

ST2500 LEO Satellite Transceiver

Features

- Low Earth Orbiting (LEO) satellite communication
- Remote, two-way communications
- Performs well in concealed, low visibility locations
- Low installation cost and simple installation
- Omni-directional whip antenna
- No user specific governmental agency approvals or FCC licensing required
- Data interaction via e-mail and/or website with URL set up for each station or network of stations
- Data memory storage

Applications

Remote environment data acquisition and control for

- Water resources information and control
- Irrigation management
- Flood warning
- Reservoir management
- Weather monitoring



Description

The Stellar ST2500-C is an ORBCOMM low earth orbiting (LEO) satellite transceiver and data recorder capable of sending and receiving two-way alphanumeric packets, similar to two-way paging for the LEO satellites that provide worldwide geographic coverage. There are four operational modes: transmit for burst uplink transmission, receive for continuous reception of downlink, I/O monitoring for event detection, and sleep for timer-controlled transmission and reception. The ST2500-C is easily integrated as part of a data collection system and is compatible with Stevens' data logger or has 512B (4 k optional) RAM & EEPROM data memory for buffering data prior to transmission. The ST2500-C transceiver integrates with monitoring instruments for full transfer capability to and from the ORBCOMM system.

ORBCOMM's global system includes 30 MicroStar Satellites which transmits data between the monitoring site and one of the earth gateway stations via narrow band VHF frequencies. System operation is similar in concept to cellular phone service, but is strictly for data communications. Data can be sent and received by the end user using a personal computer with e-mail or internet accessibility. No unique software or dedicated computer is required.

www.stevenswater.com

Stevens

ST2500 LEO Satellite Transceiver



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Technical Specifications

Input Voltage

8 or 12 volt, direct current, 2.5 A/h

Transmit Frequency

148.000 - 150.050 MHz

RF Transmit Power

5.0 Watts

Receive Frequency

137.000 - 138.000 MHz

Sensitivity

-116 dBm

Message Size

6 - 250 bytes typically, no maximum

Position Resolution (optimum, 1 pass)

375 meters

Data Rate

4800 bps transmit

2400 bps receive

Total Power Requirements (at 12.0 VDC)

Transmit 2.5A

Receive 90mA

Power Save Receive 60mA

Monitoring I/O <150µA

Sleep Mode <100µA

Temperature and Humidity

Operating: -40 F to 185 F (-40 C to 85 C)

Humidity: 95%

Physical Size

7.1" L x 4.1" D x 1.6" H

(180 mm x 104 mm x 41 mm)

Interfaces

RS 232 1

LED indicators 2

RS485 (optional in place of one RS 232 port) 1

Digital Inputs (optional): 5-6 optically isolated, either status or counting accumulator (6 with 128k memory option)

Digital Outputs (optional): 4-6 optically isolated, (6 with 128k memory option)

Analog Input: 5, 0-5 V, 10 bit resolution

Power Control: 1, 3A, in place of one digital output

I/O Processor Development Environment

Programming Memory: 8k

(128k optional) flash

Data Memory: 512B (4k optional)

RAM & EEPROM

Connectors

I/O High Density DB26

Serial DB9

ORBCOMM Antenna . . BNC (TNC optional)

GPS Antenna SMB

Space Segment

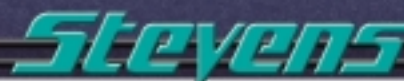
Satellite: 2 Near Polar 28 Incline 45°

Altitude/Orbit: 475 miles (775 km) Circular

Ordering Information

Part Number	Description
91275.002	ST2500 ORBCOMM Satellite Transceiver, without antenna or antenna cable
92739	Antenna, Helical, Orbcomm, Omni-directional
92926	Antenna cable assembly, UHF-BNF - RG-58 (specify cable length)

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