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## Beta Software Release Notice

### V1.0.1.5 Software Ensemble for Sapphire Series Products (Production)

#### \*\*\* Warning \*\*\*

1. This software build will only function in products containing the Sapphire GNSS engine and Pre-production PIOB boards. Products equipped with the older NCT-2000D or NCT-2100D GPS engine will not operate on this firmware.
2. **Important** - Update the receiver with a consistent ensemble of software and to use only the latest versions of the StarUtil program included in this release.
3. **Always power cycle the receiver after installing the software.**
4. **Always install the new software and software options/licenses with the antenna connected and in an area where the receiver has the ability to track satellites.**
5. **Force the Install program to load all versions of software** including the GNSS engine and Power/Port driver board (Sapphire engines only require the GNSS software), even if the load boxes are not checked by default.
6. **The receiver controller software may need updating** to function properly with this new release and to enable some of the new features.

#### New Messages and Features

This software ensemble adds a number of features specifically targeted to several key channel partners and corrects a few bugs found in the initial release software. The Sapphire Technical Reference Manual (TRM) is updated and available from our customer service department as well as on NavCom's website. System integrators need to review the message changes to see if any modifications are needed to the controller software they supply as part of the end user solution.

## Ensemble Data Management

Create a new folder for this ensemble. This will ensure that: 1) all of the correct software is in one location, 2) there is no mixing of old and new software, and 3) it affords the ability to revert to the previous version.

## Software “ZIP” File Contents

The update “ZIP” file includes the following:

<b>Program</b>	<b>Version/Date</b>	<b>Comments</b>
Release Notes v1.0.1.5 Ensemble.PDF	Dated 26 Oct 2009	Description of improvements and bug fixes (This document)
Readme.TXT	Dated 6 Nov 2009	Update instructions and a list of files
SPv1,0,1,5.s19	Version 1.0.1.5	"Navigation" GNSS engine software - Sapphire models
SP_boot1_ver1,2,1.s19	Version 1.2.1	"Boot 1" GNSS engine bootloader 1 - Sapphire models
SP_boot2_ver1,0,4.s19	Version 1.0.4	"Boot 2" GNSS engine bootloader 2 - Sapphire models
SP_PWRIOboot1_v1,0,21.s19	Version 1.0.21	"PIO Boot" Comm bootloader 1 software – production hardware only (July 15,2009 or later)
SP_PWRIO_v1,0,23.s19	Version 1.0.23	"PIO App" Comm software –production hardware only (July 15,2009 or later)
navcomx1c45x3050.inf	Dated 02 May 2009	USB port driver
StarUtil-3000_v0,0,18.exe	Version 0.0.18	StarUtil program – Sapphire models
RinexUtil_v2,0,9.exe	Version 2.0.9	Binary to RINEX conversion program
96-310033-3001RevA_Quick Start Guide SF-3050.pdf	Dated 12 Aug 2009	Software loading instructions
SF-3050_PWRIO_ver1.0.5 EthernetConfiguration and known issue.doc	Dated 15 Jun 2009	Ethernet port configuration guidelines

## Documentation

The Technical Reference Manual, Product User Guides, and the StarUtil User Guide have been revised with major changes for this release. The latest versions of the Product User Guides, StarUtil User Guide, and Technical Reference Manual will be available on the [NavCom's web site](#) once the software is officially released.

<b>Manual</b>	<b>Part Number</b>	<b>Revision</b>	<b>Description</b>
SF-3050 Product User Guide.pdf	96-310034-3001	Rev B	Describes the GNSS receiver capabilities and specification
StarUtil User Guide.pdf	96-310029-3001	Rev A	Describes the Graphical User Interface
Technical Reference Manual.pdf	96-312007-3001	Rev B	Describes the command and response data structure
Quick Start Guide	96-310033-3001	Rev A	Describes first steps to operating a new receiver

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## Software Changes/Improvements

The following sections describe the changes and improvements to each of the software modules included in the ensemble.

### GNSS Engine Software

This GPS Engine release of software provides the following list of changes, improvements, and features incorporated since the previous formal release of v1.0.0.4:

v1.0.1.5:

- GLONASS almanac update bug corrected. Previously, the GLONASS almanac only updated after power cycle or after approximately 3-weeks. Now the almanac updates as changes are received.
- A special StarFire message format is reverted to the same implementation as in the legacy product line. There is no impact to the common product applications.
- CMR message length is increased to accommodate 15 satellites per constellation
- Changed the code to detect high clock offset values to be interoperable with Javad and Topcom receivers in RTK mode
- Add updates to incorporate MED certification files
- Corrected a single poll request for ALM1B, where the response was sent to all ports. Now the response is sent to only the port directed.
- Correct the behavior of [GEOIDALMODEL] command surviving a power cycle
- Allow PANIC to be turned off on all ports
- Updated StarFire Satellite 525 frequency change of September 30th
- Corrected an option coding error where an RTK license was required for a rover to utilize DGPS code corrections

### Power I/O Board Software

This PIOB release of software provides the following list of changes, improvements, and features incorporated since the previous formal release of v1.0.21:

v1.0.23:

- Improvements to COM2 differential correction handling
- Improvements to pass-through mode implementation
- Corrected the file logging task

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## StarUtil Software

This StarUtil release of software provides the following list of changes, improvements, and features incorporated since the previous formal release of v0.0.14:

### V0.0.18

- Corrects the NMEA display so it now displays all GNSS sentences, GP, GL and GN
- Satellite locations window is updated with minor display changes
- Corrects format in base info to match with the Navmode of rover
- Linked the F1 Help key to the Help menu
- Add StarFire Satellites to SkyPlot Screen
- Add Scroll Bars and Master Reset
- Change user default file names to .S19 for firmware uploads, \*.OPT for software options uploads, and \*.LIC for StarFire license uploads
- Display Rover RTCM as corrections mode in Info Panel

## RINEXUtil Software

This RINEXUtil release of software provides the following list of changes, improvements, and features incorporated since the previous formal release of v2.05:

### V2.0.9

- Minor grammar corrections
- Corrects the marker position LLH2XYZ conversion routine
- Corrects a first epoch GPS week reporting error

If you have any questions regarding the installation or use of the software upgrade package please contact NavCom Customer Support at [customerservice@navcomtech.com](mailto:customerservice@navcomtech.com) or by phone at +1 310.381.2000.