

RV-M7 Series High Speed UHF or VHF -GPS Transceivers

.....100 vehicles can be tracked with 10 second updates

Features

- INDUSTRIAL, RUGGEDIZED, GPS TRACKING DEVICE
- HIGH SPEED, REAL TIME LOCATION AND SPEED UPDATES
- SENDS LOCATION, SPEED, VOLTAGE, TEMPERATURE, INPUTS STATUS, DIRECTION AND TIME
- RECEIVE THE LOCATION OF ALL OTHER UNITS TO PROVIDE PROXIMITY ALERTS
- USES COMMERCIAL UHF OR VHF CHANNELS
- ONE AUX INPUTS—WITH GPS
- PROVIDES “STORE AND FORWARD” FOR ‘REPEATER’ WIDE AREA COVERAGE
- SERIAL PORT FOR EXTERNAL CONNECTION
- 9-30V DC OPERATION



Presenting the RV Series, high speed, no monthly fee GPS tracking solution for use over commercial UHF or VHF radio channel. This fully integrated device includes a transceiver, modem, GPS, GPS output to drive external devices, proximity alerts, auxiliary input and an optional IP weatherproof enclosure. 100 vehicles can be tracked with up to 10 second updates

This ruggedized, industrial styled, in-vehicle GPS tracking device is compatible with the CES POWER-trak PC/Desktop/Server fleet management subscriber service, FleetLinked web service or your choice of tracking software using the CES FleetControl API.

Integration to 911, CAD or market specific software also provided.

Applications

- CONSTRUCTION—SITE ACTIVITIES
- PUBLIC SAFETY—REAL TIME RESPONSE
- MINING—MONITORING TRAFFIC IN SMALL AREA
- MARINE—TRACK VESSELS, FEED DATA TO RADAR
- PARKS AND GOLF— MONITOR RENTAL EQUIPMENT



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RV Series High Speed UHF or VHF -GPS Transceivers

The heart of the RV Real-time Tracking Solution is the M7 GPS transponder—a 1/2-5 watt UHF/VHF wireless modem with built in GPS, NMEA input/output and a TDMA radio modem. An optional IP65 weatherproof enclosure is also available.

The device lets you quickly locate your vehicles, co-workers, your trucks that break-down, your rented-boats, your stolen vehicle, nearest help, lost people...or slow-moving golfers.

It is the fastest real-time GPS tracking transponder available that uses commercial UHF radio channels with, no service fees, no monthly charges, and it works virtually anywhere.

Long-Range Operation

Operating in the UHF frequency band, the RV can communicate as far as 50 miles (depending upon terrain). All devices also can store-and-forward “repeater” for wide-area coverage.

High Speed and High Efficiency

The unit operates with fast over the air data rates of 4800 to 19200bps. Its fast-switching radio enables it to send up to 20 position-transmissions per second.

Real-Time

Position and status updates are available as quickly as every second. No other tracking system has as fast an update rate as the RV.

Flexible Reporting

The M7 may be configured to transmit position and status reports at pre-set time intervals (programmable), when it has moved a certain distance (programmable), when an I/O changes, or a combination of these.

No Monthly Charges

Because no external services are required, there are no recurring costs with this system.

Works Everywhere

The RV does not rely upon public wireless services, so the system works in rural areas, mines, mountains, foreign countries, and deserts.

Simple to Interface

The M7 Transponder is very simple to use and works with a multitude of other software, plotters, and GPS displays including:

- Lowrance GPS displays and navigation
- Garmin hand-held GPS
- Any GPS Navigational device with an RS-232 NMEA interface
- POWER-trak PC/Desktop/Server Fleet Management software from CES
- Marine Radar Displays

