to update first to version 4.2.1, followed by an update from version 4.2.1 to version 4.4.0). Then, it can be upgraded to version 4.8.9.

➢ **Faster NTP Sync**: A new feature incorporated in the versions 4.6.0 and above software updates is faster NTP synchronization (once the System Time has been synced, as indicated by the Sync LED being lit). In order to incorporate this new feature, once an update from a starting version of version 4.5.0 and below has been applied, the SecureSync will need to be reset to the factory default configuration. Then, it can be reconfigured as desired. The end of the version 4.8.9 update process (Process A) discusses how to reset the configurations back to the factory default settings, if necessary.

> **Note**: When updating a version 4.6.0 SecureSync to versions 4.7.0 or above, this process doesn't need to be performed again, if it was already performed after the version 4.6.0 update was performed).

➢ **Faster GPS Sync**: A new feature added in the earlier version 4.7.0 release is faster GPS sync after any reboots/power cycles occur. When updating to versions 4.7.0 and above and when using GPS as input reference for SecureSync, the time to reach GPS sync (and therefore the time for NTP sync to Stratum 1) is now significantly reduced.

The first time to achieve GPS sync, after initial installation (or after software update from earlier versions 4.6.0 and below is performed) will still be about 40 minutes when the GPS receiver is configured for Stationary mode. But, upon any subsequent power cycles/reboots that may occur with versions 4.7.0 or above installed, GPS sync should now typically occur within about 2 to 3 minutes after a reboot/power cycle occurs. With previous versions of software installed, the time for GPS sync to re-occur after reboot/power cycle could take up to about 13 minutes or so.

D) Note about downgrading to previous Archive software versions 4.8.5 and below:
In general, due to configuration changes incorporated between versions, we do not recommend downgrading from one version to an earlier version, unless recommended by Spectracom Tech Support/Customer Service.

However, if you must downgrade to an earlier version, please be aware: Due to new "in the background" web browser configuration files incorporated in the version 4.8.6 update, if it's ever desired to downgrade the software back to previous versions 4.8.5 or below, once the software has been downgraded to the previous version (by performing a "Force upgrade" process using the desired previous version update file) a "Clean Configuration" needs to be performed.

"Clean Configuration" resets all of the unit's configurations back to the factory default settings. This will remove new configurations that were added in the version 4.8.6 update (Since the web browser will be inaccessible until the "Clean" has been performed, the "Clean" command can be performed using the CLI interface - telnet, ssh or the front panel Serial port).

E) "Skylight SecureSync" (A SecureSync interfaced with a unique indoor GPS antenna)
"Skylight SecureSync" is not to be updated using release bundles that are intended for the SecureSync.

To help differentiate the "Skylight SecureSync" from the standard SecureSync, below is a picture of the unique indoor GPS antenna that is used in conjunction with the "Skylight SecureSync".

The standard SecureSync (which this software upgrade is intended for) will typically use a Spectracom GPS antenna that is mounted outdoors and looks similar to either of the pictures below:

In summary:

➢ To update SecureSync from the current version of 4.4.0 (or higher) to version 4.8.9, just follow **Process A** below (Disregard both Processes B and C).

If the starting software version is versions 4.5.0 or below: Once the version 4.8.9 update has been applied, reset the configurations to the factory default settings for faster NTP synchronization to occur.

➢ To first update SecureSync from the current version of 4.2.1 to version 4.4.0, just follow **Process B**. Then, to update 4.4.0 to 4.8.9, follow **Process A** (Disregard Process C).

➢ To first update SecureSync from current versions of 4.0.0, 4.1.0 or 4.2.0 to version 4.2.1, first follow **Process C**. Then perform **Process B** to update from version 4.2.1 to 4.4.0. Then, follow **Process A** to update from version 4.4.0 to version 4.8.9.

Process A: Procedure to upgrade the SecureSync appliance from the current version of 4.4.0 (or higher) to version 4.8.9

Unless one or more PTP Option Cards (Model 1204-12) are installed, the SecureSync software upgrade process takes about 10 minutes or so to complete (add about 5-7 additional minutes for each PTP Option Card installed). The upgrade process is performed using a Windows PC that is either on the same network as the SecureSync appliance, or is connected directly to the SecureSync using a network cross-over cable (In order to perform the software upgrade process, the SecureSync's web browser must be accessible from this particular PC).

Note: With versions 4.7.0 or below currently installed (Not applicable to versions 4.8.0 or higher already installed), if one or more PTP Option Cards (Model 1204-12) is installed in the SecureSync, make sure each PTP Option Card is configured as a PTP Slave *(not as a PTP Master)* before proceeding.

Note: If the current software version is version 4.8.5 or below (Not applicable to versions 4.8.P or higher) and there is also more than one PTP Option Card (Model 1204-12) installed, the software should first be updated to special release version 4.8.P before proceeding with the version 4.8.9 update. The version 4.8.P update adds capabilities that are necessary for multiple PTP Option Cards to be updated during the version 4.8.6 (or higher) update process. Please contact Spectracom Tech Support for additional information or to obtain the version 4.8P update file and associated update instructions.

The upgrade process consists of first downloading the update file from the Spectracom website and then using the SecureSync's web browser to automatically transfer this file from the PC into SecureSync (or you can also use FTP/SFTP to manually transfer the file to the "home/spectracom" directory, if desired). During the time that the file is being uploaded into SecureSync, SecureSync will remain fully functional and reachable by the network PCs.

Once the update file has been transferred into SecureSync, SecureSync is configured via the browser to perform the software update ("Upgrade System"). All current SecureSync configurations are automatically saved and restored as part of the update process. During the "Upgrade System" process, the front panel LCDs will go blank and the SecureSync will not be operational until the upgrade process has completed.

