Follow this Quick Start Guide to enable the robust functionality of the SF-3050.

By opening, assembling, and using this product, you agree to the terms of the License Agreement contained in the SF-3050 GNSS Product User Guide.

Important: This device will not track satellites until after the option file is loaded in the receiver. See instructions contained in this guide.

Consult your dealer to determine if the SF-3050 is fully configured. If it is, the SF-3050 is ready to use. Refer only to these sections: *Connect Equipment* and *Factory Default User Profile*.

If the SF-3050 is not dealer-configured, the receiver is not operational until the steps in this guide are performed.

The supplied SF-3050 Product Configuration USB Flash Drive (P/N 82-043000-0001) includes all the files needed to set up the ordered configuration of the SF-3050. It also includes guides with complete product information:

✓ SF-3050 User Guide

✓ StarUtil-3000 User Guide

✓ Sapphire Technical Reference Manual

■ NavCom Customer Support:

Telephone: +1 (310) 381-2000

Web: http://www.navcomtech.com/Contact/ContactSupport.cfm

ANTENNA   COM1 - LAN   COM2 - USB   POWER

Connect Equipment

1. Use one of the two supplied data cables for communications:

   • DB9S cable (P/N 94-310260-3006LF): Connect the Positronic connector end to COM2 - USB at the rear of the SF-3050. Connect the DB9S end to the PC.

     Or

   • USB 2.0 Device cable (P/N 94-310266-3006LF): Connect the Positronic connector end to COM2 - USB at the rear of the SF-3050. Plug the USB plug end into the PC.

   Bluetooth™ connectivity is also available. Refer to the *StarUtil 3000 User Guide* for detailed instructions on connecting a Bluetooth™ device. Loading firmware via Bluetooth is not supported.

2. Mount the supplied GNSS antenna (P/N 82-001020-3001LF) to a mast. Locate the antenna in an area with a 360° clear view of the sky.

3. Connect the supplied GNSS antenna cable (P/N 94-310261-3012LF) to the GNSS antenna. Connect the other end to the TNC connector, labeled ANT, at the rear of the SF-3050.

4. Perform these steps to set up power:

   a. Plug the supplied AC power cord (P/N 73-200002-0001LF) into the supplied AC/DC power adapter (P/N 82-020007-3001LF). The adapter operates on either 120 or 240 VAC power.

   The purchase of a separate appliance cable may be necessary if the VAC plug configuration needed is not the standard 2-prong American connector. If a DC input cable is used, the ignition pin must be connected.

   b. Connect the female Positronic connector end of the power adapter to the connector, labeled POWER, at the rear of the SF-3050.

   c. Plug the AC power cord into an AC receptacle.

5. Press the front panel On/Off switch 🔌 to turn on the SF-3050. All front panel LEDs illuminate for 3-5 seconds during power-up. The Power/GNSS Status LED changes from Red to Green.

Save Folder/Files to PC

The SF-3050 Product Configuration USB Flash Drive includes:

   • Root Directory: Software Options File and StarFire License (if purchased)

   • NavCom Folder: Includes these sub-folders: Firmware, Marketing Materials, User Guides, User Profiles, Utilities (The contents of the NavCom folder are subject to change.)

6. Plug the SF-3050 Product Configuration USB Flash Drive into the PC.

7. Browse to the USB Flash Drive.

8. Save the Software Options File, StarFire License (if purchased), and NavCom folder to the PC. Create 2 folders in the NavCom folder for the Options File and StarFire License.
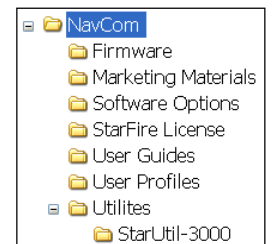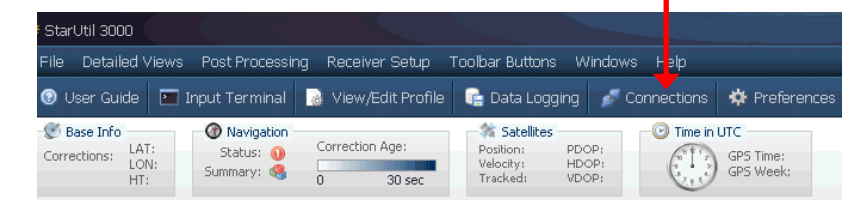

Establish Communications

9. Browse to Navcom\Utilities\StarUtil-3000 on the PC.

10. Ensure that these files are in the StarUtil-3000 folder: "Starutil-3k_v1_0_x.exe", "navcomx1c45x3050.inf" (USB driver), and 96-312007-3001.pdf.

