

What is DGPS Differential GPS? How does it work? DGPS PDF

Introduction

Do you need better accuracy in locating your vehicle? Do you need better accuracy in functioning of your GPS? Then we have a solution to your problems. Today we will introduce you to the advanced version of your GPS which gives you the better accuracy and improved location accuracy.

This advanced version or the enhancement to Global positioning System or the GPS is DGPS i.e. Differential Global positioning System or DGPS. DGPS provides a better and improved location accuracy than GPS from a nominal GPS accuracy of 15 meters to that in the best implementation of about 10 cm. It increases the accuracy of the locations or the coordinates derived from the GPS receivers.

For Example:

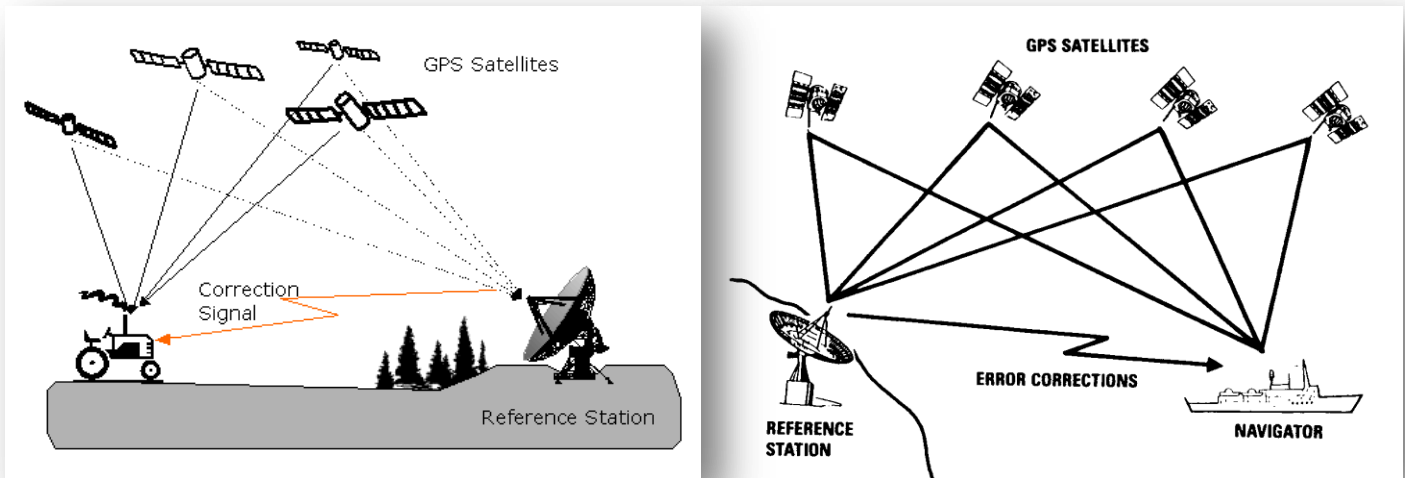
Canadian Coast Guard (CCG) uses DGPS for correcting most of the errors caused in GPS signals by taking the reference stations and then transmitting these corrected errors within CCG or USCG coverage area who is having DGPS receiver.

How does DGPS Works?

As we know about the working of GPS that how it calculates the position on earth by receiving the signals sent from the four satellites. This system works but somehow some errors might be there which reduces its accuracy. As locating the location GPS uses radio signals which travel through the atmosphere at the speed of light but somehow the earth atmosphere slows down the electromagnetic energy while piercing through the ionosphere and troposphere. So different location have different atmosphere which means the delay caused by above factor varies with locations.

These above errors are corrected by nothing else but the Differential GPS. In Differential GPS mechanism we are having a stationary DGPS hardware at the location which is known. This stationary station is known as the reference station. This station calculates the differential error and makes the differential corrections for the location and time. This station after making corrections broadcasts these radio signals to all the DGPS

equipped receivers which give the locations which are much more accurate than the ordinary receivers.



GPS technology receivers locate the transmissions of at least four satellites and combine the information of these four satellites in order to know the exact location or the receiver's position on earth. As soon as the calculations are made, this receiver can tell you the longitude, latitude and altitude.

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