To begin, save the SecureSync update file ("update489.tar.gz"), which was downloaded from the Spectracom website, to an accessible directory in your local Windows machine (such as "C:/Temp", for example).

Next, open the SecureSync's web browser and Login. Then, navigate to the "**Tools**" ➔ "**Upgrade/Backup**" page of the browser (as shown in).
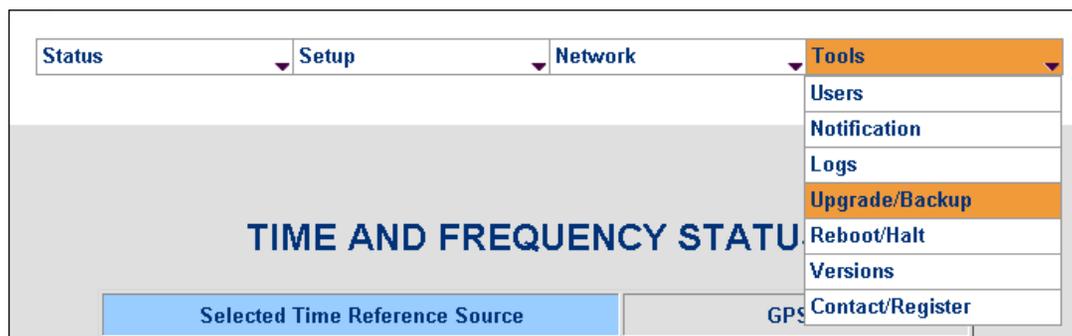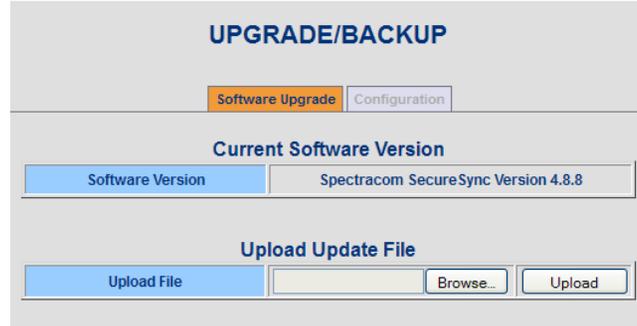

Figure 1: Upgrade ➔ Backup page

Ensure the "Software Upgrade" tab is orange (Orange indicates the tab is selected). Either click in the blank text box located next to "Upload File" or select "Browse" to be able to select the update file (Refer to Figure 2).

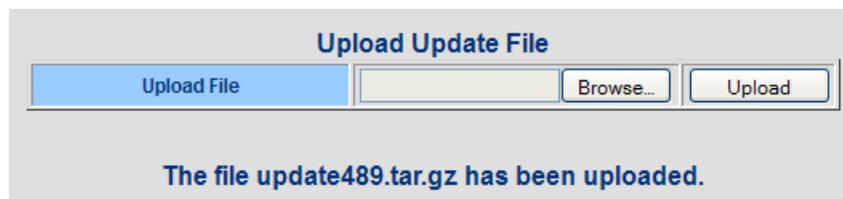**Figure 2: Software Upgrade tab on the Tools ➔ "Upgrade/Backup" page**

Use the explorer to navigate to the location of where the update file ("update489.tar.gz") was stored on the PC (such as C:/Temp) and then select it. Once the path appears in the text field (as shown in Figure 3), click the "Upload" button.
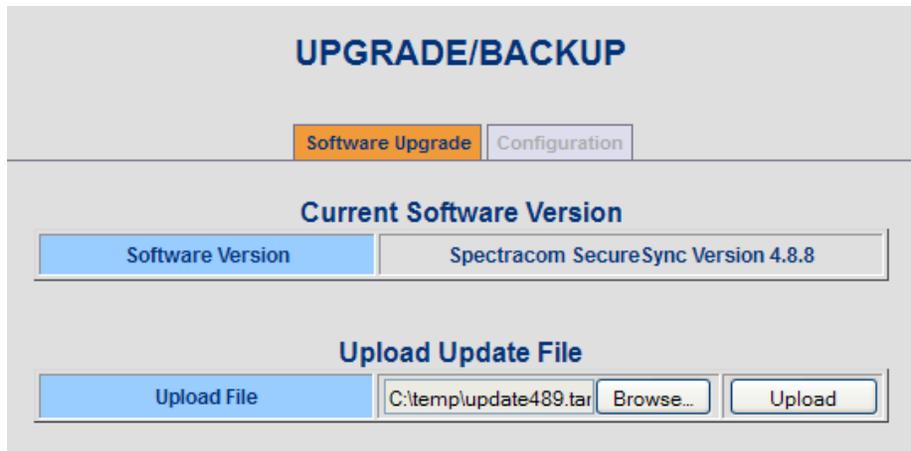
Figure 3: Upload Archive File

The file upload process may take several minutes. Once the file has been uploaded into the SecureSync, the message "The file update has been uploaded." will be displayed underneath the "Upload Archive File" field (as shown in Figure 4**Error! Reference source not found.**).

Figure 4: "Upload Successful" message

Now refer to the bottom of this page, under the title "**Upgrade the System**".

Figure 5: "Upgrade the System" section

1) Ensure the correct file name ("**update489.tar.gz**") is selected in the box next to "Update File".

2) Check the box next to "Update System" to install the software update.

"Force Update" when checked, will force the software to install all packages, even if it's already at the current revision, or (for example, it's desired to install version 4.8.9, even though version 4.8.9 is already installed). The software will just reinstall over the previously installed packages.

"Delete the Update File" when checked, will remove the Archive file that was uploaded into the SecureSync. (**Note**: It will not remove the file from your PC, just from the SecureSync).

