

Spaceborne Global Positioning System for Spacecraft

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DESCRIPTION

This technology is a computer controlled space borne global position calculating device. It has global positioning system board controlled by processor, to select tracking signals to calculate positional information. provides navigational solutions and is designed for use in low Earth orbit. The spaceborne GPS receiver can determine the orbital position of a spacecraft using any of the satellites within the GPS constellation. It is a multiple processor system incorporating redundancy by using a microcontroller to handle the closure of tracking loops for acquired GPS satellites, while a separate microprocessor computes the spacecraft navigational solution and handles other tasks within the receiver. The spaceborne GPS receiver can use either microcontroller or the microprocessor to close the satellite tracking loops. The receiver utilizes up to seven separate GPS boards, with each board including its own set of correlators, down-converters and front-end components. The receiver also includes telemetry and time-marking circuitry.

FEATURES AND BENEFITS

- This technology provides better tracking performance of acquired GPS satellites.
- The spaceborne GPS receiver communicates with other spacecraft systems through a variety of interfaces and can be software-configured to support several different mission profiles.

APPLICATIONS

- Positioning and Navigation
- Aerospace

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-13991-1, please contact:

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