

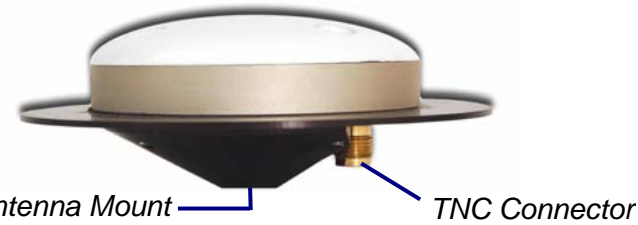
Follow this Quick Start Guide to set up the standard configuration of the SF-2110, designed for productivity with minimal setup time.

The supplied CD-ROM (P/N 96-314001-3001) includes guides with complete instructions for optimum performance:

- ✓ SF-2110 User Guide
- ✓ StarUtil-2110 User Guide
- ✓ SF-2110 Technical Reference Manual

Connect Equipment

1. Connect the supplied Positronic 9-Pin connector of the serial cable (P/N 94-310260-3006LF) to Port A or Port B of the SF-2110. Connect the DB9 end to the PC.



2. Mount the supplied L1/L-Band GPS Antenna (P/N 82-001017-0001LF) to a mast. Locate the antenna in an area with a 360° clear view of the sky.
3. Connect the supplied GPS antenna cable (P/N 94-310261-3012LF) to the GPS Antenna. Connect the other end to the TNC connector, labeled ANT 1, on the receiver.

- ✓ *MODEL SF-2110R only:* To track StarFire™ signals, mount the L-Band antenna (PN: 82-001018-0001LF) to a mast. Connect the supplied GPS antenna cable to the L-Band Antenna. Connect the other end to the TNC connector, labeled ANT 2, on the SF-2110R receiver.




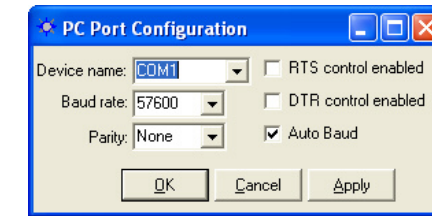
4. Connect the supplied 110/220V AC power cord into the supplied AC/DC power adapter (P/N 82-020005-3001LF).
5. Connect the Positronic 9-pin end of the power adapter to the receiver power port.
6. Plug the power cord into an AC receptacle.



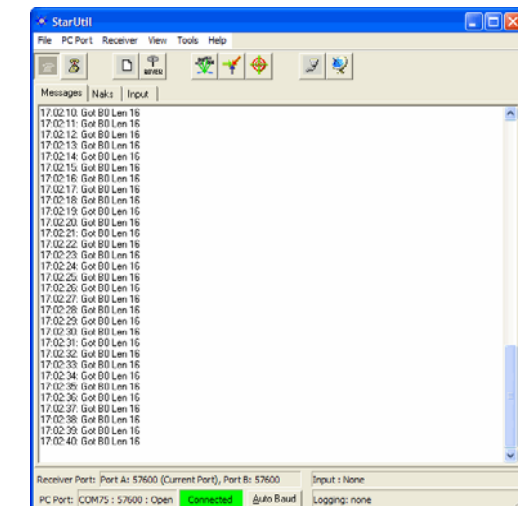
7. Depress the *On/Off* switch on the front panel for more than 3 seconds to power on the receiver. All LEDs illuminate for 3-5 seconds during power-up.