"Restore Factory Configuration" when checked, will return the SecureSync to its original factory configuration.

Note: If it's desired to remove the update file from the NTP server once it's been updated, note the "Delete the Update File" checkbox shouldn't be selected at the same time as the "Update System" checkbox. This process should be performed anytime after the System Update process has been completed.

3) To perform the software update from an earlier version, only the box next to "Update System" should be checked. Then, hit the Submit button.

During the System Upgrade you will see an analysis screen (as shown in).

Note: If the SecureSync has had any previous software updates applied and if any of the earlier upgrade files have not since been deleted from the SecureSync, a web browser screen may momentarily indicate the Upgrade process is "Complete". This does not affect the software update process and the analysis screen will be displayed shortly thereafter.

UPGRADE STATUS

Analyzing...

Package	Old Version	New Version	Action	Status
Application	4.8.8	-	-	Analyzing
Timing FW	2.88	-	-	Analyzing
Timing FPGA	2.88	-	-	Analyzing
OC 1 ID 1F HW 01	0101	-	-	Analyzing
OC 2 ID 06 HW 02	0000	-	-	Analyzing
OC 3 ID FF HW FF	0000	-	-	Analyzing
OC 4 ID FF HW FF	0000	-	-	Analyzing
OC 5 ID FF HW FF	0000	-	-	Analyzing
OC 6 ID FF HW FF	0000	-	-	Analyzing

Figure 6: "Example Upgrade Status" when it first appears

Note: "OC" being displayed in the bottom rows refers to SecureSync's "Option Cards" which may or may not be installed in the SecureSync. The rows with "OC" displayed in these screenshots will likely differ from your SecureSync update screens.

UPGRADE STATUS

Analyzing...

Package	Old Version	New Version	Action	Status
Application	4.8.8	4.8.9	Upgrade Needed	In Progress
Timing FW	2.88	2.89	Upgrade Needed	In Progress
Timing FPGA	2.88	2.89	Upgrade Needed	In Progress
OC 1 ID 1F	0101	1.01	No Upgrade Needed	Completed
OC 2 ID 06 HW 02	0000	-	-	Analyzing
OC 3 ID FF HW FF	0000	-	-	Analyzing
OC 4 ID FF HW FF	0000	-	-	Analyzing
OC 5 ID FF HW FF	0000	-	-	Analyzing
OC 6 ID FF HW FF	0000	-	-	Analyzing

Figure 7: Example "Upgrade Status" after the update process has begun

Note: Do not close the web browser or attempt to reboot the SecureSync unit. The installation is in progress and may take several minutes to complete.

The SecureSync will reboot itself during the update process, as shown in the following screenshot:

UPGRADE STATUS

Rebooting...

Package	Old Version	New Version	Action	Status
Application	4.8.8	4.8.9	Upgrade Needed	Processing
Timing FW	2.88	2.89	Upgrade Needed	Processed
Timing FPGA	2.88	2.89	Upgrade Needed	Processed
OC 1 ID 1F	0101	1.01	No Upgrade Needed	Completed
OC 2 ID 06	0000	-	No Upgrade Available	Completed
OC 3 ID FF	0000	-	No Upgrade Available	Completed
OC 4 ID FF	0000	-	No Upgrade Available	Completed
OC 5 ID FF	0000	-	No Upgrade Available	Completed
OC 6 ID FF	0000	-	No Upgrade Available	Completed

Figure 8: Example display of the "Upgrade Status" while SecureSync is rebooting

Please Note: If using a DHCP assigned IP address (instead of SecureSync having a statically assigned IP address), the SecureSync's IP address may change once the update has completed (it may be re-assigned a different IP address by the DHCP server). Automatic Reloading of the web page will not work if the address has been changed by the DHCP server. Therefore, a new web browser connection using the newly assigned IP address will need to be opened (Note that the following "Upgrade Status- Complete" screen won't be viewed when a DHCP address is assigned and if the DHCP server changes the IP address).

If the front panel LCD is configured to display network settings, the LCD window will show the newly assigned IP address.

When using a static-assigned IP address (or if the DHCP server did not assign a new IP address after the reboot), once the update is complete, the "Upgrade Status" screen will now change to "Complete".

UPGRADE STATUS

Complete

Package	Old Version	New Version	Action	Status
Application	4.8.8	4.8.9	Upgraded	Completed
Timing FW	2.88	2.89	Upgraded	Completed
Timing FPGA	2.88	2.89	Upgraded	Completed
OC 1 ID FF	0101	1.01	No Upgrade Available	Completed
OC 2 ID FF	0000	-	No Upgrade Available	Completed
OC 3 ID FF	0000	-	No Upgrade Available	Completed
OC 4 ID FF	0000	-	No Upgrade Available	Completed
OC 5 ID FF	0000	-	No Upgrade Available	Completed
OC 6 ID FF	0000	-	No Upgrade Available	Completed

Figure 9: Example display of the "Upgrade Status" when the upgrade process is Complete

Viewing the new software version information

Note that you will need to log into the browser using your login account information (if you are updating from a starting version of 4.2.0 or prior, the login screen will look different with version 4.8.9 now installed).

Navigate to the "**Tools**" ➜ "**Versions**" page of the browser. The following information should now be displayed with version 4.8.9 software installed:

MODEL AND SERIAL NUMBER

Model Number	1200-002
Serial Number	1397

SYSTEM VERSION

Archive Version	Spectracom SPPRODUCT Version 4.8.9
KTS Version	SW V2.8.9 FPGA 00 V0113
Slot 1 Version	OC 1F V0001 FPGA 1F V0101
Slot 2 Version	OC 06 V0002 FPGA 00 V0000
Slot 3 Version	Empty
Slot 4 Version	Empty
Slot 5 Version	Empty
Slot 6 Version	Empty

Archive version has been updated to Version 4.8.9

Note: Information displayed in the six "Slots" ("Slot 1" through "Slot 6") fields will likely differ from those in this screenshot, based on what Option Cards, if any, are currently installed.