Proximity Alerts

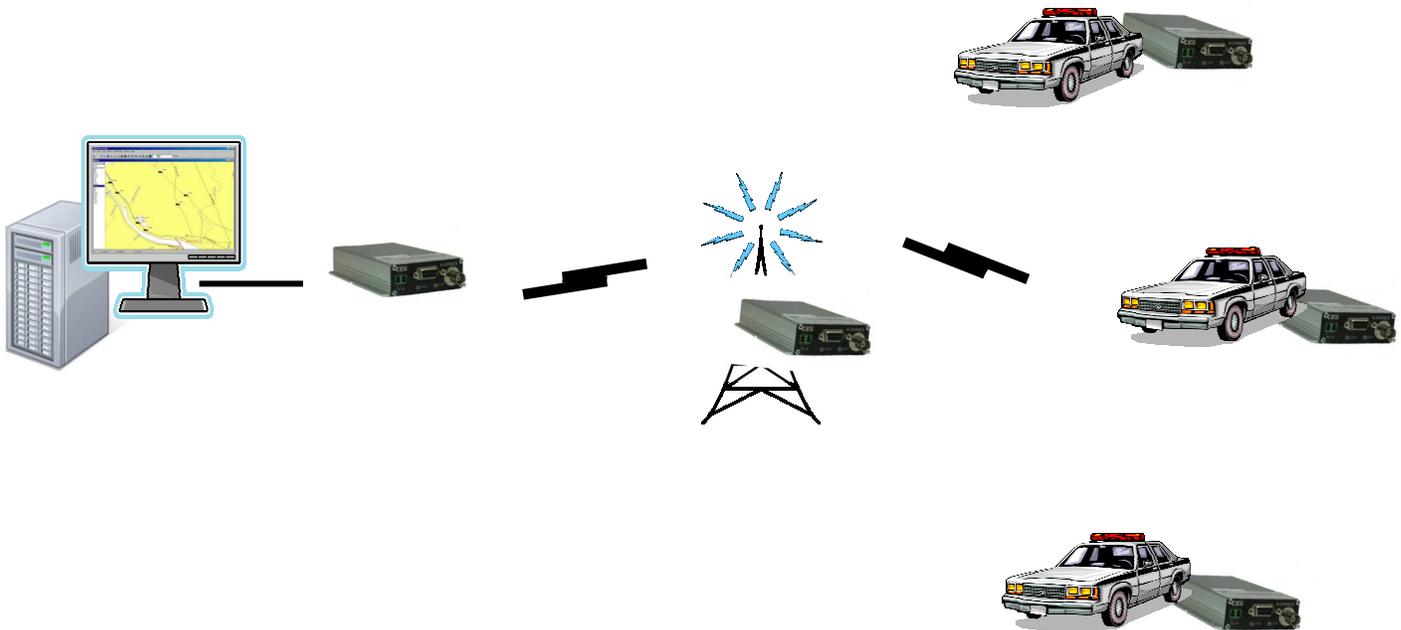
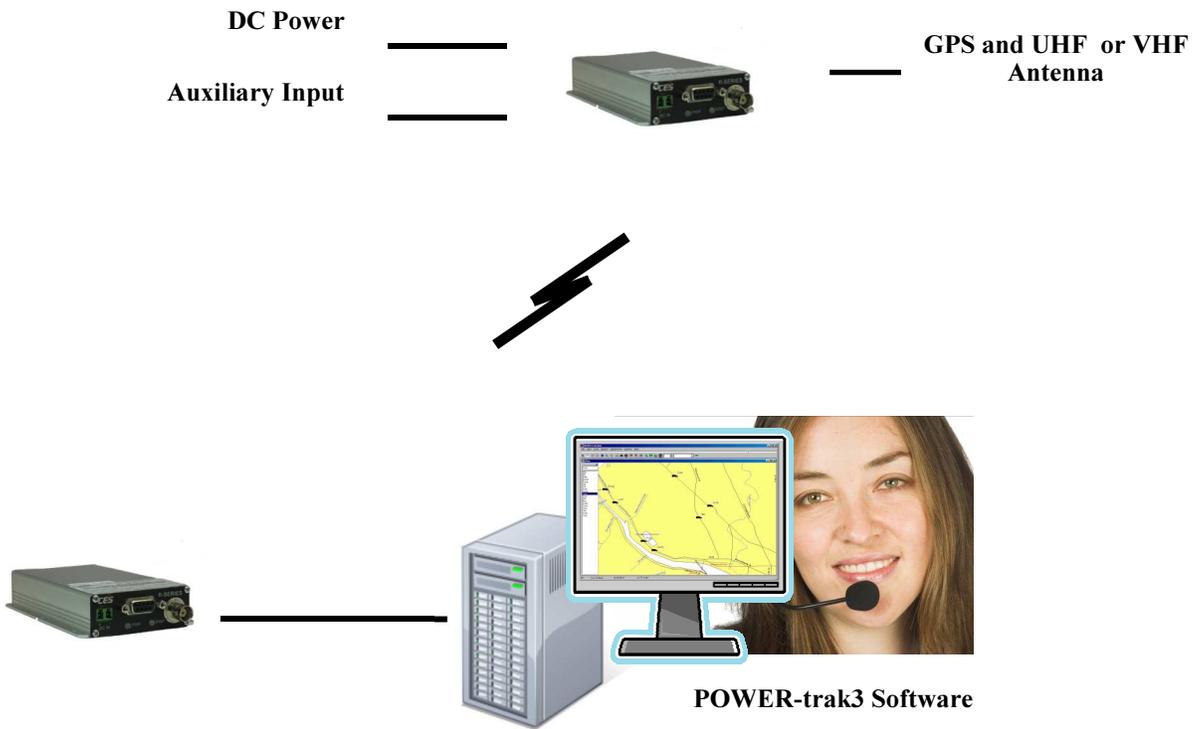
Each unit may be configured to transmit an alert, as well as signal an output circuit whenever it is in proximity of another device. Used for collision avoidance or theft security.

Secure

All position reports are 128-bit AES encrypted for secure communications. No other radio modem will be able to listen in or monitor positions without knowing the security key.