Run StarUtil-2110

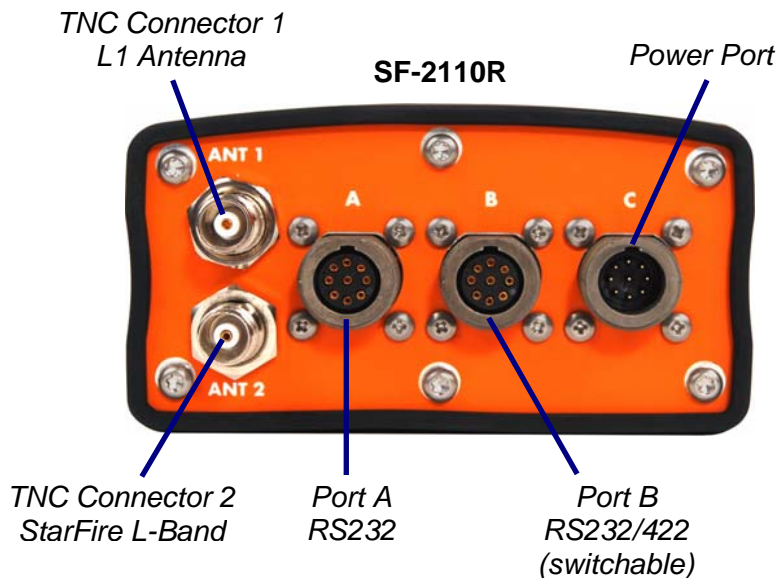
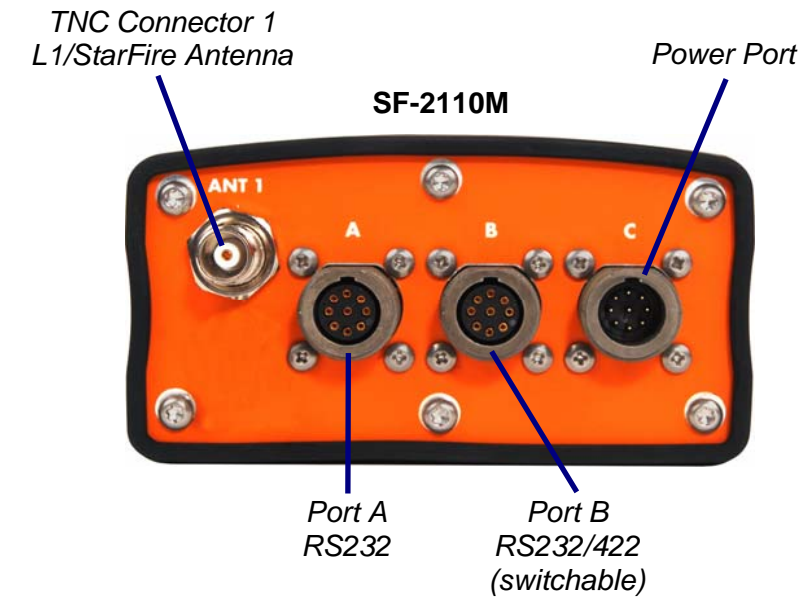
8. Insert the supplied CD-ROM (P/N 96-314001-3001) into the PC CD-ROM drive.
9. Locate and double-click the file, *StarUtil-2110.exe*.
10. Click the  icon on the StarUtil toolbar to establish communications between the PC and the SF-2110 receiver. The *PC Port Configuration* window opens.




11. In the *Device name* drop-down list, select the PC COM port connected to the receiver.
12. Accept the default option, *Auto Baud*, or uncheck the *Auto Baud* box and select a baud rate from the drop-down list if the current receiver settings are known.
13. Click the *OK* button. The status bar at the bottom of the StarUtil window indicates a successful connection in green. NCT Messages scroll down the Messages tab.

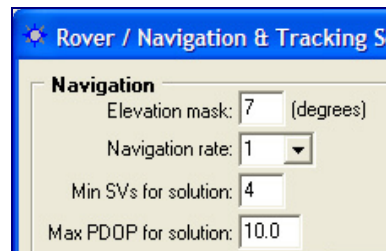


- ✓ *MODEL SF-2110R only:* Select *Tools > SF-2110 Configuration* from the menu bar. The *SF-2110 Configuration* window opens. Select *Dual* as the *Number of Antenna*.




Configure Navigation Mode

14. Click the  icon on the toolbar to configure the rover. The *Rover / Navigation & Tracking Setup* window opens. Use of the default settings is recommended. Configure only the settings below:



