Radio Frequency Tracking System

High Performance GPS Tracking

DESCRIPTION
The RTS RF Series is a high performance long range tracking system using high frequency license free radio to communicate the position of people, vehicles, and other remote assets. Remote tracking units report their position to an RF base unit which in turn communicates with a Command and Control System (CCS). The CCS integrates the tracking data with data from Google Earth and Google Maps to display real-time tracking unit location and status data.

The system can simultaneously track thousands of remote units, each transmitting ID and status data, GPS position and satellite count, heading, and speed.

FEATURES
• Single and eight channel receiver units
• Monitoring capability for thousands of units
• Up to 10 miles line of sight unrepeated
• Repeater option
• GPS accuracy to within 3 feet
• Specific solutions for personnel, vehicles, assets
• Command and control display interface
• Encryption, hardening options
• Integrates with RTS RFID and GSM solutions
• Third party integration options

BENEFITS
• System capacity and performance options
• Comprehensive, expandable
• Wide area coverage
• Removes distance limitations
• Precise location of people and assets
• Application-based solution
• Graphical visibility of location of remote units
• Solutions appropriate for varied environments
• Indoor, outdoor, worldwide coverage
• PSIM integration

The standard line of site distance of 10 miles for vehicles and other assets can be extended in 15 mile increments with RF-RPR repeater units. An eight channel Base Transceiver Unit allows remote units to report in on different frequencies for added system capacity.

Options are available for data encryption, IP67 hardening, man-down and distress signaling, and Compact Display Unit for vehicles.

The system may be integrated with local RFID systems and far-flung remote systems communicating via global cellular technology to provide a comprehensive picture of an organization’s people and assets.
Radio Frequency Tracking System

SPECIFICATIONS

GENERAL RADIO SPECIFICATIONS

Frequency
- U.S. - civilian: 902 - 928 MHz
Output Power: 1 Watt
Transmission Type: Spread Spectrum
Encryption (optional)
- U.S. - civilian: 256 bit AES
  (128 bit exportable)

REMOTE FIELD TRACKING UNITS

GPS Data
- Unit ID, Latitude, Longitude, Heading,
  Speed, Active Satellite Count, Unit
  Status, HDOP

GPS Receiver
- # channels: 32
  Circular error probability: 3.3 meters (optional 1m)
  Standard update rate: 1 second (adjustable)

Personnel Tracking Unit

Input power
- Lithium ion battery
  Usage time: 24 hours maximum
  Charge time: 4 hours typical
  (from 110/220 VAC)

Dimensions
- Standard enclosure: 6.3 in x 3.0 in x 1.7 in
  (160 mm x 76 mm x 42 mm)
- IP67 enclosure: 3.3 in x 2.1 in x 1.2 in
  (85 mm x 54 mm x 30 mm)
- RF-BTU-8: 8.66 in x 6.5 in x 2.1 in.
  (220 mm x 165 mm x 53 mm)

Weight
- Standard enclosure: 32 ounces (907 g)
- IP67 enclosure: 30 ounces (850 g)
- RF-BTU-8: 8 ounces (226 g)

Operating temperature
- Standard enclosure: -40 °C - +85 °C
- IP67 enclosure: -40 °C - +85 °C
- RF-BTU-8: -40 °C - +85 °C

Vehicle Tracking Unit

Input power
- Standalone unit: 12 or 24 VDC
  Compact display unit: 12 or 24 VDC or
  110/220 VAC

Current draw
- Standalone unit: 500 mA @ 12 VDC
  Compact display unit: 3A @ 12 VDC

Dimensions
- Standalone unit: 3.5 in x 2.5 in x 2.0 in
  (89 mm x 64 mm x 51mm)
- Compact display unit: 10.7 in x 8.3 in x 2.5 in
  (273 mm x 210 mm x 63.5 mm)

Weight
- Standard enclosure: 8 ounces (226 g)
- Compact display unit: 6 lbs. (2.7 kg)

Operating temperature
- Standard enclosure: -40 °C - +85 °C
- Compact display unit: -20 °C - +70 °C

Vehicle Tracking Unit

Repeater Unit

Antenna
- 6 dB omni-directional

Input power
- 12 or 24 VDC

Current draw
- 500 mA maximum

Dimensions
- 3.5 in x 2.5 in x 2.0 in
  (89 mm x 64 mm x 51 mm)

Weight
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REMOTE FIELD TRACKING UNITS

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BASE TRANSCIEVER UNIT

GPS Data
- Unit ID, Latitude, Longitude, Heading,
  Speed, Active Satellite Count, Unit
  Status

Antenna
- 6 dB omni-directional

Local interfaces
- RS-232 (9-pin D-shell),
  Ethernet (RJ-45), USB

Input power
- 2A @ 5V

Dimensions
- Standard enclosure: 6.3 in x 3.0 in x 1.7 in
  (160 mm x 76 mm x 42 mm)
- IP67 enclosure: 3.3 in x 2.1 in x 1.2 in
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Input power
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Current draw
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Weight
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Operating temperature
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ORDERING INFORMATION

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<td>RF-BTU</td>
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<td>RF-BTU-8</td>
<td>8 channel Base Transceiver Unit</td>
<td>(1) (2) (3) (4)</td>
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<td>Remote Field Tracking Units</td>
<td>RF-PTU</td>
<td>Personnel Tracking Unit with Charging Station</td>
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<td>RF-VTU</td>
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<td>Repeater Unit</td>
<td>RF-RPR</td>
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<td>Compact Display</td>
<td>RTS-CDU</td>
<td>Compact Display Unit. 12-24V Power Input with 10.4 LCD Display and touch screen</td>
<td>(1) (5)</td>
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<tr>
<td>vGateway Server</td>
<td>RTS-VGW</td>
<td>Middleware hosted on Dedicated Linux Server with full database</td>
<td>(5) Man-down/distress, add &quot;MD&quot;</td>
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<tr>
<td>vMonitor Software</td>
<td>RTS-VMON</td>
<td>Geo-spatial graphing and display software</td>
<td>(5) Man-down/distress, add &quot;MD&quot;</td>
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NOTES:
(1) For encryption option, add "AES"
(2) For IP67 hardening, add "H"
(3) For high-gain antenna, add "HG"
(4) For solar power, add "Sol"
(5) Man-down/distress, add "MD"