INTERORBITAL SYSTEMS
CubeSat Satellite Kit

CubeSat KIT INCLUDES FREE LAUNCH!

Interorbital Systems' CubeSat Personal Satellite Kit can be assembled into a low-cost satellite bus or a fully functioning satellite. The price of the CubeSat kit includes a launch into low-Earth orbit on an Interorbital NEPTUNE modular rocket. Orbital launches are scheduled to begin in 2015.

Examples of CubeSat experiments include the following:

▼ Earth-from-space video imaging
▼ Earth magnetic field measurement
▼ Satellite orientation detection (horizon sensor, gyros, accelerometers, etc.)
▼ Amateur radio relay
▼ Orbital environment measurements (temperature, pressure, radiation, etc.)
▼ On-orbit hardware and software component testing (microprocessors, etc.)
▼ Tracking migratory animals from orbit
▼ Testing satellite stabilization methods
▼ Biological experimentation
▼ Automatic simple, repeating "message from orbit" transmission
▼ Personal e-mail

The builder can add any type of electronics or software application he or she wishes as long as it satisfies the volume and mass restrictions. These restrictions provide a unique intellectual challenge for the application designer.

Each CubeSat Kit includes the following basic hardware and software:

▼ Printed Circuit Board Gerber Files
▼ Transceiver (FCC or equivalent license required)
▼ A Battery Pack
▼ Solar Cells
▼ A Power Management Control System (PMCS)
▼ Microcomputer
▼ Software
▼ Antennas
▼ Power switch
▼ Complete Instructions

The total mass of the basic CubeSat systems is 0.65 kg. This leaves 0.35 kg or 0.68 for your experiment or application. (Total 1.00-kg or 1.33-kg options)

Your CubeSat will be launched on an IOS NEPTUNE modular rocket

The modular rockets are three-stage, ultra low-cost NEPTUNE orbital launch vehicles developed and built by Interorbital Systems. They are designed to place between 30 and

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1,000 kilograms into polar Low-Earth Orbit. The 30-kg payload capacity variant allows formations of 24 TubeSats, or a combination of CubeSats and TubeSats, to be launched per orbital mission with each TubeSat or CubeSat housed in its own dedicated deployment unit.

Your CubeSat will be launched from the Pacific Ocean

IOS rockets are slated to be launched into orbit from an ocean launch site in the Pacific Ocean off the coast of California or Hawai'i, with future launch activities staged from the IOS Spaceport Tonga located on the island of 'Eua in the South Pacific Kingdom of Tonga.

Your CubeSat will be launched into a self-decaying orbit

CubeSats will be launched into a 310-km circular polar orbit with an orbital longevity of three weeks to two months depending on solar weather. At some time during the end of this period, each satellite will safely re-enter the atmosphere and burn up. Launching to this altitude prevents the build-up of orbital debris fields.

Multiple options for ground reception

CubeSat owners can build their own uplink/downlink installation, use a hand-held receiver, or make use of existing ground stations or networks located around the world. Interorbital is presently developing a web-based communications system for the CubeSat community.

Multiple CubeSats

CubeSats are also available as Double(2U) CubeSats, Triple(3U) CubeSats, or Quads(4U). The length, volume, and mass of these expanded CubeSats are based on the multiplying factor, as is cost.

Specifications

Dimensions:
CubeSat Shell: OD = 10.16 cm (4.0 in), ID= 9.65 cm (3.8 in), Length = 11.43 cm (4.5 in)
Deployment Cylinder: OD = 15.24 cm (6.00 in) ID = 14.99 cm (5.90 in)

Mass: 1.00 kg or 1.33 kg

Transceiver (FCC license or equivalent required): Radiometrix TR2m with an AFS2 amplifier (500 mW)

Microcontroller/Computer:	Arduino 5 Mini
Battery Power:	Lithium Ion 3.6 V
Solar Cells:	2.52 V 31 mA (60)
Antenna:	Dipole