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ATLAS PT Personal Tracking Radio

Raveon's ATLAS PT is a personal GPS transponder that provides immediate location, tracking, and alerting of your personnel while engaged in critical activities. The ATLAS PT has an "Emergency Alert" button as well as a "man down" tilt and impact sensor. The ATLAS PT helps you focus and protect your team in whatever mission critical operations you may face.

The real-time situational awareness provided by the ATLAS PT allows you to orchestrate personnel efforts for optimal operations, and helps you bring your people home safely.

The ATLAS PT is the fastest completely-integrated real-time GPS tracking transponder available. It uses radio channels with no service fees or monthly charges, and works virtually anywhere.

The ATLAS PT is fully compatible with the RavTrack series of vehicle tracking devices and software, allowing complete real-time tracking of personnel, vehicles,and other vital assets in one system.

APPLICATIONS	
Training	Study your training exercises in real-time, The ATLAS PT allows you to capture the activities of any trainee group and save them for later replay and critique. Trainees can request support or alert operations to a critical situation.
Police	Know where your officers and first-responders are no matter their mode of travel. See the tactical situation in real-time, identify who is closest to the scene, and respond with the right person in the right place and at the right time.
Fire Fighters	Know where your personnel are while battling any situation. Coordinate team efforts, and minimize unnecessary dangerous exposures. Best of all, with the ATLAS PT ALERT! button, your people can immediately summon help to their position.
Search and Rescue	Coordinate in concert the efforts of your rescue personnel. Retain and refer to a dynamic map record of all areas searched, ensuring thorough coverage. Proactively equip outbound people with an ATLAS PT and pinpoint their location at any time.

Features

Real-Time
Position and status updates are available as quickly as every second. Coupled with the rapid update capabilities the ATLAS PT assures you that any position reports and alerts sent will post to your display(s) very quickly.

Complete
Everything needed to track a vehicle or asset is provided. No secondary services like Internet, cell-service, GPRS, Edge, SMS, or satellite service is needed. The ATLAS PT allows you complete control over your infrastructure.

No Monthly Charges
Because no external services are required, there are no recurring costs for a RavTrack system.

Totally Portable
The ATLAS PT is completely self-contained and portable. Meant to be worn by personnel in a variety of activities, it weighs just 16 ounces even with the built-in rechargeable batteries. Simple to operate, just "turn it on and go". Furthermore, the ATLAS PT has some of the lowest power-consumption in the industry. The transponder features flexible reporting options, while a remote controlled sleep mode allows it to be active and consume almost no power at all.

Rugged and Weather Proof
Integrated into an IP-67 rated watertight enclosure all SM models include protection against damage from water, over-temperature, high VSWR, and overcharge.

Works Everywhere
The ATLAS PT does not rely upon public wireless services, so your systems work in rural areas, forests, mines, mountains, deserts, foreign countries, and even open water.

Long-Range Operation
Using narrow-band VHF and UHF radio channels, the ATLAS PT can communicate as far as 30 miles (depending upon terrain). An ATLAS PT unit can also operate as a store-and-forward repeater for wide-area coverage, and fully interoperate with other M7 series GPS enabled radio in the RavTrack family.

High Speed and High Efficiency
The ATLAS PT Transponder operates with fast over the air data rates.. Its fast-switching radio enables it to send up to 20 position-transmissions per second.

Flexible Reporting
The ATLAS PT 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, when it has stopped moving, is laid-down, or a combination of these.

Easy to Use
The ATLAS PT Personnel Tracker is very simple to use. Turn it on, and once GPS signal is acquired, it begins sending its position. Power-Off may be disabled so that only the command-center can turn it off.

Safety Features "Man Down Alert"
On the top of the ATLAS PT is a dual-function user-activated alert button. Pressing sends an "Alert", and when held down for 2 seconds, causes the unit to transmit a "Critical Alert" code indicating the alert condition. Using the internal position sensor, position transmissions and man-down alerts may be triggered by position, motion, impact or lack-of motion.

Proximity Alerts
Each ATLAS PT may be configured to transmit an alert, as well as signal an output circuit whenever it is in proximity of another M7 series GPS enabled radio. This feature is useful for collision avoidance or other applications.

Remote Management
Commands may be sent over-the-air to the ATLAS PT to interrogate it, modify its reporting rate, and modify certain parameters in it.

Visual Mapping
The activities of all ATLAS PT units are easily visualized by a number of mapping applications, including RavTrack PC , which allows you to import your own custom maps.

