

The
StarWaveTM

Devices for Worldwide Asset Location

The StarWave system is offered by GPS ONESTAR for complex, two-way event and automatic location reporting over the Inmarsat® satellite network. Inmarsat delivers true worldwide operation capability. A service area map is shown below.

Data created by StarWave devices is instantly routed to the ONESTAR backend server operations and is immediately available to ONESTAR customers via a password-protected web site.

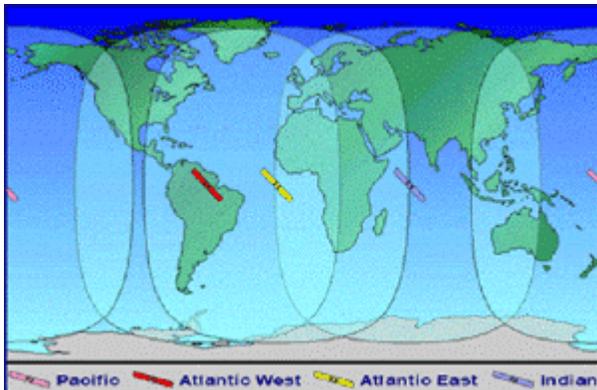
In most cases, the most recent location is displayed on a street-level map, with complete historical information just a couple of mouse clicks away. Although street level maps are not available for all cities and countries, ONESTAR will work diligently with map data sources to provide whatever the customer requires.

StarWave devices are small (about the size of a portable CD player) and completely sealed in a NEMA-type case and install with screws or industrial adhesive tape. If required, cables and connectors are available to support up to four inputs for event (switched) reporting.

Technically, the StarWave is an integrated Inmarsat-D+ transceiver, GPS receiver and omni-directional antenna all enclosed in a rugged, environmentally sealed package. The StarWave's small profile allows it to be mounted on assets inconspicuously, drawing little notice from operators and would-be thieves, making it ideal for asset tracking and security applications.

The StarWave's built-in scripting language allows the unit to be configured to operate autonomously without any external controller, lowering costs and power consumption. The StarWave can be configured over the ONESTAR/Inmarsat satellite air link or locally through the RS-232 user data port.

The ideal ONESTAR StarWave application is for tracking semi trailers (with the addition of a battery pack), but other markets include containers, off-road equipment, construction equipment, boats and rail cars.



ONESTAR

StarWave Inmarsat D+ Mobile Services Satellite Transceiver



Track, Monitor, or Control any asset on land or at sea with ONESTAR's StarWave Satellite Transceiver

The ONESTAR Mobile Inmarsat D+/GPS satellite transceiver is the smallest Inmarsat 2-way terminal available and is the ultimate solution to track monitor or control any asset around the world. With the StarWave, you can send and receive messages to and from any asset whether it's on land, at sea or in the air. Whether you need to communicate with a truck, a trailer, a train, a boat, a buoy, an oil well head, a valve, or a propane tank, the StarWave is the ideal solution.

The StarWave is an integrated Inmarsat-D+ transceiver, GPS receiver and omni-directional antenna all enclosed in a rugged, environmentally sealed package. The size of a portable CD player, the StarWave weighs less than 600 grams and fits in your hand. The StarWave's small profile allows it to be mounted simply and inconspicuously, drawing little notice from operators and would-be thieves, making it ideal for asset tracking and security applications. It can also be installed covertly beneath fiberglass or plastic enclosures. Its very low power consumption also makes it the ideal solution for battery-powered mobile applications such as tracking the movement of rail cars, containers, fishing boats or any other assets where access to power is difficult or impossible.

The StarWave is the solution of choice for SCADA (Supervisory Control and Data Acquisition) applications. Supervising and controlling remote fixed assets such as industrial oil & gas equipment, water distribution equipment or environmental monitoring equipment is often a challenge as external power sources are unavailable or difficult to access.

The StarWave's low power consumption allows for remote battery powered operation for periods as long as four to five years. The StarWave's built-in scripting language is easy to use and allows it to be programmed to operate according to applications specific requirements. Each program, or application specific operating instructions can be loaded into its memory locally through the StarWave's RS-232 port or remotely by sending the program over the air on ONESTAR's D+ network.

**Track, Monitor and
Control any Asset**

•

**Global Coverage on
Land, Sea or Air**

•

**Operates for Years on
Standard Batteries**

•

**Small, Lightweight
and Stealthy**

VIA
INMARSAT™

**Whether you need to track, monitor or control any
asset on land or at sea, the StarWave is the ideal
'small message' service for mobile assets.**

Configuration Options

StarWave (side mount connector)
StarWave (bottom mount connector)
StarWave Evaluation Kit (side mount connector)
StarWave Evaluation Kit (bottom mount connector)

Physical

Size: 160mm (diameter) x 52mm (height)
Weight: 580g

Environmental

Operating Temperature Range: -40j to +70j C
Storage Temperature Range: -40j to +85j C
Humidity: 95% Relative Humidity at 30j C
Vibration: 5-20 Hz: 1.92 m²/s³ random noise
20-500Hz: -3dB octave random noise
Half sine 6ms, 300m/s²
Shock (survival):

Electrical

Input Voltage Range: 9 VDC to 30 VDC
Power Consumption (typ @ 12Vdc):
Receive: 0.9W
Idle: 0.25W
GPS Active: +1.0W;
Heater Active: +5.0W
Transmit: 10W; Sleep: 500! A
Mating Connector: Conxall Mini-Con-X™ 6282-6PG-3XX

Satellite

Coverage: Global, four overlapping regions & Spot Beams
Frequency Range: Rx: 1525.0 to 1559.0 Mhz
Tx: 1626.5 to 1660.5 MHz
Sensitivity: >-25dB/K
EIRP: 0 dBW to 9 dBW
Elevation Angle Range: 15 to 90 degrees
Modulation: Forward channel: 32-ary FSK, 20bps
Reverse Channel: binary FSK, 4-128bps
Forward channel: Reed-Solomon (31,15)
Reverse channel: Half-rate convolutional (k=7)
Forward Error Correction: Acknowledgement, Long Burst
Long Burst: 64 bits
From-Terminal Message Types: Tone, Numeric, Alphanumeric & Transparent
From-Terminal Message Length: Numeric: up to 200 digits
Alphanumeric: up to 133 chars
To-Terminal Message Types: Transparent: up to 800 bits payload
To-Terminal Message Length: (depending on priority)

GPS

Frequency: 1575.42 MHz
Channels: 12 parallel

Certifications

Inmarsat D+ Type Approval
CEMark
IP56

**Wide Input
Voltage Range**



**Application Specific
Programmability**



**Over the Air
Configuration and
Programming**



RS 232 Interface