FPGA AND FIRMWARE VERSION

Run-time Firmware Image	2.89
Run-time FPGA Image	2.89
Boot Loader	2.10
Compressed FPGA Image	2.10

Figure 10: Example "System Version" information upon completion of the update

Note: If one or more PTP Option Cards were temporarily reconfigured to the Slave mode to apply the software update, you can now reconfigure them back to the Master mode, as desired.

(Important final Step) Additional information about NTP synchronizing faster in versions 4.6.0 and above software versions (disregard this section if updating from Archive versions 4.7.0 or higher).

For your information, with software versions 4.6.0 and above software now installed, NTP synchronization to the SecureSync's System Time can now occur much faster (NTP will transition from Stratum 16 to Stratum 1 much faster after each reboot/power cycle than in earlier versions of the software).

Once the System Time has been synchronized to a present and valid input reference (such as GPS input or hand-set time, for examples) as indicated by the front panel Sync LED turning green, NTP will transition to

Stratum 1 much faster than in earlier versions of software. The time to reach NTP Stratum 1 (after the Sync LED turns green) is now reduced to about 3-5 minutes (versus about 17 minutes in earlier versions of software) as indicated in the "**Status**" "**NTP**" page of the browser, "**Status**" tab.

Once SecureSync has been updated to versions 4.6.0 and above, in order for the faster NTP synchronization to take effect, the SecureSync needs to be reset to its factory default settings (such as login passwords, network settings, local clock configurations, etc).

Note: The following procedure does not need to be performed again, if the SecureSync was previously updated to version 4.6.0 or higher (and this procedure was performed upon completion of the version 4.6.0 or higher update process.

To reset the SecureSync back to factory default configuration, perform the following:
  1) Navigate to the "**Tools**" ➜ "**Upgrade/Backup**" page of the web browser.
  2) Select the "Configuration" tab (the tab should turn to orange when selected).
  3) Change "Clean Configuration" to "Enabled".
  4) Press Submit. The unit will respond with "Validation Successful Rebooting, Please Wait…"

Figure 11: Reset configurations back to factory default settings

Upon completion of the automatic reboot that will occur, all configurations will be reset to the factory default settings. If SecureSync is configured as DHCP (network settings automatically configured by a network DHCP server), the DHCP server will likely return the SecureSync's network settings as they were before the update process was started. Otherwise, if using static addresses, the SecureSync's network settings will need to be reconfigured as desired.

Note: If a Gigabit Ethernet Option Card (Model 1204-06) is installed in SecureSync and if any of its Ethernet ports are disconnected/unused (and DHCP is enabled on that port), the time to reach NTP Stratum 1 synchronization can be significantly increased.

  Before NTP can begin to synchronize, the SecureSync's power-up initializations need to first be completed. If any of the network ports of the Gigabit Option Card is configured for DHCP and a DHCP

server cannot be located on that port (because the network port is either disconnected or no DHCP server can be found on that network), it will take some time for the network port to "time-out" looking for a DHCP server on that port, before the start-up initializations can continue. Configuring any disconnected Ethernet ports of the Gigabit Option Card for static network settings (by disabling DHCP configuration) will help expedite the system initialization sequence, to be able to achieve faster NTP synchronization.

Refer to the SecureSync instruction manual for more information on configuring the Gigabit Option Card's Ethernet ports for static addresses.

Process B: Procedure to upgrade the SecureSync appliance from the current version of. 4.2.1 to version 4.4.0

The SecureSync software upgrade process takes about 10 minutes or so to complete. The upgrade process is performed using a Windows PC that is either on the same network as the SecureSync appliance, or is connected directly to the SecureSync using a network cross-over cable (In order to perform the software upgrade process, the SecureSync's web browser must be accessible from that particular PC) .

The upgrade process consists of first downloading the update file from the Spectracom website and then using the SecureSync's web browser to automatically transfer this file from the PC into SecureSync (or you can also use FTP/SFTP to manually transfer the file to the "home/spectracom" directory, if desired). During the time that the file is being uploaded into SecureSync, SecureSync will remain fully functional and reachable by the network PCs.

Once the update file has been transferred into SecureSync, SecureSync is configured via the browser to perform the software update ("Upgrade System"). All current SecureSync configurations are automatically saved and restored as part of the update process. During the "Upgrade System" process, the front panel LCDs will go blank and the SecureSync will not be operational until the upgrade process has completed.

To begin, save the SecureSync update file ("update440.tar.gz"), which was downloaded from the Spectracom website, to an accessible directory in your local Windows machine (such as "C:\Temp", for example).