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

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Features cont'd

Long Battery Life
Operating as a GPS transponder with the receiver off 95% of the time, the expected operation duration from a full charge is:

Report Rate	*Battery Life 0°C-40°C*	*Battery Life -25°C-50°C*
30 seconds	30 hours	24 hours
90 second	60 hours	48 hours
4 minutes	7 days	7 days
15 minutes	1 month	1 month

Simple to Interface
The ATLAS PT is very simple to use and is designed to integrate with a variety of software, plotters, GPS displays, and external devices including:

- Lowrance GPS displays and navigation
- Garmin hand-held GPSs
- Any GPS with an RS-232 NMEA interface
- RavTrackPC software by Raveon
- Marine Radar Displays
- Biotelemetry sensors
- Laser range finders
- Your own custom application

The ATLAS PT has many advantages over conventional tracking radios. These include:	
TDMA Channel Access:	TDMA (Time-Division Multiplexing) is built into every ATLAS PT radio modem. With TDMA, 100 vehicles may be tracked with 5-second updates and no RF interference – even when using a repeater.
Data Compression:	All location transmissions are compressed, allowing not only location to be sent, but also voltage, temperature, status, speed, direction, and time – and do this with less air-time than most radios use to transmit their location.
Advanced modulation:	The M7 series operate at 4-10X that speed using CPFSK2/4 modulation for data rates as high as 19.2K over the air.
Fast Switching:	The ATLAS PT transceiver has a fast-lock PLL with a lock-time of only 2ms, and a T-R turn-around time of less than 3msec. This enables the radio to make real-time transmissions in TDMA or conventional modes.
Exceptional GPS reception	The Geo-Helix GPS antenna has outstanding GPS satellite reception, and coupled with the internal 12-channel Trimble GPS receiver, makes an exceptional GPS receiver. The unit will accurately report GPS position even when lying sideways or secured to someone's body.

General Specifications
Model: RV-sm-bx (b=V or U) (x=band)
Size: 145mm X 70mm X35mm
Weight: .46kg (16 oz)
Input Voltage: 11 – 16 VDC
Current draw:
Charging Battery: <1.5A
Not-charging: <1mA
VHF Frequency Bands:
A 136-155MHzMHz (for export)
B 150-174MHz
C 215-235MHz
UHF Frequency Bands (MOQ may apply):
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 (1200 optional)
-W 4.8k, 8k, 9.6k, 14.4k, 19.2k
Operating Mode
Simplex or Half-duplex
Operating Temperature range
-30°C to +60°C Operational
0°C - 45°C for charging
Internal Battery Charger:
<4-hours for standard LiION 2200mAh pack
Front Panel LEDs
Power
Status (Carrier Detect, TX/RX, GPS Status)
Alert (Active and response)
RF I/O Connector
SMA (Male)
Power Cable
Raveon P/N: 1C738-1
Addressing
Individual address: 65,536

Transmitter Specifications
RF Power Output, fully charged 500mW – 5.0 W
RF Power Output, 90% discharged 0.3W – 3.0 W
Maximum Duty Cycle 25% @ 2W to 40C,
10% @5W
RF Bandwidth 8MHz no-tune
TX Spurious outputs < -70dBc
Occupied Bandwidth Per FCC
FCC Emissions Designator 11K0F1D (-N)
15K0F1d (-W)
Frequency Stability Better than ±1.5ppm

Receiver Specifications
RX sensitivity (1% PER) 9600bps < -106dBm
4800bps < -114dB
RF No-tune bandwidth 20MHz
Alternate Channel Selectivity -65dB
Blocking and spurious rejection -75dB

Interface Specifications
Serial Interface Port
Connector Type IP67 rated circular
RS232 IO Voltage Levels TXD, RXD
Format Programmable
Modem handshake signals None
NMEA messages: TTL, GLL, WPL, RMC
User Configurable Parameters (overview)
Channel Number and Operating Frequency
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
GPS Report on motion Yes
GPS Report on man-down Yes
Store-and-forward Repeating configuration
Encryption: 128 bit AES
LEDs operation or disabled
Read DC voltage, current, and statistics
Event triggers (Speed, proximity, I/O, Motion)
Alert Button operation

Internal Battery Specifications
Battery Type LiIon, 2200mAh
Storage Temp, < 1 month: -20°C to +50°C
Storage Temp > 1 month: -10°C to +25°C
Capacity vs Temperature:
0°C - 40°C: 100%
-10°C - 50°C: 80%
-25°C: 50%
+60°C: 90%
Cycle Life: 500 (70% remaining)
Voltage: 8.4V

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