    The USB driver must be in the same folder as StarUtil-3000 for the USB port to auto-recognize the SF-3050.

11. Double-click "Starutil-3k_v1_0_x.exe" to open the program.

Connections Button

12. Click the *Connections* button to establish communications between the PC and the SF-3050. The *Port Configuration* window opens.

13. Depending on the current *Connection Type*, do not change the default option, *COM Port,* or select *USB*.

COM Port Settings   *USB Settings*
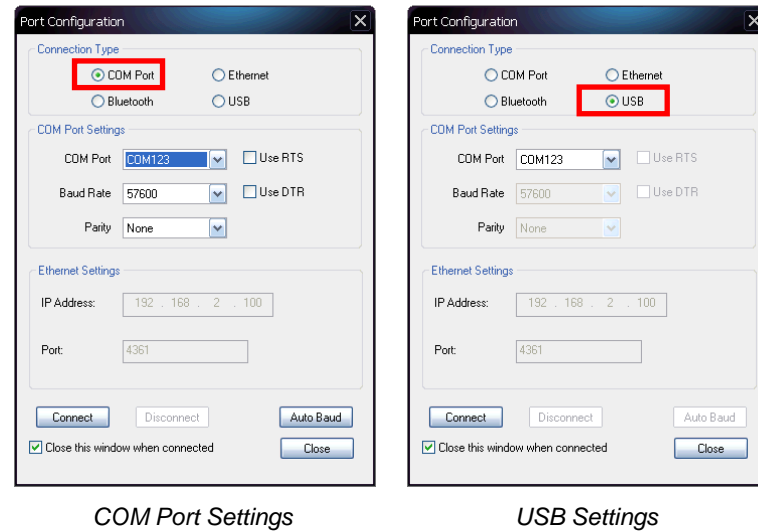
14. Set the appropriate options according to the *Connection Type*:

- *COM Port*:
  - *COM Port*: The appropriate PC COM Port
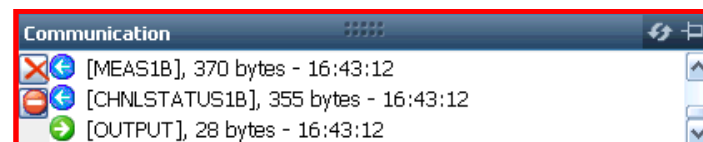 - *Baud Rate*: 57600 (keep the default)
  - *Parity*: None (keep the default)

  Or

- *USB Port*:
  - *COM Port*: The appropriate virtual PC COM Port

15. Click [Auto Baud] to ensure the baud rate is correct for the selected port.

16. Click [Connect].

17. Verify that the SF-3050 is connected to the PC: Messages scrolling in the *Communication* window indicate that the connection is established.

Blue arrows indicate received messages.
Green arrows indicate sent messages.

Upload Software Options

Software Options must be uploaded before the StarFire License (if purchased) is loaded.

Important: This device will not track satellites until after the option file is loaded in the receiver.

18. On the *File Upload* Window, select *Software Options*.
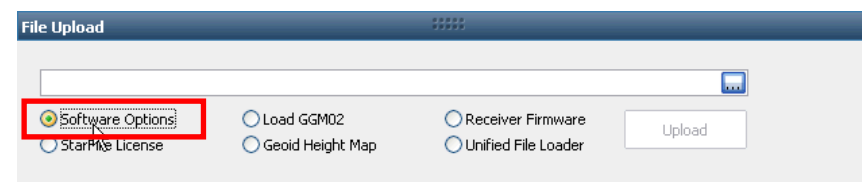
19. Click [...].

20. Select the software options file (the file extension is *.opt). The path to the software options file is displayed in the upload field.