Next, open the SecureSync's web browser and Login. Then, navigate to the "**Tools**" ➔ "**Upgrade/Backup**" page of the browser (as shown in).
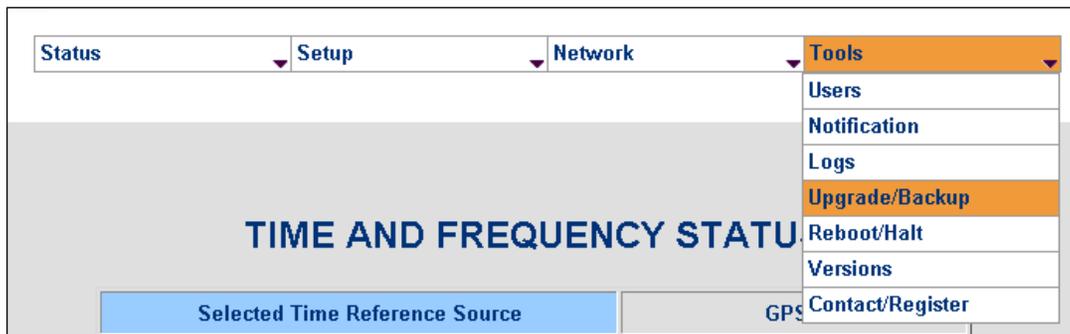

Figure 12: Tools ➔ Upgrade/Backup page

Ensure the "Software Upgrade" tab is orange (Orange indicates the tab is selected). Click in the blank text box located next to "Upload File" or select "Browse".
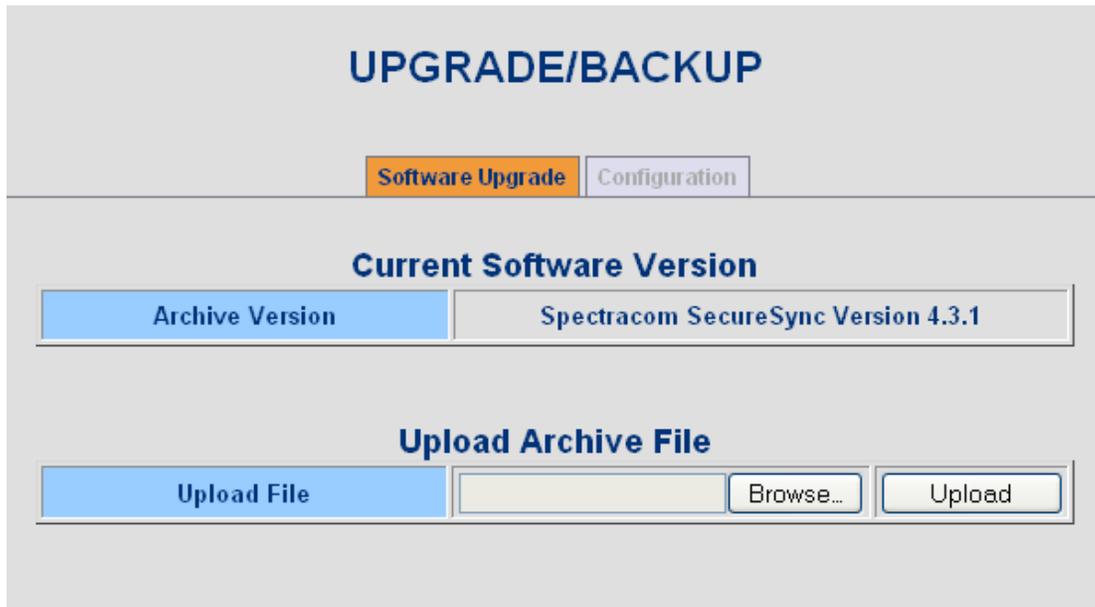
Figure 13: Software Upgrade tab on the Tools➤ "Upgrade/Backup" page

Use the explorer to navigate to the location of where the update file ("update440.tar.gz") was stored on the PC (such as C:/Temp) and then select it. Once the path appears in the text field (such as is shown in Figure 14), click the "Upload" button.
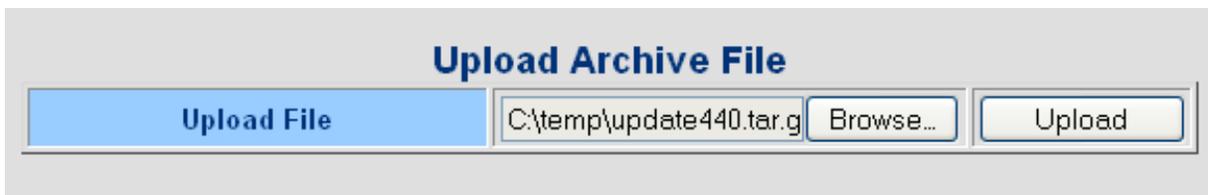

Figure 14: Upload Archive File

The file upload process may take several minutes. Once the file has been uploaded into the SecureSync unit, the message "Upload Successful, Please wait" (as shown in Figure 15) will appear.
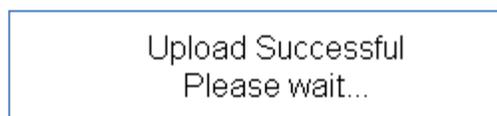

Figure 15: "Upload Successful" message

The Upgrade/Backup screen will reappear and will indicate the file was uploaded to the unit.

Now refer to the bottom of this page, under the title "Upgrade the System".

UPGRADE/BACKUP

Software Upgrade | Configuration

Current Software Version

Archive Version	Spectracom SecureSync Version 4.3.2

Upload Archive File

Upload File		Browse…	Upload

The file update440.tar.gz has been uploaded.

Upgrade the System

Archive File	update440.tar.gz ⌄
Upgrade System	☐
Force Upgrade	☐
Delete Archive File	☐

Submit	Reset

Figure 16: "Upgrade the System" section

Ensure the correct file name ("update440.tar.gz") is selected in the box next to "Archive File".

Check the box next to "Upgrade System" to install the software update.

The "Force Upgrade" when checked, will force the software to install all packages, even if they are already at the current revision (for example, it's desired to install version 4.5.0 even though version 4.5.0 is already installed). They will just reinstall over the previously installed packages (This function is not required when updating to version 4.2.1 from an earlier version).

"Delete the Archive File" when checked, will remove the Archive file that was uploaded into the SecureSync. (**Note**: It will not remove the file from your PC, just from the SecureSync appliance).

