

# RAWC

## Mobile GPS Tracking UHF/VHF Base Station

The **RAWC** – Remote Access Wireless Control system - is a portable radio base-station. Its hard-shell enclosure accommodates a laptop computer running RavTrack PC tracking software or alternative tracking solution for easy transport and immediate deployment anytime and anywhere. Together with the ATLAS series of battery-powered personnel trackers it creates a truly self-contained tracking system for professionals that operate under extreme conditions.



## Product Overview

### Long-Range Operation

Operating in the VHF 136-155MHz frequency band (other UHF/VHF bands available), the RAWC works over 60 miles point-to-point and many miles with omni-directional antennas. The base station supports store-and-forward repeating for wide-area coverage.

### Battery Powered & Mobile Charging

The RAWC will provide hours of visibility into your critical operations without the need for external power and can easily be charged through vehicle-power cable.

### High Speed and High Efficiency

The RAWC operates with user-selectable over-the-air data rates of 800 to 19200bps: Faster rates for higher efficiency or lower-speed for increased coverage.

### 12-Channel GPS

The RAWC's internal 12-Channel GPS chip features extremely fast startup times and high performance in foliage canopy and urban canyon environments

### Fully Programmable

The RAWC's radio settings are configured via serial connection using industry-standard AT commands. Parameters such as network IDs, unit ID and transmission rate are easily configured. In addition the radio might easily be configured through the included *RadioManager* software.

### Digital Base Band

RAWC provides digitally programmable data rate, modulation, and bandwidth settings. Wide (25kHz) and narrow (12.5kHz) bandwidths may be user-configured.

The over-the-air data rate may be adjusted to suit a particular application.

### Real-time diagnostics and statistics

Channel performance, RSSI, RF power, packet counters, and radio configuration are easily accessed via the serial port or remotely over-the-air.

### Very Low Power Consumption

The RAWC's advanced VHF transceiver is equipped with a powerful 32-bit microprocessor, featuring very low power consumption, and sleep modes that allow it to be active and still consume very little resources.

### Flexible Addressing and Error Correction

The RAWC's radio unit uses a 16 bit address with a 16 bit network mask, allowing for many devices to be co-located without receiving each other, as well as the creation of sophisticated network topologies.

### Antennas

The RAWC features an internal GPS antenna which is hot-swappable with an external GPS antenna through TNC port inside of the case.

### Enclosure

The enclosure of the RAWC is made of Ultra High-Impact ABS Plastic but weighs less than 30lbs (with laptop), and features a retractable handle for convenient transport and deployment.

### Laptop

The RAWC includes a reliable consumer-grade laptop equipped with the RavTrack PC tracking solution. Additional options are rugged laptops and third part tracking software.



## General Specifications

Model:  
RV-SML-Vx-oo (x=band) (oo=options)

Weight:  
29lbs (13.15kg)

AC Power:  
100-240VAC

DC Power:  
12-15VDC

Power Consumption:  
20W average (30W peak)

Frequency Band:

Band	Frequency	Model
A	136-155MHz	-A
B	150-175MHz	SRS-M7-VA

Available Frequencies:

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)  
Narrow IF: 800, 1200, 2000, 2400, 4.8k, 5142, 8k, 9.6k  
Wide IF: 1200, 2000, 2400, 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  
<5mS

Wake-up time  
<500mS from OFF  
<5mS from Sleep

Top Panel LED  
Radio Power, RF Status

RF I/O Connector  
N-type

Addressing  
Individual address: 65,536  
Groups: 254

Sizes:  
(Outside) 19.69" x 16.73" x 9.06" / 500 x 425 x 230 mm  
(Inside) 18.88" x 14.17" x 8.27" / 480 x 360 x 210 mm



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## Transmitter Specifications

RF Power Output	500mW – 5.0 W (programmable)
Maximum Duty Cycle	100% @ 2W to 40C, 25% @5W
Frequency Deviation	± 2.2kHz (N) ± 3.3kHz (W)
RF Bandwidth	Full-band without tuning
Occupied bandwidth	11 kHz (-N) 16kHz(-W)
TX Spurious outputs	< -70dBc
TX Harmonic outputs	< -80dBc
Occupied Bandwidth	Per FCC
FCC Emissions Designator	11K0F1D (narrowband mode) 15K0F1D (wideband mode)
Frequency Stability	Better than ±2.5ppm

## Receiver Specifications

RX sensitivity (1% PER, N)	9600bps	< -108dBm
	4800bps	< -114dB
	1200bps	< -118dB
RF No-tune bandwidth	Full-band without tuning	
Adjacent Channel Selectivity	-70dB (1200bps Wide)	
Adjacent Channel Selectivity	-65dB (1200bps Narrow)	
Adjacent Channel Selectivity	-60dB (4800bps Narrow)	
Alternate Channel Selectivity	-70dB	
Blocking and spurious rejection	-80dB	
RX intermodulation rejection	-75dB (4800bps Narrow)	
RX intermodulation rejection	-80dB (1200bps Narrow)	

## Interface Specifications

### AT Commands Overview

- Channel Number, Operating Frequency, IF bandwidth
- Modem Statistics
- Power-savings modes
- Unit Address and Destination address
- Network Address Mask
- ARQ error correction on/off
- Baud Rate, parity, stop bits
- Select Packet or Streaming mode of data transmission
- Store-and-forward Repeating configuration
- Hardware flow control operation
- LEDs operation or disabled

For a complete feature list see the technical manual here:  
<http://www.raveon.com/support.html>