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UHF Transceiver/Radio Modem/GPS



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The screenshot shows the FleetLinked web interface. The browser address bar displays www.fleetlinked.co/?sid=08378e976ac5ba8903eda33b6d14b6cb. The interface includes a top navigation bar with tabs for Monitoring, Tracks, Messages, Reports, POI, Geofences, Drivers, Trailers, Jobs, and Notifications. A left sidebar contains a list of vehicles: Demo320, Demo321, and Demo420, each with status icons. The main area is a map of Orlando, Florida, with a popup window for vehicle Demo321. The popup displays the following information:

- Vehicle: Demo321
- Location: E Semoran Blvd, Casselberry, FL 32707, USA
- Speed: 35 mph
- Input 1: Off
- Input 2: Unknown
- Input 3: Unknown
- Ignition: On
- Driver Binding: ABCD0007
- Driver: Ricky (with photo)
- Time: 29 s ago (12-17-2015 12:19 pm)

The bottom of the interface shows the Fleet Linked logo and the time 12:20 pm (-05).

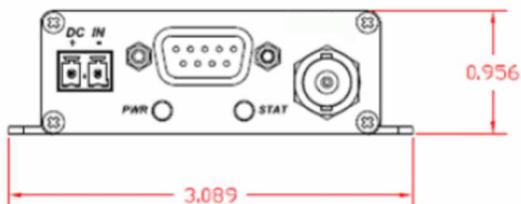
The screenshot shows a Google Maps interface with a satellite view of a residential area. A popup window for vehicle Dan-324 is displayed over a yellow pushpin. The popup contains the following information:

- Vehicle: Dan-324
- State: Active
- Streets: Near 0-931 S SEMORAN BLVD and SR-436, ORANGE
- Last Position at 1/29/2008 2:23:19 PM
- Speed: 115 Mph Bearing: WNW (281.6)
- Status: Free at 1/29/2008 2:23:09 PM
- Directions: [To here](#) - [From here](#)

The map shows streets including Friar Rd, Roughbeard Rd, Monmouth Way, Sandwell, S. Ranger Blvd, Summer Wind Dr, Terry Brook Dr, and Whisper Lake. A road sign for SR-436 is visible. The interface includes standard Google Maps navigation controls like a compass, pan buttons, and a zoom slider.

General Specifications

Model:	RV-M7-Ux-GX (x=band) (oo=options)
Size:	5.0 X 3.76W X 0.95H
Weight:	6 oz
Input Voltage:	9.5 – 16 VDC
Current draw:	GPS tracking, 1min updates: <30mA GPS tracking, 10sec updates: <80mA GPS and radio receiving data: <120mA Transmitting data: (2.7A @ 5w, 1.2A @ 2W typical) Sleep (<25mA), Ignition off: (<10mA)
Frequency Bands:	A 403-434MHz (for export) B 419-440MHz (for export) C 450-480MHz (for US channels) D 470-512MHz (for export)
Serial Port Baud Rates (programmable)	1.2k, 2.4k, 4.8k, 9.6k, 19.2k, 38.4k, 57.6k, 115.2k
Over-the-air baud rates (programmable)	-N 4.8k, 5142, 8K,9.6k -W 4.8k, 8k, 9.6k, 19.2k
Operating Mode	Simplex or Half-duplex
Full Spec Operating Temperature range	-30°C to +60°C
TX-RX and RX-TX turn-around time	<3mS
Wake-up time	<500mS from OFF <5mS from Sleep
Front Panel LEDs	Power Status (Carr Det, TX, mode...)
RF I/O Connector	BNC (Female) (TNC on -WX version)
Power Cable	Raveon P/N: 1C738-1
Addressing	Individual address: 65,536
Options:	Waterproof Enclosure -WX option



Transmitter Specifications

RF Power Output	500mW – 5.0 W	programmable
Maximum Duty Cycle	100% @ 2W to 40C, 25% @5W	(100% w/ optional heat sink)
RF Bandwidth.....	20MHz no-tune	
TX Spurious outputs	< -70dBc	
Occupied Bandwidth	Per FCC	
FCC Emissions Designator.....	11K0F1D (-N)	
Frequency Stability.....	Better than ±1.5ppm	

Receiver Specifications

RX sensitivity (.1% BER).....	9600bps	< -108dBm
	4800bps	< -116dB
RF No-tune bandwidth.....	20MHz	
Alternate Channel Selectivity	-65dB	
Blocking and spurious rejection	-75dB	

Interface Specifications

Serial Interface Port

Connector Type	DB-9
IO Voltage Levels	RS-232
RX and TX data	Transparent Async
Word length	7 or 8 bits
Format	N, O, or E
Modem handshake signals	RTS, CTS, CD
NMEA messages:	TTL, GLL, WPT

User Configurable Parameters (overview)

Channel Number and Operating Frequency	
Unit Address:	0001 thru 9999
Baud Rate, parity, stop bits	
GPS Update Rate:	1 – 9999 Seconds
GPS report on movement:	0 – 9999 Meters
GPS report on digital in	Enable/disable
Digital Inputs (Gen Purpose or alarm)	2
Digital Outputs	1
Store-and-forward Repeating configuration	
Encryption keyphrase	128 bits
LEDs operation or disabled	
Auto Status report on/off and interval.	
Read DC voltage, current, forward RF power, VSWR	
Remote PING	
Serial Port Format: (NMEA, RavTrack PC, RADAR TLL, or Lowrance Plotter)	