21. Click [Upload]. At the end of the upload, a confirmation box opens. Click *OK*.

The *Input Terminal* window also displays the outcome of the upload. In this case, the load is successful:
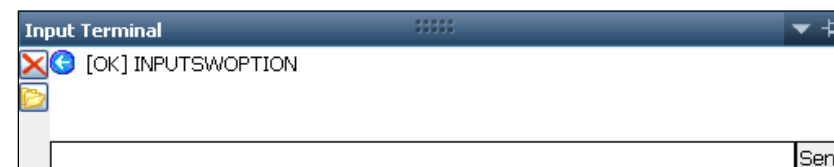
22. Click [↻] on the *Software Options* window to view the loaded software options.

If any of the purchased software options are not displayed in the *Software Options* window, refer to the section "Use the Input Terminal to Upload Software Options" in the *StarUtil-3000 User Guide.*

Also refer to the *Sapphire Technical Reference Manual* for detailed information on the [INPUTSWOPTION] command.
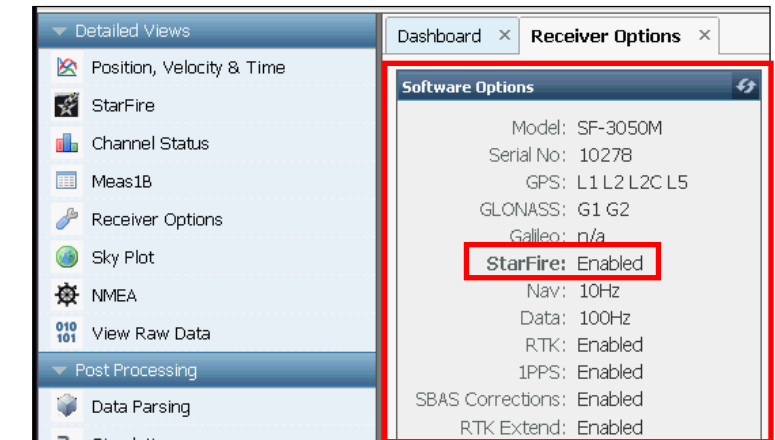
StarFire: Enabled" indicates that the StarFire Software Option is loaded. It does not indicate that a StarFire License is installed. Do not close StarUtil-3000. Perform one of these steps:

- If a StarFire License is purchased, go to the *Upload StarFire License* section.
- If a StarFire License is not purchased, go to the *Factory Default User Profile* section.

Determine Firmware Versions

The user determines if the firmware installed in the SF-3050 is the most current. The version of the installed firmware is important to ensure the proper operation of the receiver.

