TerraStar® Correction Services
Quick Start Guide

For more information, please refer to APN-061 and the OEM7 Documentation Portal.

After ensuring the antenna is positioned outside with a clear view of the sky from horizon to horizon, establish communication to the receiver by connecting to it using NovAtel Connect or a remote terminal program.

Step 1: LOG VERSION

Use the VERSION log to verify that the receiver's software model is PPP (Precise Point Positioning) capable. The MODELFEATURES log states the features available for the current loaded model. In OEM7, the fourth character of the model should be an "R" or "P" for TerraStar-C PRO capability:

```
<VERSION COM1 0 73.0 FINESTEERING 2082 173571.562 02044000 3681 15833
<     9
<         GPSCARD "DDNRNNTBN" "BMHR18210047D" "OEM7700-1.01" "OA7CR0603RN0000"
"OM7BR0100RB0000" "2019/Aug/15" "08:21:01"
<         OEM7FPGA "" "" "" "OMV070001RN0000" "" "" ""
<         APPLICATION "" "" "" "ES7AR0603RN0000" "" "2019/Aug/15" "08:21:14"
<         DEFAULT_CONFIG "" "" "" "ES7CR0603RN0000" "" "2019/Aug/15" "08:21:25"
<         PACKAGE "" "" "" "ES7PR0603RN0000" "" "2019/Aug/15" "08:21:19"
<         DB_WWWISO "WWWISO" "0" "" "WMC010205RN0001" "" "2019/Mar/27" "14:09:05"
<         ENCLOSURE "SMART7-W" "NMSR18270010E" "0.0.0.0" "" "" "" ""
<         WIFI "RS9113" "" "" "1.7.0" "" "2019/Aug/15" "08:21:30"
<         REGULATORY "US" "" "" "" "" "" ""
```

