



1. PURPOSE & SCOPE

This document outlines the steps involved using the OmniSTAR 8000HP with separate GPS and initialising on a known point.

2. STEPS

- Plug in the GPS
- Switch on the OmniSTAR 8000HP

On the 8000HP

Check settings are correct

- Press down arrow until "User Settings" is displayed
- Press the right arrow key
- "CMD 57600,8,N,1" is displayed (this setting does not affect the performance of the unit)
- Press the right arrow key
- "DATA 19200,8,N,1" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the left arrow key until "User Settings" is displayed
- Press the down arrow key until "HP Control" is displayed
- Press the right arrow key
- **For Trimble Receivers**
- "GPS: Trimble T4K" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- **For Novatel Receivers**
- "GPS: Novatel OEM4" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- **For Trimble Receivers**
- "GPS Rate: 38400" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- **For Novatel Receivers**
- "GPS rate: 115200" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "POSN Rate: 1Hz" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "GGA: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "VTG: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "RMC: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "GSA: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "GST: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "MON-PVT: ON" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)



- Press the right arrow key
- "MON-HPQ: ON" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "FUGRO-DP: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "MONITOR: OFF" is displayed (this setting must be set, press the down arrow key to start altering the settings, press the left/right arrow keys to move to the next setting, then press enter to accept)
- Press the right arrow key
- "RESET GPS? N" is displayed
- Press the right arrow key
- "HP Control" is displayed

Initialising the OmniSTAR8000HP Receiver

- Press the down arrow key until you get to HP Services.
- Press the right key and co-ordinates are displayed.
- If co-ordinates are not displayed then wait 2-3 minutes. If co-ordinates are still not displayed switch off 8000HP and GPS then re-start.
- Press the left arrow key until HP Services is displayed.

Initialising on a known point (the first known point requires co-ordinates in GDA94 lats and lons, and GDA94 ellipsoid height taking into account the antenna height).

- Press the down button until Known Point is displayed.
- Press the right button.

Latitude is displayed

- Press the down button
- The Latitude is now in edit mode.
- Use the left/right button to highlight the number you want to change.
- Press the up/down button to change the number.
- When you have completed the latitude press enter to store it.
- Press the right button.

Longitude is displayed

- Press the down button.
- The Longitude is now in edit mode.
- Use the left/right button to highlight the number you want to change.
- Press the up/down button to change the number.
- When you have completed the longitude press enter to store it.
- Press the right button.

Height is displayed

- Press the down button.
- The Height is now in edit mode.
- Use the left/right button to highlight the number you want to change.
- Press the up/down button to change the number.
- When you have completed the height press enter to store it.
- Press the right button.

SD values in centimetres are displayed

- Press the down button.
- The SD values are now in edit mode.
- Use the left/right button to highlight the number you want to change – we suggest you use SD values of 10, 10 & 20.
- Press the up/down button to change the number.
- When you have completed the SD values press enter to store it.



Set Point?N Is displayed

- Press the down button to display yes.
- Press the enter button.

The known point initialisation is now complete.

Check that the known point initialisation has worked correctly

- Press the Right button until Set Known Point is displayed.
- Press the Up button until HP Services is displayed.
- Press the Right Button until the screen beginning with Q is displayed.
- The number next to the Q indicates whether the receiver is in HP mode.

If Q=5 then you are ready to work, this should take 10 to 15 seconds from entering the known point.

What happens if the co-ordinates have been typed in incorrectly?

In my case I forgot to take into account the antenna pole height of 2.2m.

After entering the known point the receiver proceeded to adjust its solution to fit better.

Over the next 20 minutes the latitude and longitude moved by 0.4m.

If any of the 3 co-ordinates were incorrect then the other two co-ordinates would be shifted.

There is no indication of this on the receiver and we advise that users should check back on the known point within say 5 minutes to confirm that the known point initialisation was performed correctly. This would be good field practice.

There is a gross check in the receiver to make sure the known co-ordinates are not out by 100's of metre, in this case the receiver will not go to Q=5.

What happens if I type in the incorrect SD values?

If you type in incorrect SD values then the receiver will continue to attempt to solve the solution which may result in an incorrect solution. So for the initial point it is best to use the default settings of 10,10, 20.

If you do not use the default settings then you need to be aware that there is no indication on the receiver that the known point initialisation was performed correctly and we advise that users should check back on the known point within say 5 minutes. This would be good field practice.