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# Trimble ProPoint



Push the boundaries of GNSS performance



Trimble R12i

Trimble R780

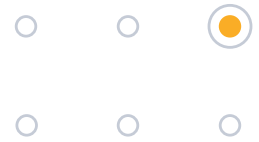
Trimble R580

Trimble DA2

The industry-leading **Trimble® ProPoint® GNSS engine** inside Trimble's portfolio of GNSS receivers was created from the work of the world's leading GNSS engineers. This global team—including our senior engineering teams in Munich, Germany and Sunnyvale, California—built a powerful engine by designing a positioning solution that uses all available GNSS constellations and signals in an optimal way.



# Trimble ProPoint



## How it's different

The ProPoint positioning engine leverages the latest Trimble GNSS signal tracking and processing hardware, advances in mobile computing technology, and ongoing enhancements to the GNSS constellations themselves to unlock new levels of RTK performance. While past approaches to signal management—the way in which the positioning engine uses raw GNSS observables and the correction message—were designed to make efficient use of the limited computing power available in mobile devices, the ProPoint engine uses an approach which, while more computationally-intensive, produces an optimal solution from the information available. Freed from past constraints, Trimble ProPoint can make use of all tracked signals and to weight inputs based on analysis of the signal quality, resulting in higher satellite availability and better geometry. When combined with advanced new proprietary noise modeling algorithms, ProPoint is better able to cope in situations where GNSS signals are obstructed or attenuated.

## Making the best of a difficult situation

In one common example—positioning near or under tree canopy—GNSS satellites and signals may be lost or become unusable because of diffusion caused by leaves and branches. In urban environments, signals may reflect off surfaces before reaching the GNSS receiver (multipath) or be obstructed entirely. These impediments limit the satellite data available to a GNSS receiver to produce a precise solution. The Trimble ProPoint GNSS engine can take all of the usable signals available to it and use them to produce a survey-grade solution in many areas where other GNSS systems either can't provide a solution at all or else produce a solution with unreliable error estimates.

## Improved accuracy, reliability, and productivity

At the end of the day, the benefit to users of Trimble ProPoint-enabled GNSS receivers is that survey-grade GNSS positions can more easily be obtained in a variety of environments, with greater accuracy and more reliable error estimates, in less time than ever before. This enables the surveyor to decide whether GNSS is the right tool for the job, which is particularly important in challenging GNSS environments\* such as near or among trees, near buildings, or mixed treed/urban environments. By empowering surveyors in this way, ProPoint GNSS technology will minimize the occasions when they must switch to less efficient tools to be sure of an accurate result.



*\* Challenging GNSS environments are locations where the receiver has sufficient satellite availability to achieve minimum accuracy requirements, but where the signal may be partly obstructed by and/or reflected off of trees, buildings, and other objects. Actual results may vary based on user's geographic location and atmospheric activity, scintillation levels, GNSS constellation health and availability, and level of multipath and signal occlusion.*