



FUGRO SEASTAR® NTRIP – CORRECTIONS VIA INTERNET

The Seastar® NTRIP DGNSS data delivery option provides a backup to satellite broadcast delivery.

DUAL INDEPENDENT DELIVERY PATHS

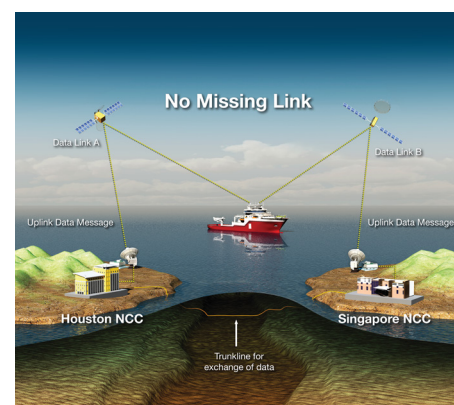
Fugro satellite positioning DGNSS services are delivered over dual independent delivery paths. GNSS correction data sets are compiled in both Houston and Singapore Network Control Centres (NCCs) then delivered via independent satellite uplinks to geostationary communications satellites.

In each ocean region there is coverage from two different communications satellites, thus providing redundancy for users.

TRIPLE REDUNDANCY

To complement the standard satellite broadcast delivery channels, Fugro offers internet delivery of correction data using the NTRIP service. (Networked Transport of RTCM over Internet Protocol).

This option requires real-time access to the internet. Typically aboard the vessel this will be provided via a VSAT broadband satellite communications terminal.



Dual satellite broadcast data links in all ocean regions

BACKUP – NOT PRIMARY CHANNEL

The internet can provide a useful data delivery backup to standard broadcast channels – particularly if there is any obstruction to the antenna visibility of the broadcast satellite.

The internet and shipborne VSAT are not however considered to be reliable enough for dependence as a primary delivery channel.

For this reason NTRIP is not available as an independent commercial service but is only supplied as a backup solution for the primary broadcast channels.

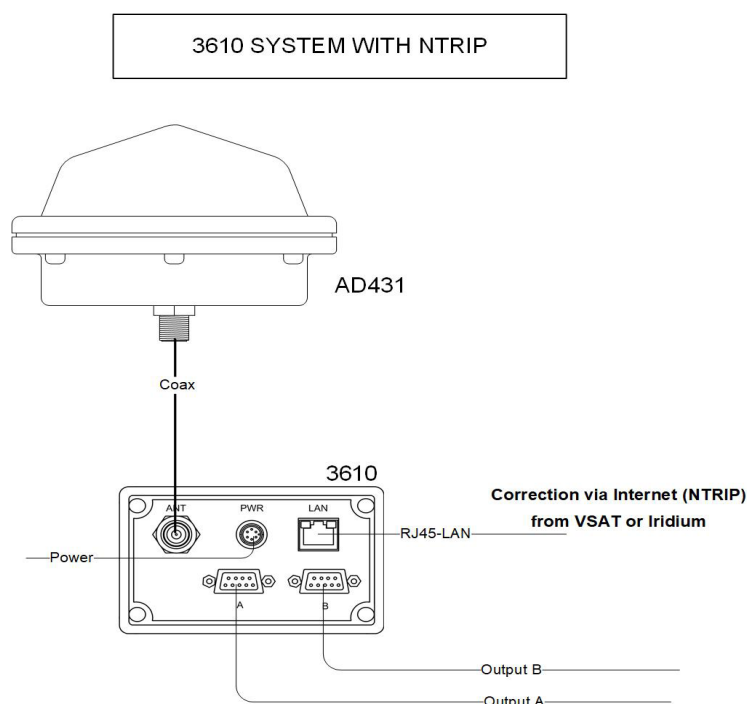
HARDWARE

In addition to internet access, a compatible Seastar® receiver or demodulator is required.

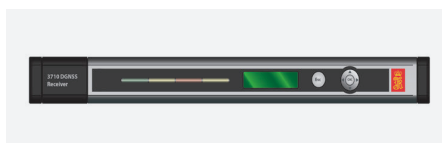
Equipment such as the 3610 and 3710 demodulators, and the 9200-G2 and 9205 GNSS receivers have NTRIP capability.

LOW BANDWIDTH DATA SET

For vessels without broadband communications or operating outside of VSAT coverage, a compact data set of the Seastar® G2 corrections only, is available. This requires interfacing through an Iridium system.



The Fugro 3610 DGNSS receiver



The Kongsberg Seatex 3710 DGNSS receiver



The Seastar 9205 GNSS receiver



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