DIY Satellite Platforms: Building a Space-Ready General Base Picosatellite for Any Mission

By Sandy Antunes

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Want to build your own satellite and launch it into space? It’s easier than you may think. The first in a series of four books, this do-it-yourself guide shows you the essential steps needed to design a base picosatellite platform—complete with a solar-powered computer-controlled assembly—tough enough to withstand a rocket launch and survive in orbit for three months.

Whether you want to conduct scientific experiments, run engineering tests, or present an orbital art project, you’ll select basic components such as an antenna, radio transmitter, solar cells, battery, power bus, processor, sensors, and an extremely small picosatellite chassis. This entertaining series takes you through the entire process—from planning to launch.

- Prototype and fabricate printed circuit boards to handle your payload
- Choose a prefab satellite kit, complete with solar cells, power system, and on-board computer
- Calculate your power budget—how much you need vs. what the solar cells collect
- Select between the Arduino or BasicX-24 onboard processors, and determine how to use the radio transmitter and sensors
- Learn your launch options, including the providers and cost required
- Use milestones to keep your project schedule in motion

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Editorial Review

About the Author

Alexander "Sandy" Antunes (born 1967 in Baltimore, Maryland) is a Maryland-area astronomer, author, and role playing game designer. He graduated from Boston University in 1989 with a dual major in astronomy and physics, received a Masters in astronomy from Penn State in 1992, and received his PhD in computational astrophysics from George Mason University in 2005. He was the Maryland Science Center "Science Person of the Month" for May 2007.

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