



Note: This file can not replace watching the video lecture. Because the video lecture contains more explanation through graphical elaboration.

Certified Junior Astronaut Training Course

Components of the Space System (Part 2)





This lecture will answer the following inquiry:



What are the components of a Satellite?



What are the components of a Satellite?

A Satellite is usually composed of the following:

- ✚ **Bus Structure.**
- ✚ **Thermal Protection Systems** :They fully cover the Bus Structure to isolate the internal components from the sun heat.
- ✚ **Fuel tanks, Propulsion System and Thrusters:** They are used in directing the satellite towards its correct orbit during the orbit correction process.
- ✚ **Solar Arrays:** They are used to charge the satellite batteries for supplying all electronic components with electric energy.



Source: Eutelsat

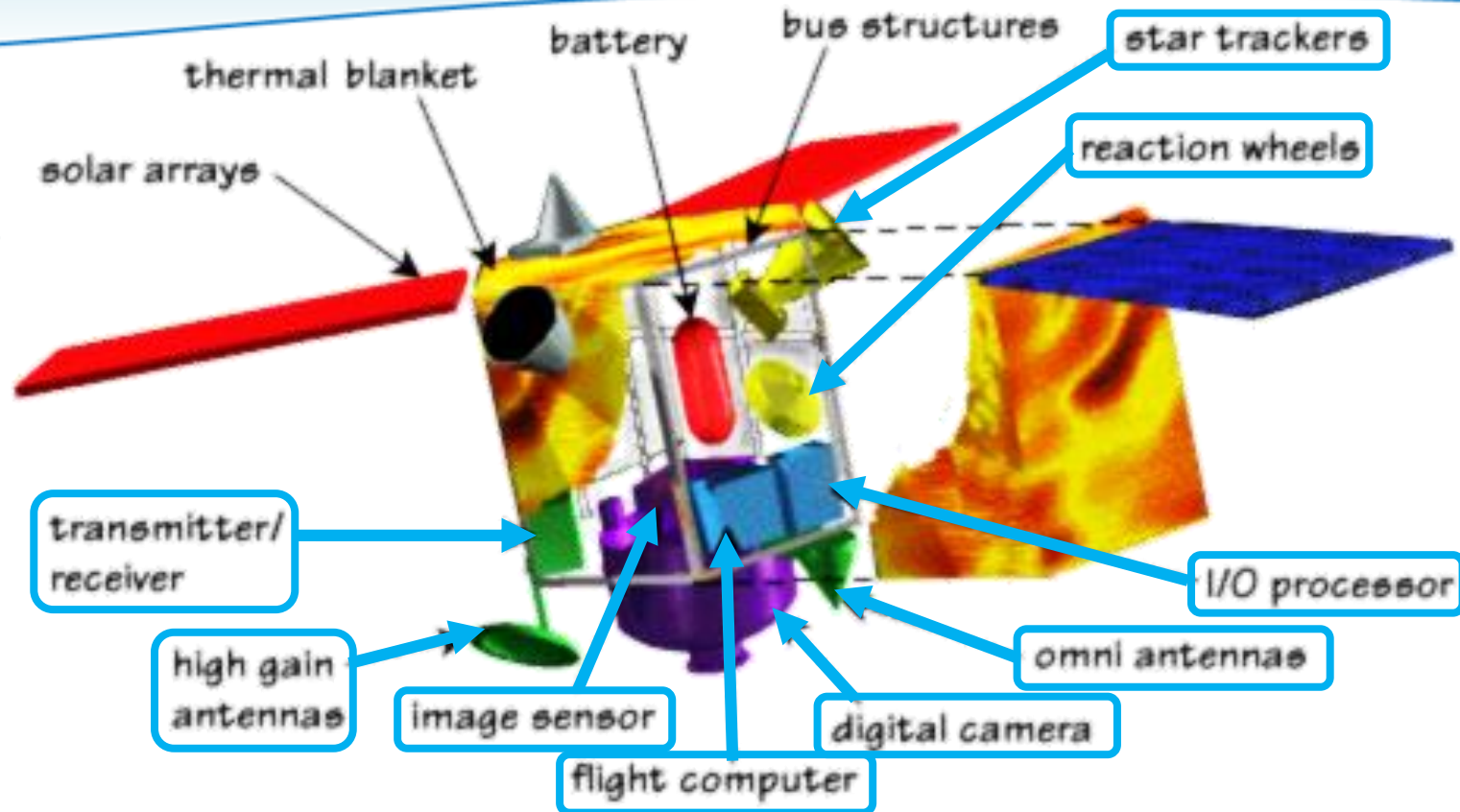
Cont.. What are the components of a Satellite?

Communication System: It is used in conducting all communication processes between the Satellite and both Receiving & Control Stations. They include transferring data, images, commands of guidance and orbit correction.

Onboard Computer: It controls all Satellite components and tasks. It also monitors their performance.

Imaging Sensor: It only exists in Imaging and Remote Sensing Satellites. It achieves all imaging commands that are sent from the ground stations.

Reaction Wheels and Star Trackers: They control the satellite orientation and attitude control, in order to direct it towards the required imaging locations and ground stations that are required to deal with.



● Command & Data

● Pointing Control

● Communications

● Power Supply

● Mission Payload

● Thermal Control

Source: The Tech Museum, Lockheed Martin



Thanks for your undivided attention