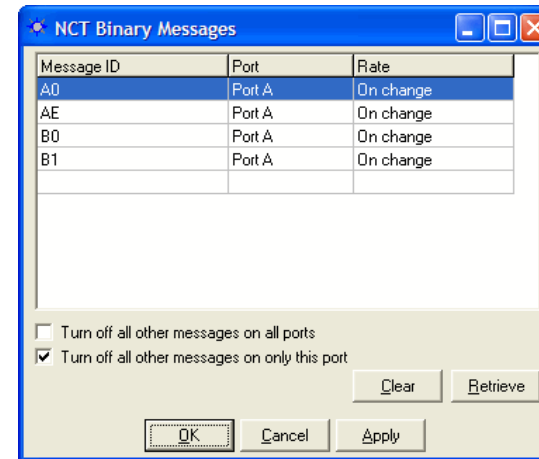
- ✓ **Elevation Mask:** Enter a value between 0 and 90 degrees to set the elevation angle at which the receiver will start processing GPS data from satellites. The default elevation mask is 7 degrees to prevent position jumps due to frequent satellite re-acquisitions at lower elevation mask angle limits.
- ✓ **Navigation Rate:** The number of navigation solutions per second. The available rates are: 1Hz (default), 5Hz, and 10Hz. The 5Hz and 10Hz navigation rates are purchased software options.
- ✓ **Min SVs for Solution:** Four satellites are the minimum SVs required for a 3D navigation solution, plus an acceptable PDOP.
- ✓ **Max PDOP for Solution:** Enter the highest PDOP value according to application requirements. The maximum PDOP value for solution is 25.5.
- ✓ **Access to RTG input** is available only by purchase of a license for the StarFire™ subscription service.

 Click the *Apply* button. Then click the *Retrieve* button to confirm the receiver accepts new settings.

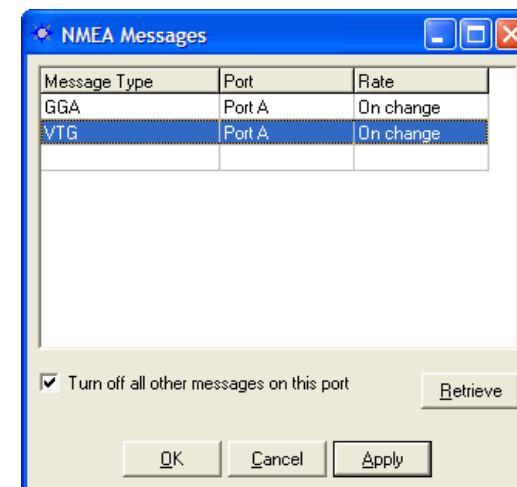
Schedule Message Output

15. Schedule and configure messages for output:

- ✓ Select *Receiver > Messages > NCT output* to open the *NCT Binary Messages* window.



- ✓ Select *Receiver > Messages > NMEA output* to open the *NMEA Messages* window.




- ✓ **Add Messages:**
 - **NCT Binary Messages Window:** Right-click in a blank *Message ID* cell. A menu opens. Click on a message to add it to the output list or click *Other* to type in the hex ID of a message.
 - **NMEA Messages Window:** Right-click in a blank *Message Type* cell. A menu opens. Click on a message to add it to the output list.

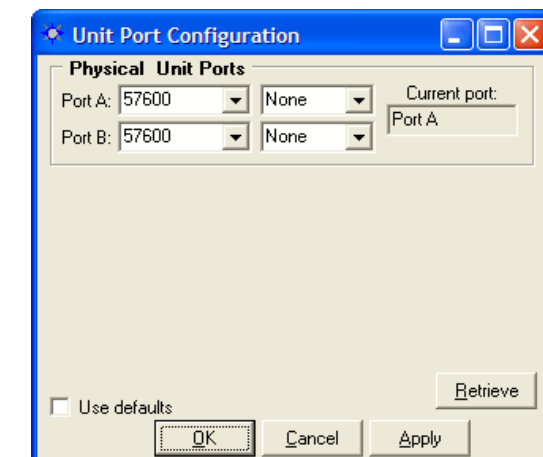
- ✓ **Port Configuration:** Right-click on the *Port* cell to select *Port A* or *Port B*, based on where the message is needed (i.e., control port or data port).
- ✓ **Rate Configuration:** Use of the default value (*On Change*) is recommended for messages with a consistent periodic rate. *On Change* schedules the receiver to output the specified message each time new data is available.

Right-click on the *Rate* cell to open the menu to schedule the frequency of output for a message.

- ✓ Select *View* from the menu bar to view data output from common NCT Binary Messages.
- ✓ Select *Tools > NMEA Viewer* from the menu bar to view data output from the scheduled NMEA messages.

Configure Data Ports

16. Click the  icon on the toolbar to configure the baud rate of the receiver ports. The *Unit Port Configuration* window opens.



17. Click the *Port A* and/or *Port B* drop-down lists to select a new baud rate, and if necessary, select the parity.
18. Click the *Apply* button and then click the *Retrieve* button to confirm that the receiver accepts the new setting(s).
19. Click the *OK* button.