

iPads and GPS, let's get to the bottom of this.

There is a lot of confusion around iPads and their location services. Does the iPad use Wi-Fi, 3G or GPS for determining its location? I have spoken to various iStore employees and found that very few of them understand the difference in technology, so this document will attempt to bring some clarity on this matter.

What is Location Services?

Apple uses the term Location Services to describe the iPad's ability to determine your approximate location. How your iPad determine your location depends on the model you have as well as the availability of cell towers, Wi-Fi and GPS signal.

You need to understand that all iPad's will provide you with a location when it is able to connect to the internet, this however does not mean you are using a GPS signal to determine the location.

What is GPS?

In short GPS stands for Global Positioning System. The system is made up of a bunch of satellites which orbit the earth. Each satellite transmits its location and time. Then there is what we call a GPS receiver, commonly referred to as a GPS. The GPS receiver is capable of receiving the signals from the orbiting satellites and when it has line of sight to three or more satellites it will be able to determine your location based on the information received from the satellites.

It is important to understand that the GPS receiver does not require access to the internet in order to receive the signals from the satellites, hence, when you venture into the remote areas where no Wi-Fi or 3G is available and you need location, then you want to have a GPS.

Tip: GPS requires line of sight to satellites and will not work indoors or in dense tree cover – it's an outdoors thing!

But what about WiFi and 3G?

The term 3G is used instead of a cellular connection. There are several types of cellular connections, e.g. GPRS, Edge, 3G etc. For the sake of simplicity we refer to 3G as Apple uses this in their marketing material as well.

If you do not have a GPS in your iPad or you are indoors and no GPS signal can be accessed then sometimes your iPad still finds your location. This is done by means of Wi-Fi and cell tower information. Each cell tower has a known location and the 3G modem in you iPad can determine

which cell towers are available and based on triangulation will calculate your approximate location. The use of Wi-Fi is similar but the location of Wi-Fi transmitters is not always accurately available.

***The general rule is that** when you have access to internet on your iPad, then an approximate location can be calculated without having to have GPS available.*

What do I need to use the Tracks4Africa Overland Navigator app?

The Tracks4Africa Overland Navigator app makes use of offline maps. In other words the maps are installed with the app onto your iPad and you do not need an internet connection in order to download maps as you drive. An example of online maps would be Google Maps where you constantly require an internet connection to download the maps as you drive.

The whole point behind Tracks4Africa maps is to navigate you through remote areas where there is no cell phone reception or internet available. This means that your iPad cannot rely on Wi-Fi and 3G to determine your location and it must have a GPS installed.

***What you need to understand** is that if you want to take full advantage of the Tracks4Africa Overland navigator, then you need to have an iPad with a GPS installed.*

Which iPads have GPS?

This is the trick question to all iPad salesmen. First of all very few of them know what GPS is and they think it means location. Now if you have read the above then you will realise that there is a big difference between location derived from Wi-Fi, 3G and GPS. So instead of asking the salesman these questions rather do your homework.

The explanation that follows is based on how Apple decided to package their iPad products and has nothing to do with how other manufacturers put together their offering.

You basically have two groups of iPad models, those with Wi-Fi and 3G and those without 3G. In these groups you get variations based on the memory sizes available.

***What you need to understand** is that iPads with 3G, also have a GPS receiver built in. The iPads with only WiFi does not have a GPS receiver built in (but can still determine your approximate location when in range of a WiFi network).*

This holds true for all iPad models; iPad2, iPad3 and iPad Mini. This information is valid up to August 2013 when this document was written, Apple may in future change how they package their products.

If you do not understand the above then give us a call so we can talk you through it.

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