SPUTNIX
BY SITRONICS

Kit of the OrbiX spacecraft



The educational platform is a kit of an interplanetary probe for studying the principles of satellite engineering and spacecraft control.

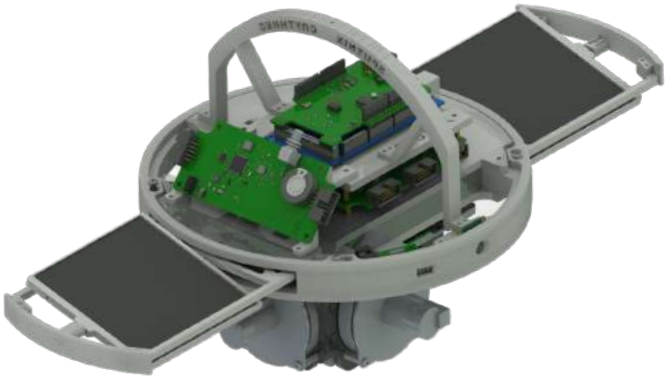
SPUTNIX invites you to become space explorers together with our new kit of the OrbiX interplanetary probe!

OrbiX — is an innovative educational kit that offers a unique opportunity to create your own prototype spacecraft.

The main characteristics of the constructor

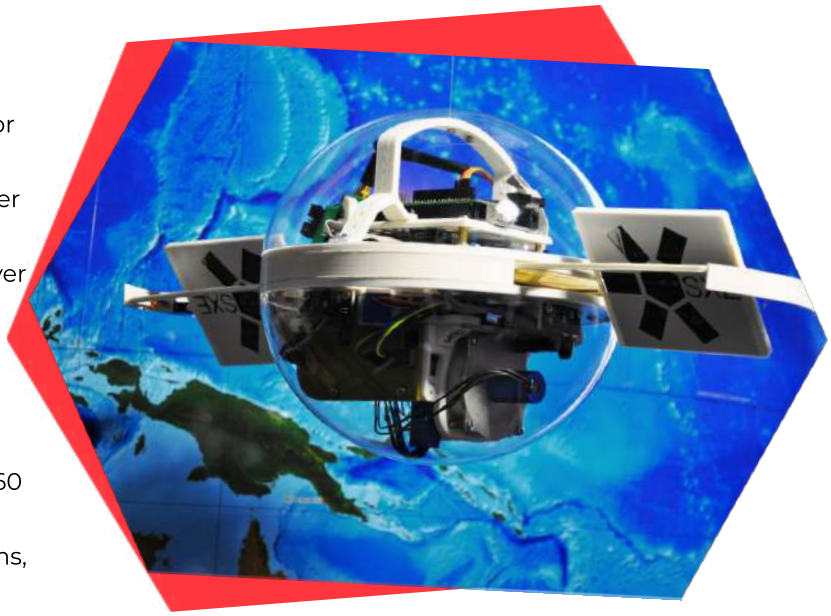
Specifications	
Overall dimensions of the designer, assembled	235 mm
Assembly weight, kg, no more	3
Battery capacity, Wh· not less	100
System bus voltage, V	6.6 - 8.4
Maximum current consumption	5 A
Operating temperature range, °C	from 15 to 65
Frequency of the radio channel, MHz	435-438
Radio Channel Protocol	AX.25, USP
VHF data transfer rate, bit/s	9600
Data transfer rate via Wi-Fi, kbit/s	4000
IR data transfer rate, bit/s	116200
On-board bus interface	CAN2.0 B
Sensors	SD, DUS, Magnetometer
Bort – MCC data exchange interface	Wi-fi, VHF, IR
Materials of the body and parts	ABS plastic, PLA plastic, Plexiglass, aluminum
Solar panel deployment system	Availability
The ability to install payloads	Availability

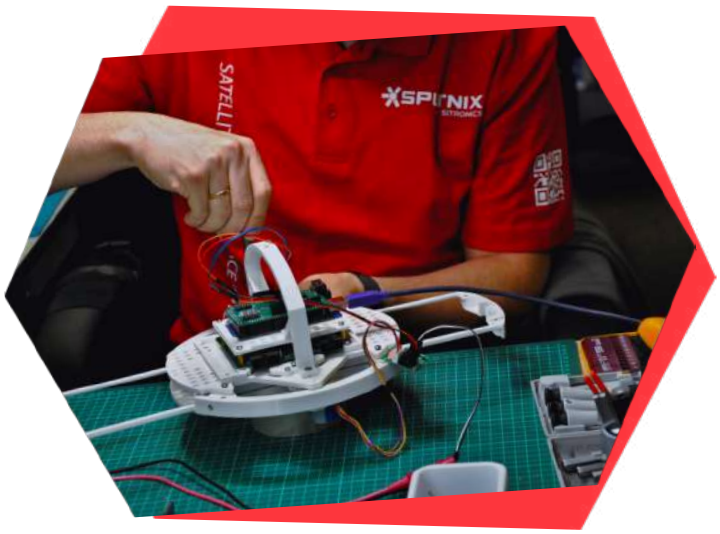




OrbiX allows you to:

- To work out orientation and stabilization algorithms using flywheel motors, sun sensors, magnetic field sensor and angular velocity sensor;
- To work out the reception and transmission of data over the VHF radio channel;
- To work out the reception and transmission of data over a high-speed directional communication channel in the form of an imitation using an infrared transceiver;
- Simulate the process of remote sensing of the planet using a camera, with the possibility of connecting other sensors;
- Develop your payload based on the Arduino MEGA2560 platform;
- Gain skills in programming, building control algorithms, calibration, design and modeling;
- Gain data processing skills from various types of sensors and probe systems





The set includes:

- Housing Details:
  - Body parts made of ABS and PLA plastic;
  - Details of the Acrylic glass case (hemispheres)
  - Details of the solar panel deployment system
- Fasteners (screws, nuts, racks, etc.)
- Modules for the solar panel deployment system (Servos, motors, etc)
- Connecting wires and cables
- Packaging (Case, lodgements, etc.)
- Accompanying documentation
- Methodical educational materials

Set configuration

- Housing details,
- Fasteners,
- Modules: SEP, BVM, UDM+3 flywheels, PN, remote sensing camera, loop tester,
- Solar panel deployment system
- Modules: SD, VHF, HF



SPUTNIX (part of the SITRONICS Group) is a Russian private manufacturer of high-tech satellite components and platforms for small spacecraft (MCA), ground-based equipment for testing and testing ICA, ground-based satellite stations, as well as equipment for aerospace education.

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