



# Global Positioning System



GPS is used to provide the location coordinates of roadway features and to create maps using CAD or a Geographic Information System (GIS).

## Reliable Data and Image Positioning

The ARAN GPS is integrated with other subsystems so that if the receiver cannot lock onto enough satellites to determine its position or satellite lock is lost, the ARAN Distance Measuring Instrument (DMI) and the ARAN Inertial Reference System (Smart Geometrics or POS LV™) will fill in the gaps.

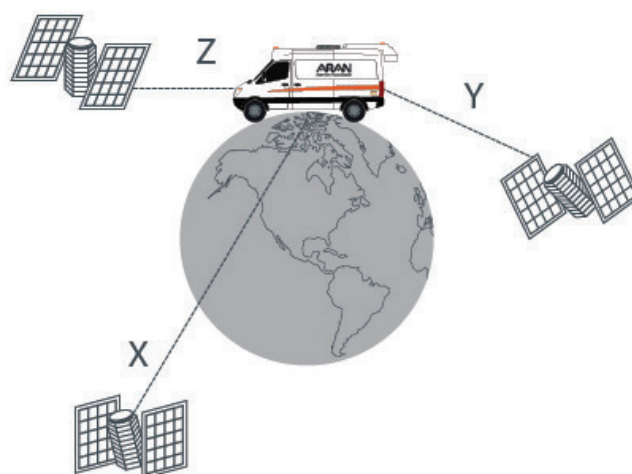
The accuracy of the system depends upon the mode of operation:

- Stand-alone mode: with one ARAN-mounted receiver the system is accurate 5 meters or better.
- Real-time differential mode: a real-time GPS mode where differential corrections are received from satellite or FM transmitters. Typical accuracy is 1 meter.
- Differential mode: an auxiliary base station is employed. The data from the base station and the mobile survey vehicle are merged during post processing to achieve sub meter accuracies.

Fugro uses a twelve channel mobile receiver and Real-time Differential GPS services such as OmniStar and Coast Guard Beacon. OmniStar is a satellite differential correction service used to eliminate the need for fixed base stations.

## Features

- Can be used to build an inventory of roadside features (bridges, guard rails, rail crossings, etc.)
- Data is commonly formatted in UTM coordinates
- GPS data can be exported to any popular GIS
- RTCM SC-104 compliant receiver
- All ARAN data including video can be tagged with GPS coordinates



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