To perform the software update, only the box next to "Upgrade System" should be checked. Then, hit the Submit button.

During the System Upgrade you will see an analysis screen.

UPGRADE STATUS

Analyzing...

#	Package	Old Version	New Version	Action	Status
1	SecureSync	4.3.2	-	-	Analyzing
2	Timing FW	2.32	-	-	Analyzing
3	Timing FPGA	2.32	-	-	Analyzing
4	OC 1 ID 10	0100	-	-	Analyzing
5	OC 2 ID FF	0000	-	-	Analyzing
6	OC 3 ID 05	0100	-	-	Analyzing
7	OC 4 ID FF	0000	-	-	Analyzing
8	OC 5 ID FF	0000	-	-	Analyzing
9	OC 6 ID FF	0000	-	-	Analyzing

Figure 17: "Upgrade Status" when it first appears

Note: "OC" being displayed in the bottom rows refers to SecureSync "Option Cards" which may or may not be installed in the SecureSync appliance. The rows with "OC" displayed in these screenshots will likely differ from your SecureSync update screens.

UPGRADE STATUS

Analyzing...

#	Package	Old Version	New Version	Action	Status
1	SecureSync	4.3.2	4.4.0	Upgrade Needed	Pending
2	Timing FW	2.32	2.40	Upgrade Needed	Pending
3	Timing FPGA	2.32	2.40	Upgrade Needed	Pending
4	OC 1 ID 10	0100	1.00	No Upgrade Needed	Complete
5	OC 2 ID FF	0000	-	No Upgrade Available	Complete
6	OC 3 ID 05	0100	1.00	No Upgrade Needed	Complete
7	OC 4 ID FF	0000	-	No Upgrade Available	Complete
8	OC 5 ID FF	0000	-	No Upgrade Available	Complete
9	OC 6 ID FF	0000	-	No Upgrade Available	Complete

Figure 18: "Upgrade Status" after the update process has begun

Note: Do not close the web browser or attempt to reboot the SecureSync unit. The installation is in progress and may take several minutes to complete.

The SecureSync will reboot itself during the update process, as shown in the screenshot below:

UPGRADE STATUS

Rebooting...

#	Package	Old Version	New Version	Action	Status
1	SecureSync	4.3.2	4.4.0	Upgrade Needed	Pending
2	Timing FW	2.32	2.40	Upgrade Needed	Pending
3	Timing FPGA	2.32	2.40	Upgrade Needed	Pending
4	OC 1 ID 10	0100	1.00	No Upgrade Needed	Complete
5	OC 2 ID FF	0000	-	No Upgrade Available	Complete
6	OC 3 ID 05	0100	1.00	No Upgrade Needed	Complete
7	OC 4 ID FF	0000	-	No Upgrade Available	Complete
8	OC 5 ID FF	0000	-	No Upgrade Available	Complete
9	OC 6 ID FF	0000	-	No Upgrade Available	Complete

Figure 19: Display of the "Upgrade Status" while SecureSync is rebooting

If using a DHCP assigned IP address (instead of SecureSync having a statically assigned IP address), the SecureSync's IP address may change once the update has completed (it may be reassigned a different IP address by the DHCP server).

Note: if a new DHCP address was assigned during the update, you will need to view the SecureSync front panel LCD window to identify the new address that was assigned. Reloading the web page will not work, if the address has been changed by the DHCP server.

When the update is complete, the "Upgrade Status" screen will change to "Complete".

UPGRADE STATUS

Complete

#	Package	Old Version	New Version	Action	Status
1	SecureSync	4.3.2	4.4.0	Upgraded	Success
2	Timing FW	2.32	2.40	Upgraded	Success
3	Timing FPGA	2.32	2.40	Upgraded	Success
4	OC 1 ID 10	0100	1.00	No Upgrade Needed	Complete
5	OC 2 ID FF	0000	-	No Upgrade Available	Complete
6	OC 3 ID 05	0100	1.00	No Upgrade Needed	Complete
7	OC 4 ID FF	0000	-	No Upgrade Available	Complete
8	OC 5 ID FF	0000	-	No Upgrade Available	Complete
9	OC 6 ID FF	0000	-	No Upgrade Available	Complete

Figure 20: Display of the "Upgrade Status" at the completion of the upgrade process

To also verify the software was updated successfully, refer to Viewing the current versions of software installed. Note that you will need to log into the browser using your login account information (if you are

updating from a starting version of 4.2.0 or prior, the login screen will look different with version 4.5.0 installed). The following information should now be displayed with version 4.5.0 software installed:

SYSTEM VERSION

Archive Version	Spectracom SecureSync Version 4.4.0
KTS Version	SW V2.4.0 FPGA 00 V0105
Slot 1 Version	OC 10 V0001 FPGA 10 V0100
Slot 2 Version	OC FF V00FF FPGA 00 V0000
Slot 3 Version	OC 05 V0001 FPGA 05 V0100
Slot 4 Version	OC FF V00FF FPGA 00 V0000
Slot 5 Version	OC FF V00FF FPGA 00 V0000
Slot 6 Version	OC FF V00FF FPGA 00 V0000

FPGA AND FIRMWARE VERSION

Run-time Firmware Image	2.40
Run-time FPGA Image	2.40
Boot Loader	1.00
Compressed FPGA Image	1.00

Figure 21: "System Version" information upon completion of the update

Process C: Procedure to upgrade the SecureSync appliance from current versions 4.0.0, 4.1.0 or 4.2.0 to version 4.2.1

Note: This section should only be followed if the starting software version of the SecureSync is version 4.2.0 or prior. If the starting version is version 4.2.1 or higher, disregard this section.