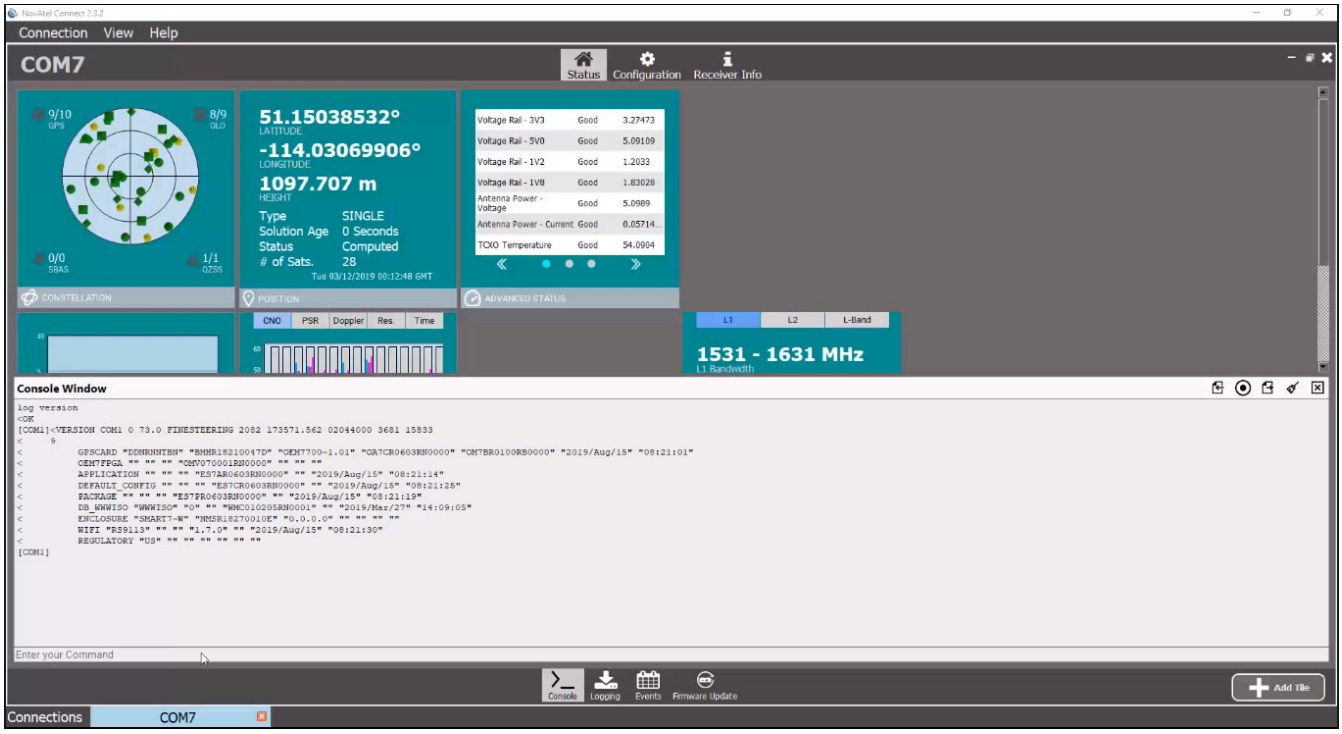

Figure 1: LOG VERSION inside Console Window of Connect 2.3.2

Step 2: Enable L-Band Tracking

By default, the receiver will not automatically track TerraStar satellites. To enable L-Band tracking of a TerraStar geostationary satellite, use the ASSIGNLBANDBEAM command:

```
ASSIGNLBANDBEAM AUTO
```

Step 3: Verify L-Band Tracking

To confirm that the receiver is now tracking an L-Band signal, use the LBANDTRACKSTAT log:

```
LOG LBANDTRACKSTAT
```

The output would resemble:

```
<LBANDTRACKSTAT COM1 0 70.0 FINESTEERING 2082 173597.000 02044000 29e3 15833
<     5
<          "98W" 1545865000 1200 974c 00c2 0 -210.932 41.166 3.4300 491.006 9344
0 0 1196032 6 0.0000
<          "AORW" 1545845000 1200 974c 00c2 0 -217.826 44.577 4.0725 491.669
9344 0 0 1196032 0 0.0000
<          "POR" 1545905000 1200 974c 00c2 0 -164.045 35.910 1.8260 493.251 9280
415 137 1187840 52351 0.0448
<          "" 0 0 0000 0003 0 0.000 0.000 0.0000 0.000 0 0 0 0 0 0.0000
<          "" 0 0 0000 0003 0 0.000 0.000 0.0000 0.000 0 0 0 0 0 0.0000
```

In this example, the receiver is tracking three beams simultaneously (98W, AORW, and POR). A tracking status of “00c2” indicates the receiver is tracking and locked onto the signal.

