

# Maximize the potential of your wireless network

**FACT: ANTENNA ALIGNMENT IS CRITICAL TO  
YOUR WIRELESS NETWORK PERFORMANCE**



## Antenna Alignment System (AAS)

**MultiWave** Sensors™

## How does the AAS work?

The Antenna Alignment System (AAS) is a GPS-based compass designed to effectively and efficiently align your antennas in real time. The AAS solution is designed for ease of use and unparalleled accuracy that provides a True North or Grid North azimuth measurement and position. It is ergonomically designed to fit into a ruggedized tower bag for easy transportation and usage.

The AAS solution is accurate, fast and scalable creating an effective solution for all your alignment needs.

Our 5 step solution for alignment:

1. Attach our APS device to the antenna with our Universal Mounting Bracket and sliding rail (patent pending)
2. Initiate PDA Antenna Aligner software
3. Align your antennas
4. Verify and save the alignment to a file on the ruggedized PDA
5. Access and review alignment reports with our Site Manager PC software anywhere, anytime

## Who can benefit from our AAS solution?

Your customers rely on your network and we have created a solution that will increase the efficiency and reliability of your wireless network for all stakeholders.

Don't let network disruptions keep you awake at night – be proactive to make sure that your network is aligned 24/7 with our AAS solution – seamless integration with accurate and actionable information.

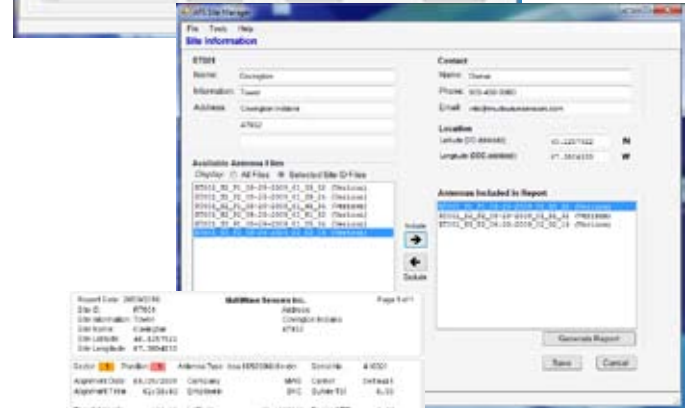
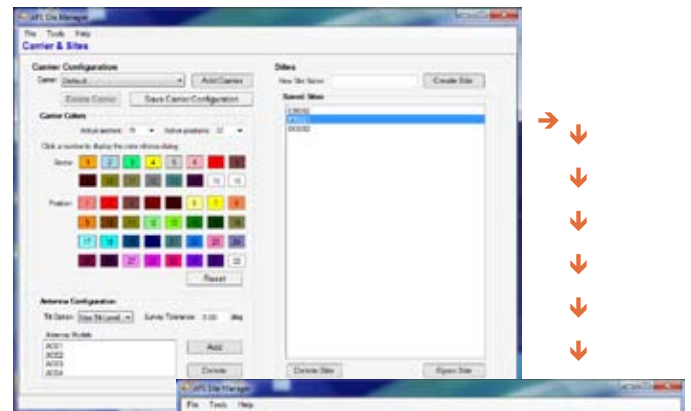


## Software

### Antenna Aligner PDA Software



### Site Manager PC Software



Before going to the site, *Site Manager PC* software is used to enter carrier, antenna and site information. This information is then transferred to the PDA. **At the site**, *Antenna Aligner PDA* software is used to align the antennas, verify and save the alignment to a file that will be uploaded to *Site Manager PC* software. **After antenna alignment**, created file is uploaded to *Site Manager PC* software and can be used to create, edit, view, save and print reports.

# Specifications

## Performance

Azimuth accuracy: 0.5° nominal (relative to true north)  
Tilt accuracy: 0.2° nominal  
Position accuracy: 60 cm  
Start up time: 1 minute or less

## Power

Internal battery: Internal rechargeable lithium ion batteries  
Operation time: 6.8 hrs (over 80 antenna alignments)  
Battery monitor: Displays remaining usage time in 0.1 hour increments  
Battery charger: Lithium ion smart charger (1.5 hours max charge time)  
On/off button: Membrane panel button with LED indicator

## Communication ports

Wireless: Class 1 Bluetooth communication between APS and PDA  
Wired: Communication between APS and serial port of PDA with supplied cable as a backup