The SecureSync software upgrade process to version 4.2.1 takes about 10 minutes or so to complete. The upgrade process should be performed using a Windows PC that is either on the same network as the SecureSync appliance, or is connected directly to the SecureSync using a network cross-over cable (In order to perform the software upgrade process, the SecureSync's web browser must be accessible from that particular PC) .

The upgrade process consists of first downloading the update file from the Spectracom website and then using the SecureSync's web browser to automatically transfer this file from the PC into SecureSync (or you can also use FTP/SFTP to manually transfer the file to the "home/spectracom" directory, if desired). During the time that the file is being uploaded into SecureSync, SecureSync will remain fully functional and reachable by the network PCs.

Once the update file has been transferred into SecureSync, SecureSync is configured via the browser to perform the software update ("Upgrade System"). All current SecureSync configurations are automatically saved and restored as part of the update process. During the "Upgrade System" process, the front panel LCDs will go blank and the SecureSync will not be operational until the upgrade process has completed.

To begin, save the SecureSync update file ("update4.2.1.tar.gz"), which was downloaded from the Spectracom website, to an accessible directory in your local machine (such as "C:\Temp", for example).

Next, open the SecureSync's web browser and Login. Then, navigate to the "Tools" ➧ "Upgrade/Backup" page of the browser (as shown in).

Note: If upgrading from version 4.0.0, this screen can be reached via the "Tools" ➧ "Setting Management" menu.
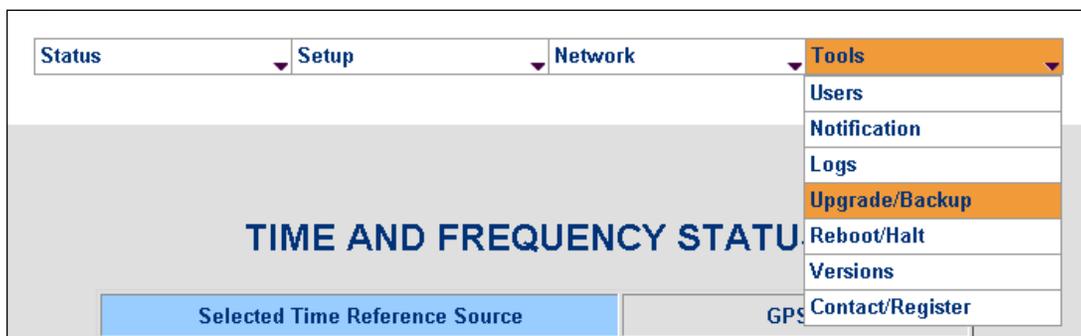

Figure 22: Tools ➧ Upgrade/Backup page

Ensure the "Software Upgrade" tab is orange (Orange indicates the tab is selected). Click in the blank text box located next to "Upload File" or select "Browse".
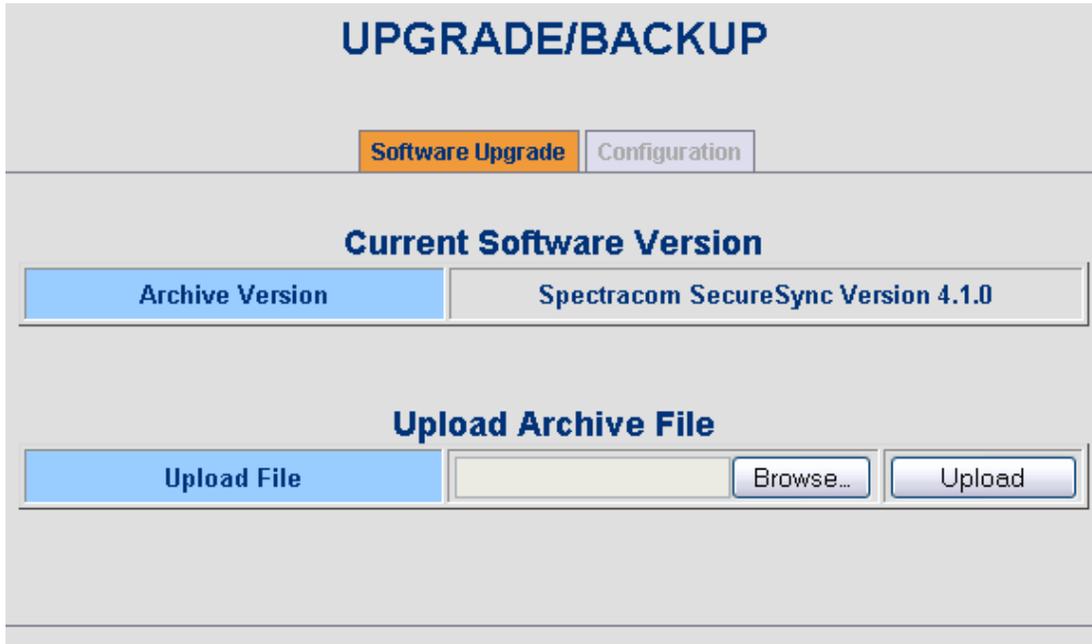
Figure 23: Software Upgrade tab on the Tools ➔ Upgrade/Backup page

Use the explorer to navigate to the location of where the update file ("update421.tar.gz") was stored on the PC (such as C:/Temp) and then select it. Once the path appears in the text field (such as is shown in Figure 14), click the "Upload" button.
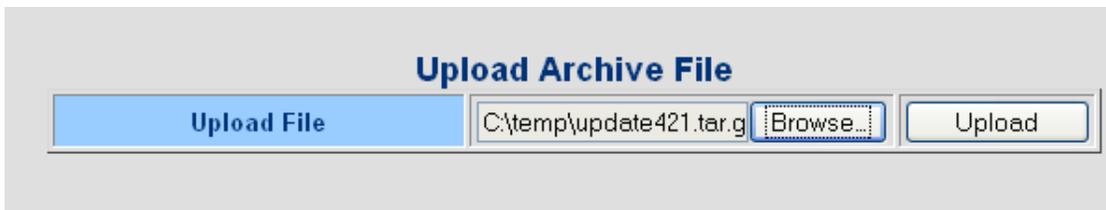

