



# Research Report

Topic “How does GPS systems work?”

Level : L7

Name : Sky

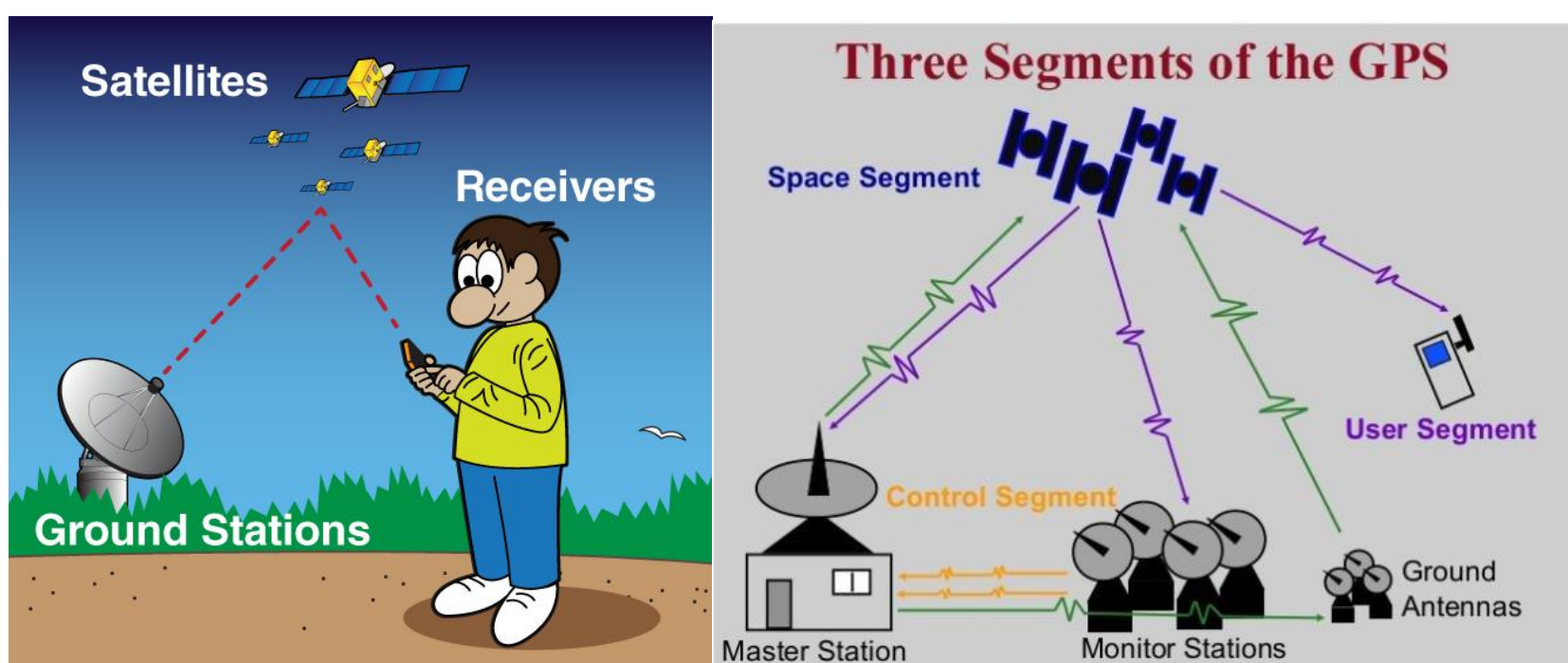
Instructor : T. Tim

Editor: T. Vivian



We can see GPS everywhere in our daily life. It's a very important technology that makes our life easier. GPS system is mostly used in transportation. It can tell us the right directions while we're driving so we don't get lost. The system can also help people who are in danger quickly be found. You can find out where you are and how far you are from the destination by using GPS, too. However, how does GPS work? How does it know your location in just a few seconds?

GPS is made up by three parts: satellites, ground station, and receivers. There are 24 satellites orbiting around the earth and we need at least 4 to find any locations on earth at all times. Each satellite sends out a signal that includes the exact time that the signal is sent and the exact position of the satellite to the earth. With these information your GPS receiver can figure out your location by multiple up the numbers it gets.





GPS is useful in our lives. However, there are still some advantages and disadvantages of this system. One of the advantages is that it is free. It doesn't consume wireless communication data from telecommunication service provider while using the GPS. GPS service are accessible all over the world, too. You can use this system anywhere on the planet. GPS can also be used to find information on the local area, like discovering where the nearby restaurants or the nearest gas station is. While you are driving, you can notice if there is a traffic accident ahead with the GPS system so you can turn to other ways. This can shorten your journey time and also improve safety.



Although there are so many advantages of GPS, there are still some disadvantages can be improved. When GPS is combined with internet technology, it can become easily for people to track someone's movement. It will become more dangerous for people on the internet. Signals of GPS can be obstruct by walls, buildings or geomagnetic storms. This can cause problems while the positions isn't fully accurate. GPS devices can be used to stalk for criminal purposes. A device can be placed in a car so that the location can be tracked. It will cause privacy issues.



GPS system is a great and important technology in our lives. It can do many things for us, but it also has some serious problems. So, when we are enjoying using this helpful system, we should still be careful and be aware of it.