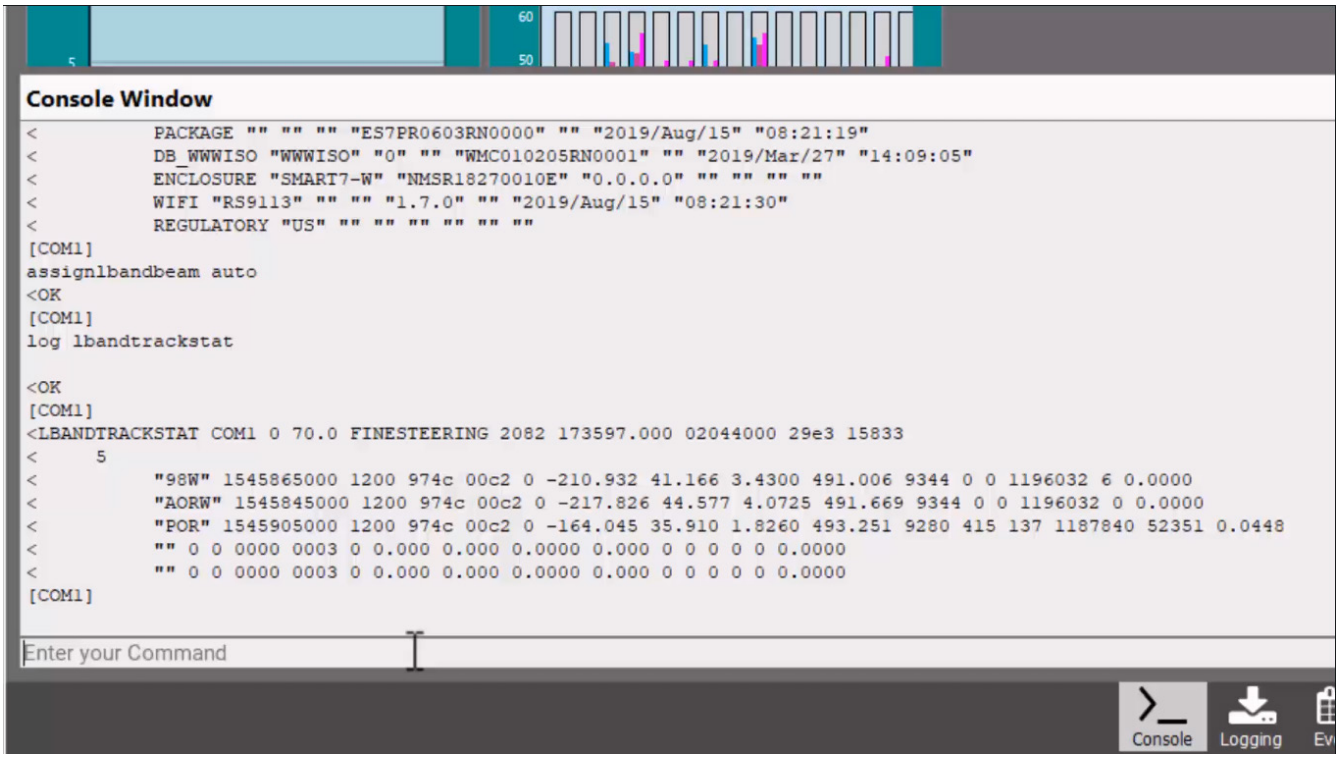

Figure 2: LOG LBANDTRACKSTAT in Console Window

Step 4: Verify the TerraStar Subscription

After the receiver tracks an L-Band signal for 4-6 hours, it will receive the initial TerraStar activation message. To verify the subscription status, use the following logs:

```
LOG TERRASTARSTATUS ONCHANGED

LOG TERRASTARINFO ONCHANGED
```

The final output would resemble:

```
<TERRASTARSTATUS COM1 0 71.5 FINESTEERING 2082 173625.960 02044000 32bc 15833
<      ENABLE LOCKED 0 DISABLED ONSHORE

<TERRASTARINFO COM1 0 70.5 FINESTEERING 2082 173623.946 02044000 91ea 15833
<      "QY198:9565:5428" TERM 00002700 342 2019 0 NEARSHORE 0.00000 0.00000 0
```

The first field of the TERRASTARSTATUS log after the header will be ENABLE to indicate the TerraStar subscription is valid. It will be DISABLE when it has not received a valid activation message. The second field will be LOCKED when the receiver is tracking a TerraStar satellite.

The TERRASTARINFO log gives subscription details, including subscription type. The subscription details mask indicates what type of TerraStar subscription is enabled. In the case of '00002700', this indicates that the receiver has a TerraStar-C PRO subscription.