Figure 24: Upload Archive File

The file upload process may take several minutes. Once the file has been uploaded into the SecureSync unit, the message "Upload Successful, Please wait" (as shown in Figure 15) will appear.
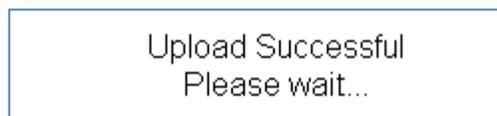

Figure 25: "Upload Successful" message

The Upgrade/Backup screen will reappear and indicate the file was uploaded to the unit.

You will notice that there is now an additional area added at the bottom of this page, with options under the heading of "Upgrade the System".

Figure 26: "Upgrade the System" section

Ensure the correct file name ("update421.tar.gz") is selected in the box next to "Archive File".

Check the box next to "Upgrade System" to install the software update.

The "Force Upgrade" box checked will force the software to install all packages, even if they are already at the current revision (for example, it's desired to install version 4.2.1 even though version 4.2.1 is already installed). They will just reinstall over the previously installed packages (This function is not required when updating to version 4.2.1 from an earlier version).

"Delete the Archive File" When checked will remove the Archive file that was uploaded into the SecureSync. (**Note**: It will not remove the file from your PC, just from the SecureSync appliance).

To perform the software update, only the box next to "Upgrade System" should be checked. Then, hit the Submit button.

During the System Upgrade you will see an analysis screen.

UPGRADE STATUS

Analyzing...

#	Package	Old Version	New Version	Action	Status
1	SecureSync	4.1.0	-	-	Analyzing
2	Timing FW	2.10	-	-	Analyzing
3	Timing FPGA	2.10	-	-	Analyzing
4	OC 1 ID 10	0100	-	-	Analyzing
5	OC 2 ID FF	0000	-	-	Analyzing
6	OC 3 ID 05	0100	-	-	Analyzing
7	OC 4 ID FF	0000	-	-	Analyzing
8	OC 5 ID FF	0000	-	-	Analyzing
9	OC 6 ID FF	0000	-	-	Analyzing

Figure 27: Display of the Update Status

Do not close the web browser or attempt to reboot the SecureSync unit. The installation is in progress and may take several minutes to complete.

The SecureSync will reboot itself during the update process.

If using a DHCP assigned IP address (instead of SecureSync having a statically assigned IP address), the SecureSync's IP address may change once the update has completed (it may be reassigned a different IP address by the DHCP server).

Note: if a new DHCP address was assigned during the update, you will need to view the SecureSync front panel LCD window to identify the new address that was assigned. Reloading the web page will not work, if the address has been changed by the DHCP server.

When the update is complete, the Upgrade Status screen will change to complete.

UPGRADE STATUS

Complete

#	Package	Old Version	New Version	Action	Status
1	SecureSync	4.1.0	4.2.1	Upgraded	Success
2	Timing FW	2.10	2.20	Upgraded	Success
3	Timing FPGA	2.10	2.20	Upgraded	Success
4	OC 1 ID 10	0100	1.00	No Upgrade Needed	Complete
5	OC 2 ID FF	0000	-	No Upgrade Available	Complete
6	OC 3 ID 05	0100	1.00	No Upgrade Needed	Complete
7	OC 4 ID FF	0000	-	No Upgrade Available	Complete
8	OC 5 ID FF	0000	-	No Upgrade Available	Complete
9	OC 6 ID FF	0000	-	No Upgrade Available	Complete

Figure 28: Display of the Update Status

Note: With "New Version" indicating version 4.2.1 is installed, now refer to Process B to perform the version 4.2.1 to version 4.5.0 update process. Once Process A has been completed, the SecureSync software will be updated to version 4.5.0.

Viewing the current versions of software installed

To view all the current versions of all the SecureSync software packages, navigate to the "Tools" ➜ "Versions" page of the browser. You may be prompted to login. Use the same username and password you used to perform the update.
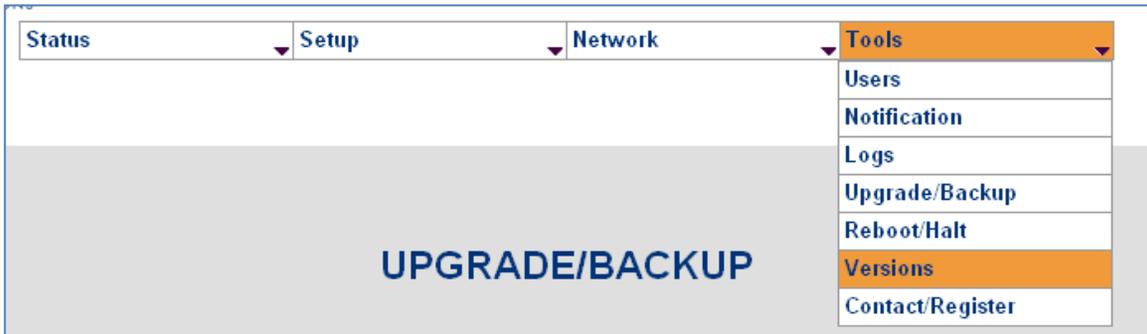
Figure 29: Tools/Versions page

Figure 30: Sample display of all version information on the Versions page

TECHNICAL SUPPORT

Please contact Spectracom Technical support for any additional assistance. Tech support is available via phone or email at the following locations:

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