

Radars Wind Profilers

The new choice for reliability, service and customization.



ATI's 192 element 449 MHz system installed in Kuwait for operational aerostat support.

GENERAL DESCRIPTION

ATI radar wind profilers (RWPs) are designed around original and innovative modern antenna, receiver and signal processing techniques. These new systems have been carefully developed for ease-of-use, low maintenance and for long-term unattended operations. ATI's RWP designs can be scaled for high altitude, mid-altitude, or boundary-layer coverage through the choice of frequencies, antenna sizes and transmitted power.

All ATI radars are complete rugged acquisition systems with full hardware monitoring and advanced signal processing standard. The systems are composed of an antenna array, a final transmitter, a transmit/receive switch, a state-of-art digital receiver, a full-featured data system with many data displays, a hardware monitor, power supplies, and remote displays and controls. Many other options are available such as temperature profiling (RASS), trailer mounting, and shipboard use with motion compensation. ATI RWPs are designed and built for extreme reliability and maintainability in the field. All systems can be customized for specific customer needs.

ATI can also upgrade your older 915 or 404 MHz systems, with a new data system, hardware monitor, antennas or even high reliability solid-state phase-shifters. Bring your system into the 21st Century. Talk to an ATI representative for more information.

FEATURES

- Modern, state-of-the art implementation
- Advanced signal processing techniques to screen out RFI, birds, planes and other data contaminants (includes multi-peak picking and QC data screening)
- Built-in hardware status monitoring
- Fully automatic, unattended operation
- Remote data displays and control
- Fully-steerable antenna
- Reliable easy to maintain design
- Virtual temperature (RASS) profiling option available
- Easily customized for individual needs

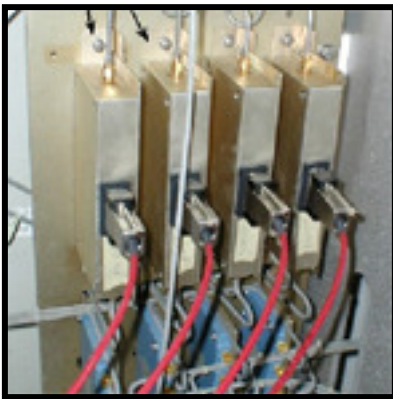
TYPICAL OPTIONS

- Virtual temperature profiling system (RASS)
- Trailer with shock mounting (915 MHz systems)
- Remote communications and data displays
- Country-specific options (such as AC power or transmit frequency)
- Higher transmit power and/or larger antenna
- Operating systems or computer platforms

SPECIFICATIONS FOR ATI RADAR WIND PROFILERS

Nominal Specifications	Micro-RWP	Mini-RWP	BL-RWP	Troposperic
Operating Frequency ¹ (MHz)	915	915	449	420 - 482
Peak Transmit Power (Watts)	500	500/1000	2,000	2 – 16
Minimum Range (meters)	120	120	180	180
Maximum Range (kilometers) ²	1 to 2	1.5 to 3	4 to 8	6 to 16
Range Resolution (meters)	75 to 300	75 to 600	75 to 600	75 to 1200
Antenna Type	Planar Array	Planar Array	Yagi-Uda Array	Yagi-Uda Array
Antenna Gain ³ (dBi)	17	25	32	> 32
Antenna Size ³ (meters)	1.2 x 1.2	2.4 x 2.4	11 near circular	> 12
3-dB Beamwidth ³ (degrees)	12	8.4	4	< 4
Off-axis Pointing	Fully Steerable ⁴	Fully Steerable ⁴	Fully Steerable ⁴	Fully Steerable ⁴
Data Update Rate ⁵ (minutes)	1-60	1-60	1-60	1-60
Advanced Signal Processing	Yes	Yes	Yes	Yes
Wind Speed Accuracy (m/s)	< 1.5	< 1.5	< 1.5	< 1.5
Wind Direction Accuracy (deg.)	< 10	< 10	< 10	< 10
Available RASS Option	Yes	Yes	Yes	Yes
Temperature Accuracy (deg.)	< 1.5	< 1.5	< 1.5	< 1.5

Notes: ¹Operating frequency depends on desired height coverage and available frequency spectrum. ²Depends on atmospheric conditions. Values quoted above are calculated with published C_n^2 models. ³Antenna size is determined by customer needs. Larger sizes are available for improvements in height coverage and reduction in side lobes. ⁴Proprietary antenna pointing techniques allow the main beam to be pointed in standard Doppler Beam Swinging configurations along with other more advanced techniques such as Velocity Azimuth Display and motion compensation. ⁵Data update rate is selectable by customer.



915 MHz Solid-State Phase-Shifters

ATI is a 30 year old small innovative company specializing in new technologies to meet unique customer needs. Our focus is on reliability and customer service. Contact ATI to see how we can help you with your radar wind profiler requirements.