23. On the *Detailed Views* menu, click *Receiver Options* to open the *Receiver Options* tab.
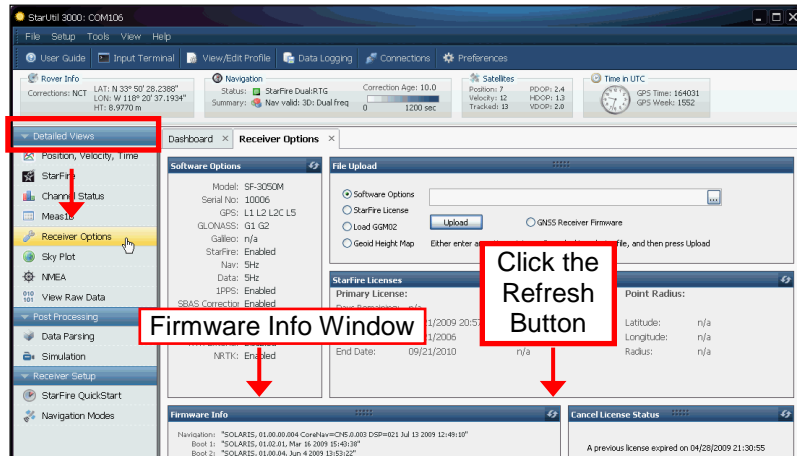
24. Click ![refresh icon] (refresh) on the *Firmware Info* window to display the installed options.
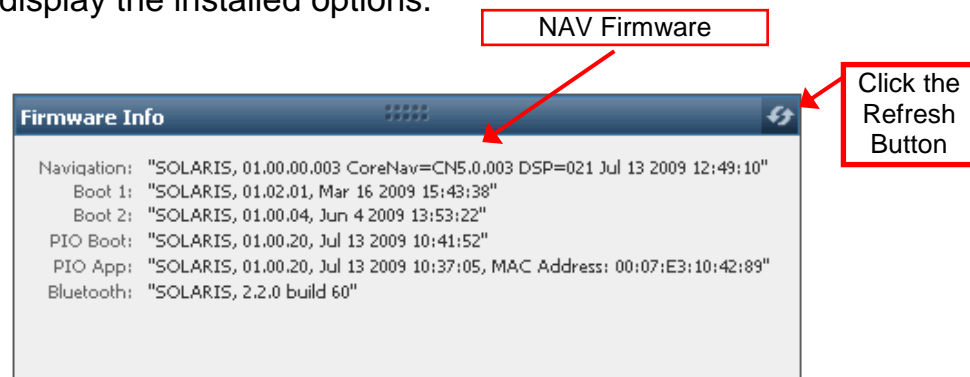
25. Browse to the NavCom\Firmware folder on the PC. The Firmware folder is copied from the SF-3050 Product Configuration USB Flash Drive. It contains the *most current firmware*. The firmware file extension is *.s19.

📝 Open the Readme.txt file for additional information.
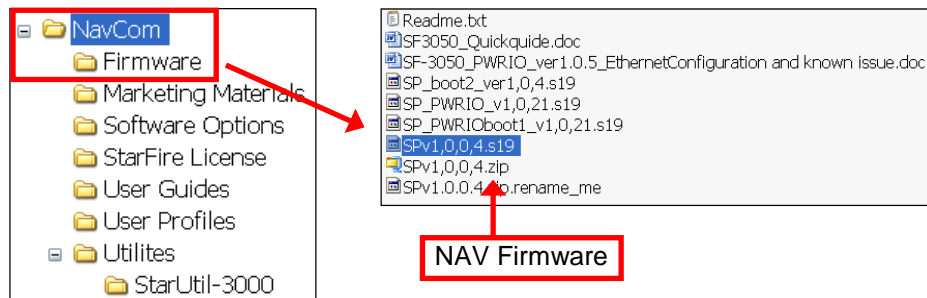
26. Compare the current NAV Firmware version in the Firmware folder with the installed version displayed in the *Firmware Info* window
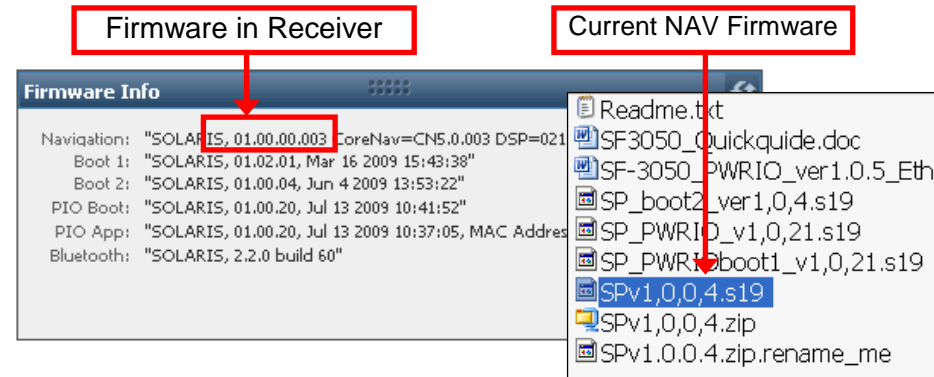
📝 In the example above, the NAV firmware in the receiver is not current and must be upgraded.

27. Perform one of the steps below.

- If the NAV firmware installed in the receiver is the *most current version*, go to the *Upload Software Options* section.