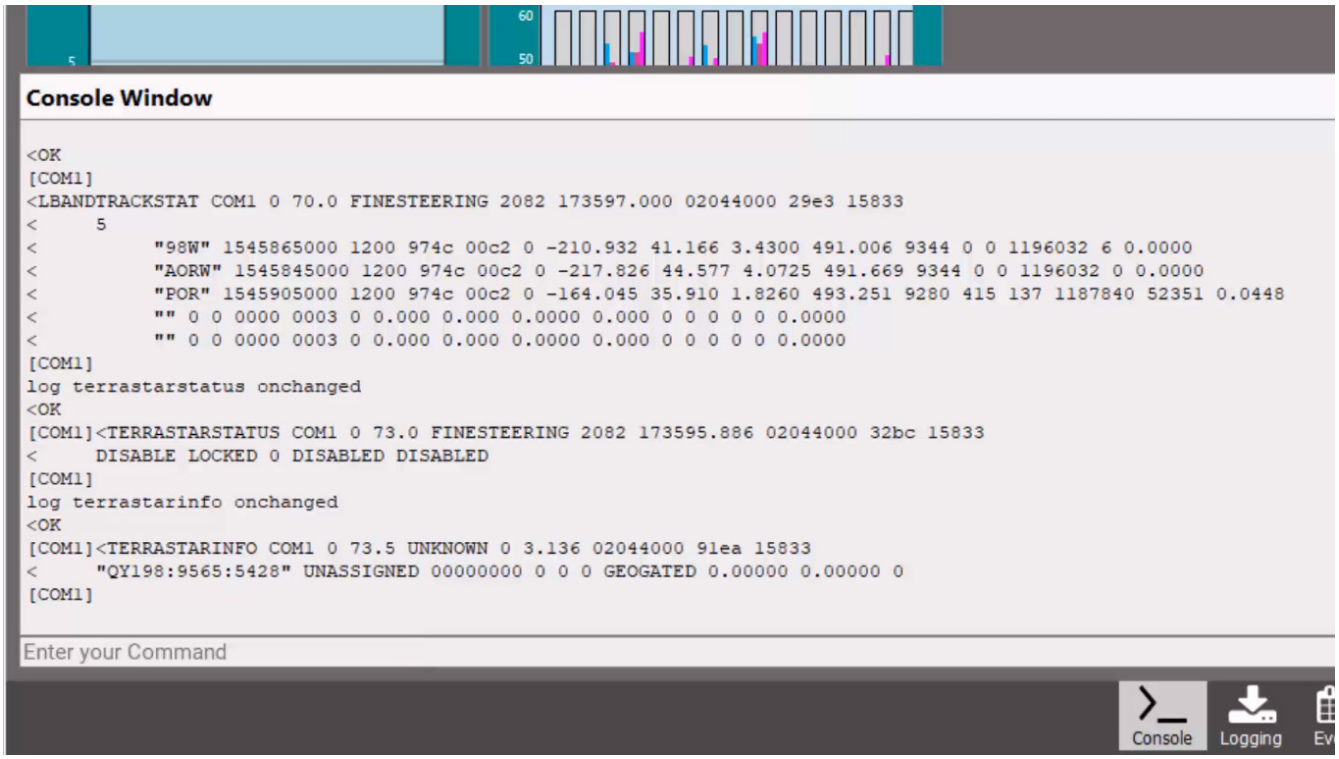

Figure 3: LOG TERRASTARSTATUS and LOG TERRASTARINFO in Console Window

Step 5: TerraStar Position Convergence

PPP is the engine used to calculate a TerraStar position. To monitor the PPP convergence, use the following log:

```
LOG PPPPOS ONTIME 1
```

Initially the position type will report PPP_CONVERGING (or PPP_BASIC_CONVERGING for TerraStar-L). Once the TerraStar solution has converged, the position type in the PPPPOS log will change to PPP for TerraStar-C and TerraStar-C PRO, or PPP_BASIC for TerraStar-L.

```
<PPPPOS COM1 0 71.5 FINESTEERING 2082 173923.000 02044000 ec34 15833
<     SOL_COMPUTED PPP_CONVERGING 51.15039068456 -114.03070035301 1097.2318
-17.0000 WGS84 0.1512 0.2832 0.3025 "TSTR" 13.000 0.000 35 34 34 28 00 00 35 33

<PPPPOS COM1 0 71.5 FINESTEERING 2082 173924.000 02044000 ec34 15833
<     SOL_COMPUTED PPP 51.15039069035 -114.03070040513 1097.2302 -17.0000 WGS84
0.1499 0.2817 0.2999 "TSTR" 14.000 0.000 35 34 34 28 00 00 35 33
```

