

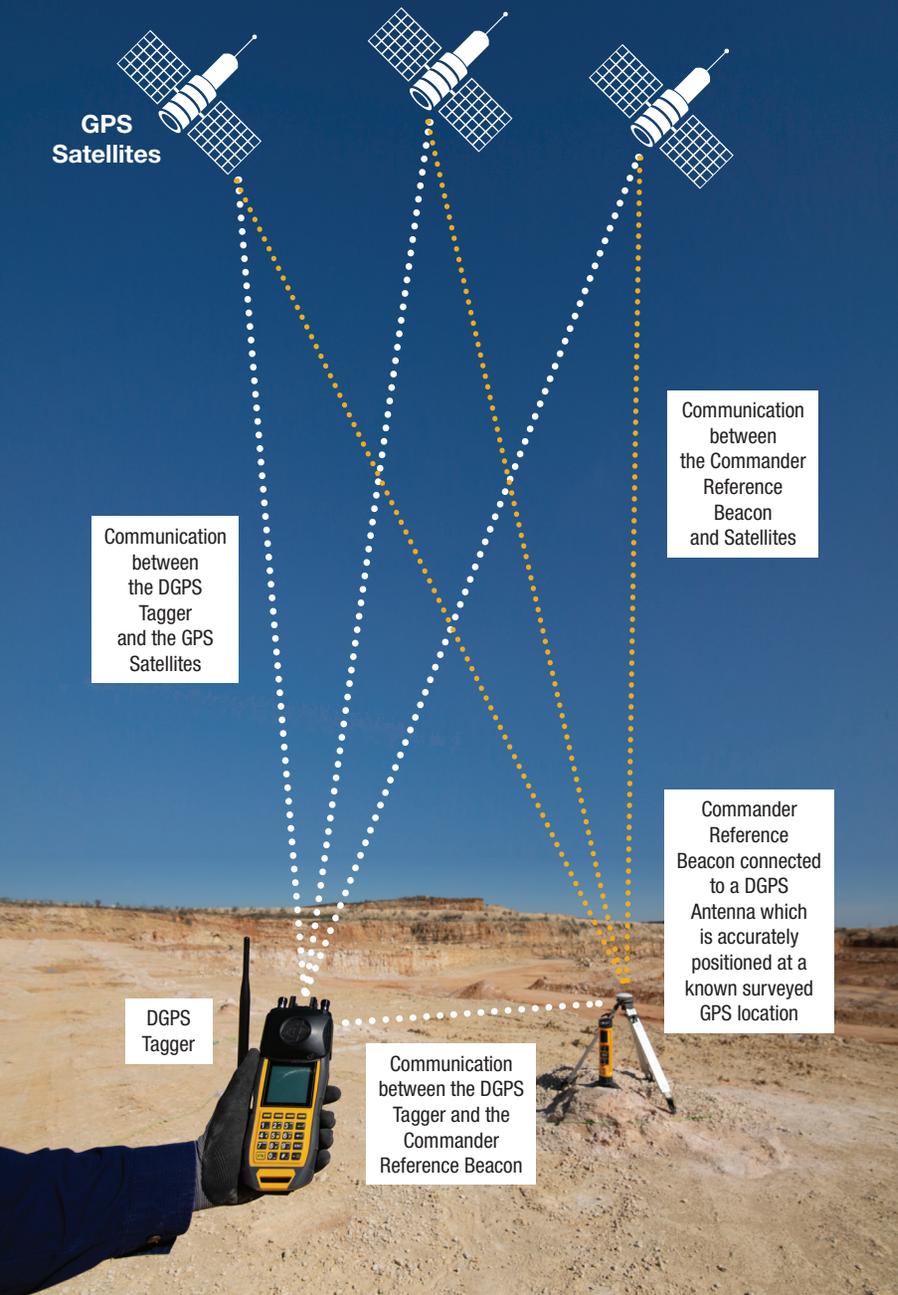


Differential GPS Technology combined with *digishot*[®] plus.4G

INTRODUCING THE FIRST EVER TAGGING & HOLE
IDENTIFICATION METHOD USING DIFFERENTIAL
GLOBAL POSITION SYSTEM

DYNO[®]
Dyno Nobel

How does the system work?



High Accuracy DGPS (Differential Global Positioning System)

The DGPS is a high accuracy (sub 3.28 feet / one meter), new addition to the CE4 Commander blasting system. The market leading CE4 Commander system has been further enhanced with the DGPS technology to accurately detect blast hole positions.

High accuracy differential GPS will revolutionize the deployment and tagging of the 4G detonators for surface mining. Potential human error with regards to incorrect blast hole identification or incorrect delay assignment is practically eliminated.

What is the difference between regular GPS and Differential GPS?

Normal GPS provides a position of an object on earth. It uses signals generated by satellites revolving around the earth.

GPS technology uses standalone receivers where the location is directly calculated but is also prone to errors such as satellite orbit errors, multi-path errors and clock errors. As a result, GPS can gain a nominal accuracy of 32 - 50 feet (10 - 15 meters).



Therefore, normal GPS accuracy is not suitable for blast hole positioning. This is why Detnet has developed a user-friendly Differential-GPS (DGPS) system which is fully integrated with the CE4 Tagger and Commander system. The system provides sub one-meter accuracy for accurate blast hole tagging/logging.

DGPS is a vast improvement to GPS. It reduces or eliminates signal degradation, resulting in improved accuracy.

The accuracy in DGPS is achieved by using a reference receiver (Commander) at a known (surveyed location) position that broadcast correction data to one or more rovers (Taggers). The rovers then adjust their 'perception' of where they are using the correction data from the reference station.

FEATURES

- Using the "Plan Mode" the CE4-Tagger automatically detects the blast hole location using the GPS co-ordinate from ViewShot 3D and automatically assigns the correct delay to the detonator as per the blast design.
- The tagging process does not need to follow a specific tagging path.
- When drill rigs are not equipped with GPS logging, the DGPS Tagger can be used to accurately log the blast hole positions.

BENEFITS

The CE4 Commander DGPS system is a ground-breaking technology advancement which:

- Eliminates potential human error by semi-autonomous tagging of blast holes essential to improve blast outcomes.
- Ensure accurate tagging of blast holes to improve blast outcomes.
- Easy, reliable and fast deployment to speed up the blasting process.