## Environmental

Operational temp: -30° C to +60° C (-22° F to +140° F)  
Sealing: NEMA 4X, IP67  
Shock/vibration: IEC 68-2-27 / IEC 68-2-6  
EMI: FCC Part 15 Subpart B: 2008 and ICES-003:2004



## System components

- APS on rail
- Ruggedized PDA
- Tower bag
- Manual
- Universal Mounting Bracket
- PDA Antenna Aligner software
- Shipping case
- Data Stick with PC Site Manager software

## Physical

### APS on Rail (patent pending)

Dimensions: 29" x 5.5" x 5" (74 cm x 14 cm x 13 cm)  
Weight: 5.2 lb (2.4 kg)

### Universal Mounting Bracket (patent pending)

Dimensions: 19" x 5" x 3" (48 cm x 13 cm x 8 cm)  
Weight: 4 lb (1.8 kg)

### Ruggedized PDA

Dimensions: 6.5" x 3.75" x 1.75" (16.5 cm x 9.5 cm x 4.5 cm)  
Weight: 1 lb (0.49 kg)

### Tower Bag (all tower components fit inside)

(APS on rail + Universal Mounting Bracket + Ruggedized PDA)  
Dimensions: 30" x 10" x 8" (76cm x 25cm x 20cm)  
Total weight: 16 lb (7.3 kg)

### Shipping Case

Dimensions: 32" x 12" x 12" (82 cm x 30 cm x 30 cm)  
Total shipping weight: 42 lb (19 kg)



APS on Rail



Tower Bag



PDA



Universal Mounting Bracket



Shipping Case

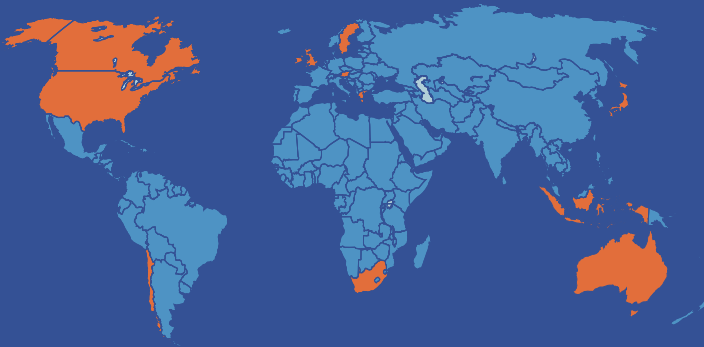
# Antenna Alignment System (AAS)

## Total solution for antenna alignment and verification for maximum performance.

- Complete solution for antenna alignment and verification
- Accurate measurement – accuracy 0.5°, in under 5 minutes
- Over 80 antenna alignments & verifications on a single charge
- GPS compass: unaffected by metal tower construction
- No declination required
- Long distance point to point antenna alignment
- Align inactive or active antennas – immune to RF
- Universal Mounting Bracket for different types of antennas
- Fully integrated long range Bluetooth (Class 1) for wireless operation
- PC software for Carrier profiles and report generation

EASE OF USE • RELIABLE • SCALABLE • ACCURATE

## GOING GLOBAL: WORLD-WIDE USERS



Join our growing network of companies who have discovered the advantages of the **Antenna Alignment System (AAS)**

CONTACT US FOR MORE INFORMATION

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info@lasertech.com

**MultiWave** Sensors

**LASER**  
TECHNOLOGY  
Measurably Superior

## High Profile Customers and Projects

The Antenna Alignment System (AAS) has an optional adaptor that fits the APS precisely to the dB Systems 5100A-D antenna. This antenna is specifically designed for Automatic Dependent Surveillance – Broadcast (ADS-B).



*After a great deal of investigation of the various GPS based antenna alignment tools on the market, Ericsson purchased the Multiwave Sensors Azimuth Pointing System (APS) tool. Our quality auditors are using the tool to verify the quality of antenna installations performed on behalf of Ericsson. Thus far the alignment results have been indisputable. We have found the tool to be accurate, reliable and easy to use. We have even found some antenna alignment discrepancies caused by improper use of other GPS based alignment tools. Overall we have been very satisfied with the product and the support provided by Multiwave Sensors. I would encourage any company wanting to improve their antenna installation performance to take a look at the APS."*

**Joe Dearman**  
Site Development Quality Management  
Operations Support, Ericsson



[www.multiwavesensors.com](http://www.multiwavesensors.com)