

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



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

High Accuracy DGPS (Differential Global Positioning System)

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

High-accuracy Differential GPS will revolutionize the deployment and tagging of the 4G detonators for surface mining through autonomous detonator tagging and/or blasthole logging. Potential human error regarding incorrect blasthole identification or incorrect delay assignment is practically eliminated.

Features

- Using the Plan Mode, the DGPS Tagger automatically detects the blasthole location using the GPS coordinate 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 blasthole positions.

Benefits

The CE4 Commander DGPS system is a groundbreaking technology advancement that:

- Eliminates potential human error by semi-autonomous tagging of blastholes to improve blast outcomes.
- Ensures accurate tagging of blastholes to improve blast outcomes.
- Uses easy, reliable, and fast deployment to speed up blasting process.
- Allows for future fully autonomous (robotic) deployment and tagging.

What is the Difference Between Regular GPS and Differential GPS?

Normal GPS provides the position of an object using signals generated by satellites revolving around the earth. GPS technology uses standalone receivers where the location is directly calculated but is prone to errors. As a result, GPS can gain a nominal accuracy of 32-50 feet (10-15 meters), which is not suitable for blasthole positioning.

This is why we developed a user-friendly Differential GPS (DGPS) system that is fully integrated with the CE4 Tagger and Commander system. The system provides sub-one-meter accuracy for blasthole tagging/logging.

The accuracy in DGPS is achieved by using the Commander at a known (surveyed location) position that broadcasts correction data to one or more Taggers. The Taggers then adjust their perception of where they are using the correction data. DGPS is a vast improvement to GPS because it reduces or eliminates signal degradation, resulting in improved accuracy.



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viewshot^ϕ
BLAST DESIGN

1



DOWNLOAD PLAN
TO TAGGER

2



ON-BENCH
TAGGING
ASSIGNING TIME
DELAY TO
DETONATOR

3



TAP TO
ARM

BASE
COMMANDER

4



TAP TO
BLAST

3000 m LINE OF SIGHT

REPEATER

OPTIONAL ONLY
IF LINE OF SIGHT
IS NOT POSSIBLE



VIA RF

SCALABLE, BLAST UP TO
10 BENCH COMMANDERS



BENCH COMMANDER 1600 DETS BENCH COMMANDER 1600 DETS



MAX 16 000 DETS

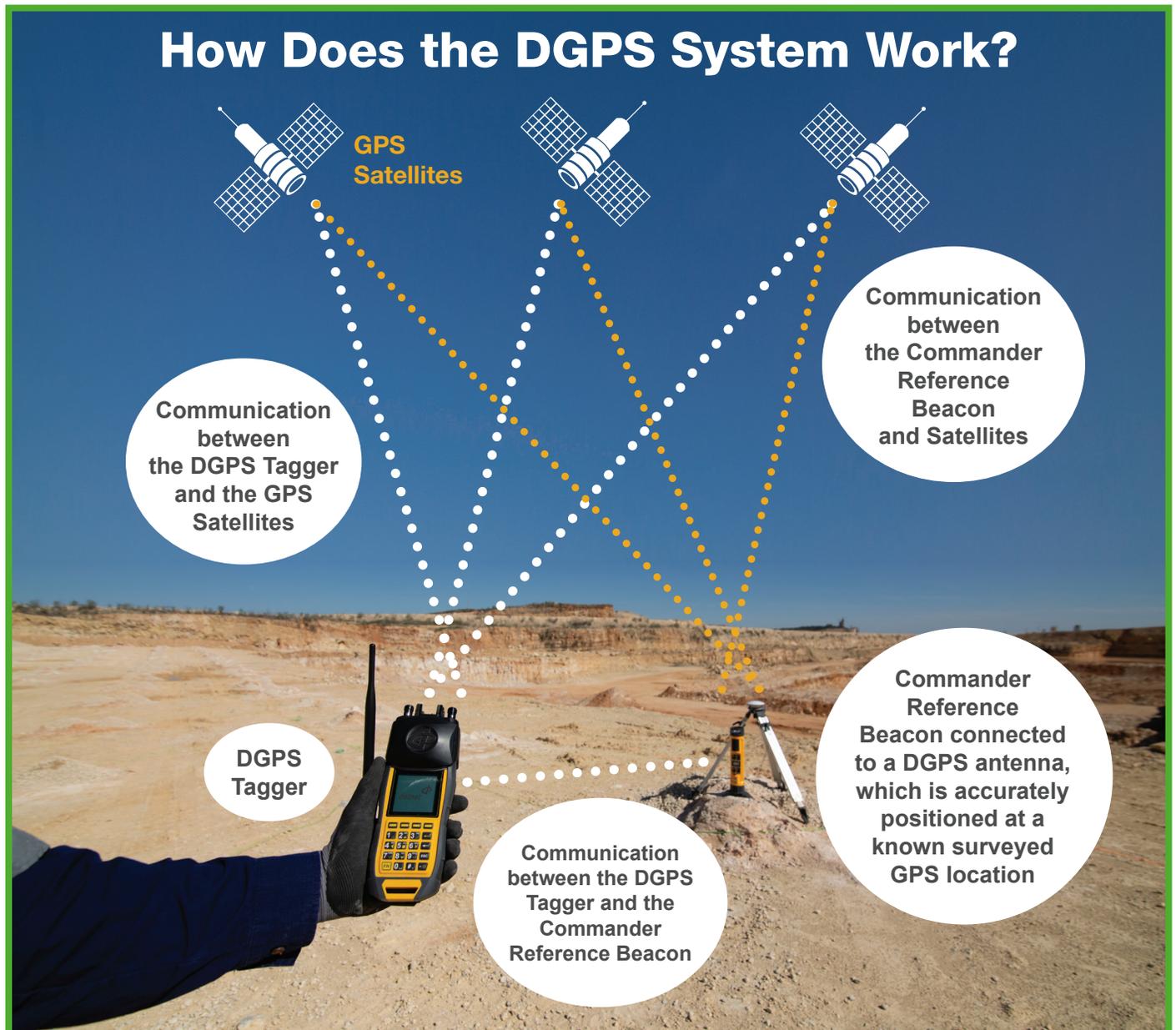


DGPS REFERENCE
BEACON

ViewShot 3D®

The ViewShot 3D blast software facilitates the planning, design, and simulation of a blast through a flexible and feature-rich user interface.

Using DGPS in Plan Mode, drill rig blasthole GPS coordinates are transferred to ViewShot 3D to do the final blast design timing sequence. The blast plan and timing sequence are then downloaded onto the DGPS Tagger. If drill rigs are not equipped with GPS, accurate blasthole coordinates can be logged by the DGPS Tagger on the bench and then transferred to ViewShot 3D to provide an accurate layout of the blasthole positions used in the blast design.



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