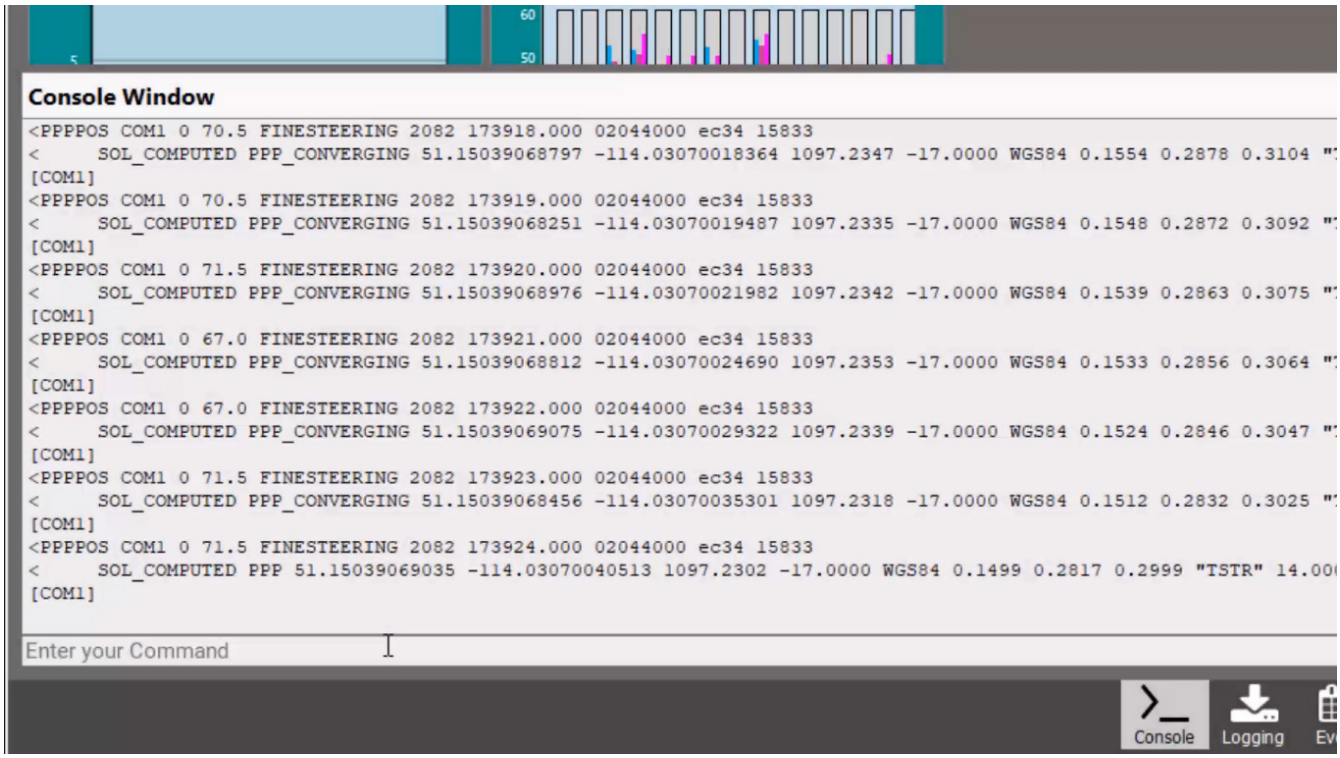

Figure 4: LOG PPPPOS with converging "Position Type" changing from PPP_CONVERGING to PPP