- If the NAV firmware installed in the receiver is *not* the most current version:
  - Check the versions of the other firmware.
  - Write down all the firmware that must be updated.
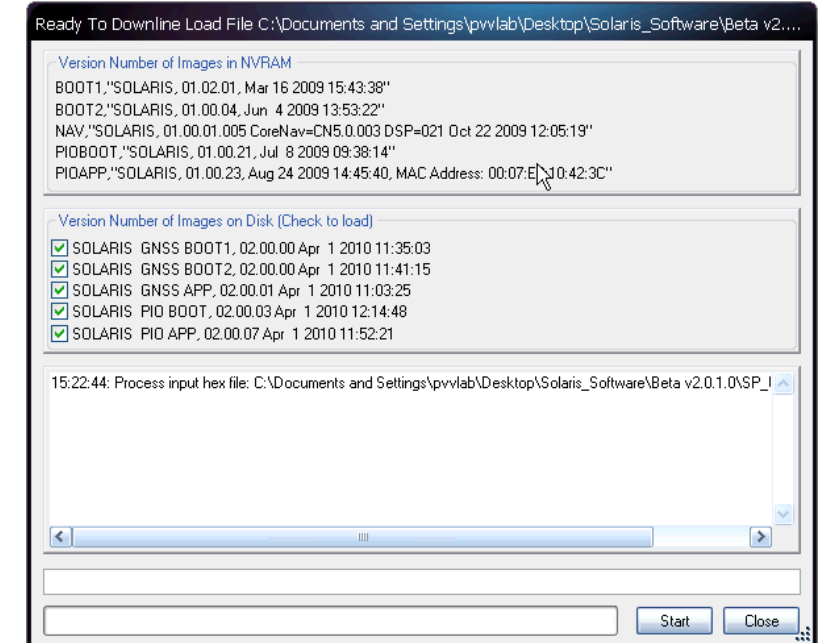 - Go to the *Upload Firmware* section below.

Upload Firmware

Upload a Unified File

28. Select *Unified File Loader* on the *File Upload* window:
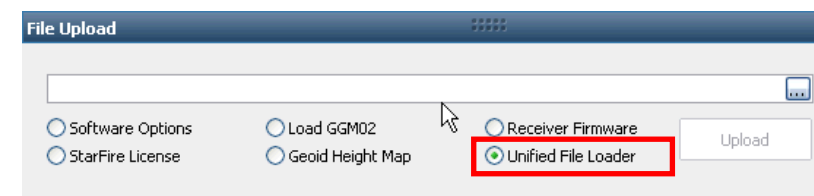
29. Click ![...] and browse to NavCom\Firmware on the PC and select a *unified* firmware file to upload.

30. Click ![Upload]. The options to be uploaded are checked on the *Ready to Downline Load File* window.

StarUtil 3000 will auto-read the reciever and select files to load. Check or uncheck firmware files if necessary (based on existing loaded version numbers).

31. Click ![Start] and the upload progress window updates.

32. When the upload is complete, click *Close*.

33. If any file failed to upload, refer to the section "Upload a Single Firmware File" in Chapter 3 of the StarUtil 3000 User Guide.

📝 Do not close StarUtil-3000. Continue to the next section.

Upload StarFire License

📝 For this initial configuration, the StarFire license must be installed via data cable. Subsequent renewals of the license are typically transmitted to the receiver via radio broadcast. Refer to the SF-3050 User Guide.

📝 The receiver must be tracking GPS satellites and providing a valid position solution at the time of the StarFire license upload to accept the license.

34. Select *StarFire License* in the *File Upload* window.
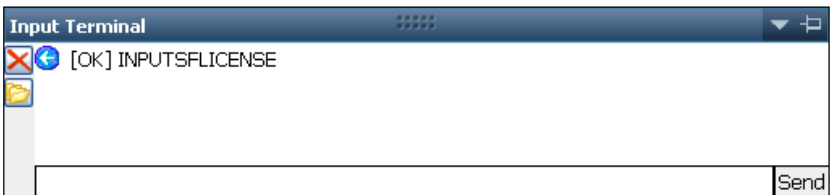

35. Click [...].

36. Browse to NavCom\StarFire License on the PC. The StarFire License file extension is *.lic.

37. Select the StarFire License file. The path to the file appears in the upload field.


38. Click [Upload]. At the end of the upload, a confirmation box opens. Click *OK*.

⬚ The *Input Terminal* window also displays the outcome of the upload. In the example below, the upload is successful.

