

Artificial Satellite Types

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Just what is a satellite? And what's their purpose? If you've ever wondered about the science behind the satellite, then this is for you.

Content:

A celestial body orbiting another celestial body of larger size is a satellite. An artificial satellite is a manufactured object or vehicle intended to orbit the earth, the moon, or another celestial body. Since October 4th, 1957 humanity is capable of putting artificial satellites in orbit around the earth. The Russians were the first with Sputnik a small satellite that orbited the earth for a couple of months and transmitted beeps for 21 days.

The USA launched its first satellite on January 31st, 1958. This satellite was named Explorer 1, and through the data transmitted back to earth by Explorer 1, scientists discovered the van Allen radiation belts, zones in space around the earth, and the planets Jupiter and Saturn, containing high-energy protons and electrons.

50 years ago artificial satellites did not exist. Since Sputnik more than 4800 satellites have been launched by governments and private companies around the world. Satellites are used for satellite TV of course, but there are many more purposes for satellites.

Types of Satellites

The Moon is a satellite of the earth the earth is a satellite of the sun. The first is called a moon, the second a planet. Man made (artificial) satellites orbit any celestial body and are always called a satellite, whether they orbit the earth, the moon, the sun or any other celestial body.

We use satellites for different purposes and all satellites can be placed in one of the following categories:

Communications Satellites

Distribution of television and audio signals, and telephone connections via satellite are done by Communications Satellites. These types of communications typically need a satellite in geostationary orbit. In 1964 the US Department of Defense launched the first satellite that was placed in geostationary orbit. This satellite was named Syncom 3.

Today geostationary satellites are used to provide voice, audio and video communications like satellite TV by Dish Network Satellite.

Navigation Satellites

These satellites were of enormous help to transportation companies, especially transportation over water and through the air. The US GPS satellites are in Low Earth Orbit (LEO) and can determine position with a precision of 1 cm (0.4 inch). However, that very precise positioning is available for military purposes only. For commercial use the precision is less accurate.

Navigation satellites are also used for distance measurements for instance between buildings.

Weather Satellites

Observing the earth is the task for weather satellites, and then especially what happens in the atmosphere. Different kinds of cameras, like infrared and normal cameras are used to observe either the same part of the earth, from a geostationary orbit, or more closely from polar orbits to get more detailed pictures. These low orbit weather satellites focus more on the study of the atmosphere than on the current weather it self.

Military Satellites

Very similar to weather satellites, military satellites are also used for observing the earth. Generally with higher resolution cameras and instead of normal communications equipment, they use encryption as well. Sometimes these types of satellites have very different types of orbits. For instance a very elliptical orbit which brings the satellite as far away from the earth as the moon and as close to the earth that it shortly enters the atmosphere, to get as close as possible to the earth surface without falling back to earth.

Probably many more tactics are used, but for obvious reasons, these are unknown.

Scientific Satellites

Observing the earth for scientific purposes is also very good possible with satellites. Making maps with low polar orbits satellites for instance, but also measuring the exact shape of the earth, geological research, etc can all benefit greatly from scientific satellites.

But scientific satellites are not just used for observing the earth. The research of space benefits also from scientific satellites. For instance the Hubble Satellite which actually is a huge telescope that orbits the earth. Because the Hubble telescope doesn't have to go through the atmosphere it can produce much clearer and detailed images than earth based telescopes.

About the Author: Gary Davis has many years experience in the Satellite TV Industry and has written numerous articles on the topic. To learn more about satellite television, visit Dish Network Satellite TV at <http://www.dish-network-satellite-tv.ws>

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