



## How Atlas GNSS Global Correction Service Works



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# GNSS Global Correction Service

## Atlas® GNSS Global Correction Service

Atlas is an innovative, industry-leading GNSS-based global L-band correction service, providing robust performance at market-leading prices. Atlas is a flexible and scalable service, delivering its correction signals via L-band satellites at accuracies ranging from meter to sub-decimeter levels. Leveraging approximately 200 reference stations worldwide and with L-band satellites distributing Atlas corrections, the entire globe is virtually covered. The Atlas GNSS global correction service provides correction data for GPS, GLONASS, and BeiDou constellations.

Atlas correction service is available on all Hemisphere Atlas-capable single- and multi-frequency, multi-GNSS hardware. Atlas complements third-party GNSS receivers by allowing them to use Atlas corrections with Hemisphere's innovative BaseLink™ and SmartLink™ capabilities.

When using multi-frequency hardware, Atlas corrects more satellites than ever before, which creates faster convergence times and is robust and reliable in canopy or foliage covered areas. With both single- and multi-frequency hardware, Atlas achieves instant global sub-meter positioning accuracy, comparable to, and typically more robust than SBAS, since Atlas corrections contain data from multiple available constellations.

Systems supporting Atlas utilize Hemisphere's world-class Athena™ GNSS RTK engine. Athena often exceeds performance offered by other industry leaders and provides a future-proof foundation enabling market-defining performance, flexibility, and reliability.

### Atlas Basic

Atlas Basic provides users of both single- and multi-frequency Atlas-capable products the ability to achieve SBAS equivalent performance anywhere in the world where the Atlas correction service is available. Atlas Basic is a ground-breaking new feature that offers a proven accuracy of 30 to 50 cm (95%)\*. Atlas Basic offers instantaneous sub-meter accuracy allowing for DGPS-level accuracy within the global regions supported by Atlas.

\* Depends on multipath environment, number of satellites in view, satellite geometry, and ionospheric activity.

### Industry-Leading Capabilities

- **Positioning Accuracy:** Atlas provides competitive positioning accuracies down to 4 cm <sup>RMS</sup> in certain applications, often exceeding competitive systems' capabilities
- **Positioning Sustainability:** Cutting-edge position quality maintenance in the absence of correction signals, using Hemisphere's Tracer™ technology
- **Convergence Time:** Industry-leading convergence times of 10 - 40 minutes
- **Global Ionospheric Model:** Real-time ionospheric activity and data is sent to the receiver and allows Atlas-capable devices to adjust accordingly, providing excellent convergence performance

### Scalable Service Levels

Service Level	Position Accuracy
Atlas Basic	50 cm 95% (30 cm <sup>RMS</sup> )
H30	30 cm 95% (15 cm <sup>RMS</sup> )
H10	8 cm 95% (4 cm <sup>RMS</sup> )

## Advanced Technology Features

### BaseLink™

#### Network RTK Augmentation

BaseLink technology allows Atlas-capable receivers to self-survey and automatically manages the transmission of RTK correction data to augment or extend established or new GNSS reference networks in areas of poor internet connectivity.

### SmartLink™

#### Exclusive Agnostic Capability

SmartLink technology allows an AtlasLink GNSS smart antenna to be used as an Atlas signal extension for any GNSS system compliant with open communication standards.

### aRTK™

#### Atlas-Based RTK Augmentation

Powered by Atlas, the innovative aRTK technology operates on any Atlas-capable device by enabling it to maintain RTK-level accuracy, availability, and reliability when RTK corrections fail.

### AutoSeed™

#### Advanced Stationary Re-Convergence

Atlas AutoSeed allows users to suspend Atlas use for any period of time, and upon returning to their last location, the Atlas system uses AutoSeed to rapidly re-converge to a high-accuracy converged position.

### Tracer™

#### Positioning Sustainability

Tracer technology is Hemisphere's cutting-edge position quality maintenance in the absence of correction signals. The feature allows the user to maintain accuracy from meter to sub decimeter-levels, availability, and reliability of the position during correction data outages.

	Single-Frequency	Multi-Frequency	Multi-GNSS	Atlas Basic	Atlas H30	Atlas H10
A222	X	X	X	X	X	X
H220	X		X	X		
V123/133	X		X	X		
V200	X		X	X		
A326		X	X	X	X	X
AtlasLink®		X	X	X	X	X
C321+		X	X	X	X	X
H328		X	X	X	X	X
HA32		X	X	X	X	X
P326		X	X	X	X	X
P328		X	X	X	X	X
R330u		X	X	X	X	X
S321+		X	X	X	X	X
V320		X	X	X	X	X
V500		X	X	X	X	X
VR500		X	X	X	X	X
VR1000		X	X	X	X	X
VS330u		X	X	X	X	X
VS1000		X	X	X	X	X