39. Ensure that the purchased StarFire License is loaded. These tabs provide license information:
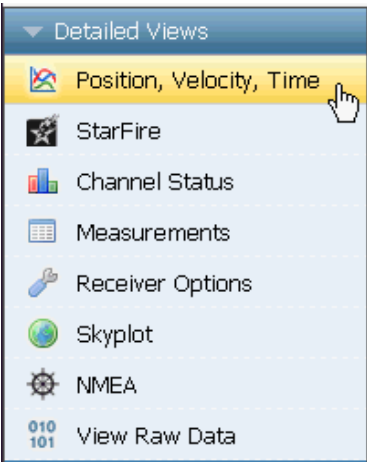
- *Receiver Options* tab: *StarFire Licenses* and *Cancel License Status* windows

- *StarFire* tab: *License Info* window

⬚ To open the *StarFire* tab, click *StarFire* on the *Detailed Views* menu.
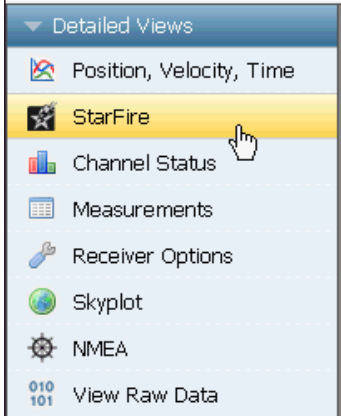

Confirm StarFire Navigation

40. Click *Position, Velocity, Time* on the *Detailed Views* menu to determine if the receiver is navigating in *StarFire* mode. The *PVT* tab opens.


⬚ The receiver enters StarFire mode in approximately 3 minutes after it is first turned on; then the convergence period starts.

⬚ *Newer software versions*: The Nav Mode *StarFire Dual:GPS*, indicates that the receiver is navigating in the old StarFire format, accurate to <10cm. The Nav Mode *StarFire Dual:GNSS*, indicates that the receiver is navigating in the new StarFire format which supports GLONASS, accurate to <5cm.

⬚ *Older software versions*: The Nav Mode *StarFire Dual:RTG: 3D: Dual freq*, indicates that the receiver is navigating in StarFire dual frequency

with a 3D position fix, which is very accurate. RTG is another term for StarFire.
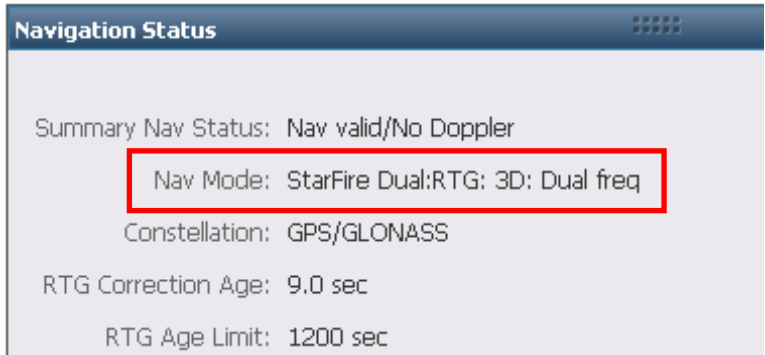

Factory Default User Profile

Further configuration is not necessary for this initial use of the SF-3050. The receiver is preconfigured with a factory default user profile that includes settings for the various port assignments/parameters, navigation parameters, and output message lists.

⬚ If the SF-3050 does not function properly, refer to these online tools:

- Troubleshooting Guides

- User Manuals

Contact the authorized dealer or NavCom Customer Support.

⬚ If desired, replace the factory default user profile with a predefined profile, or create a profile. Refer to the *StarUtil-3000 User Guide*.