

# Tracking Wireless Network System

## TWINS modular RF data link network (ground/mobile to mobile)



### KEY FEATURES

- frequency range 4.9-5.8 GHz (other frequencies on request)
- long range WLAN functionality
- RF bitrate up to 54 Mbps
- communication ports: RS232 and Ethernet 100Base -TX
- integrated tracking antenna control system
- portable system, easy to use

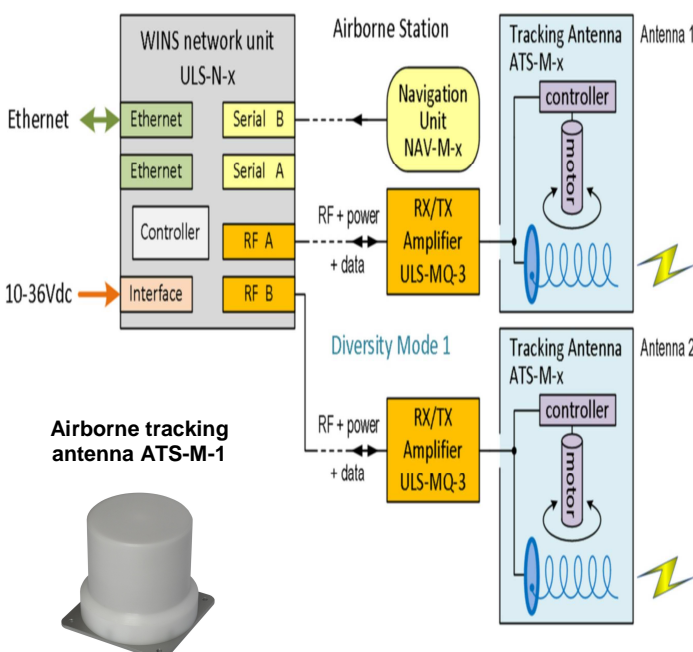
### DESCRIPTION

The main use of the modular IP transmission system TWINS is for networking mobile units, such as unmanned aircraft or mobile ground vehicles and a fixed or mobile ground station, with the aim of achieving the highest data rate possible while also working over long ranges. TWINS takes the burden of wireless - related technical worries away from the user and provides an Ethernet connection at each station so that the whole system works like a conventional WLAN. The preferred frequency range is 4.9 - 5.8 GHz; however, the modular design makes it possible to have systems for any required frequency.

Use under actual conditions is made much easier by the integrated automatic antenna tracking feature that is always available for operation without manual adjustment. The information required by each station about geographical location and spatial orientation is supplied by GPS together with an electronic compass and accelerometers, even making an accurate horizontal orientation of the ground antenna unnecessary.

By using the wireless link, each unit knows the position of the other units and can control the direction of its own antenna. In addition, there is a protocol interface for accepting external attitude and position data; in the airborne system, for example, supplying the current values of roll pitch and heading can improve the accuracy of the control. The ground system can also be used as a tracking system for other wireless systems if it is supplied with the appropriate target position.

### FUNCTIONAL BLOCK DIAGRAM I



### TECHNICAL DATA:

#### General:

Frequency range: preferable 4.9 to 5.8 GHz, others on request, e.g. S-band

Transmission power: 5.0 W (others available on request)

Operation distance 10 km with 48 Mbit/s typical  
 with RF bitrates: 145 km with 1.5 Mbit/s typical

#### Communication ports:

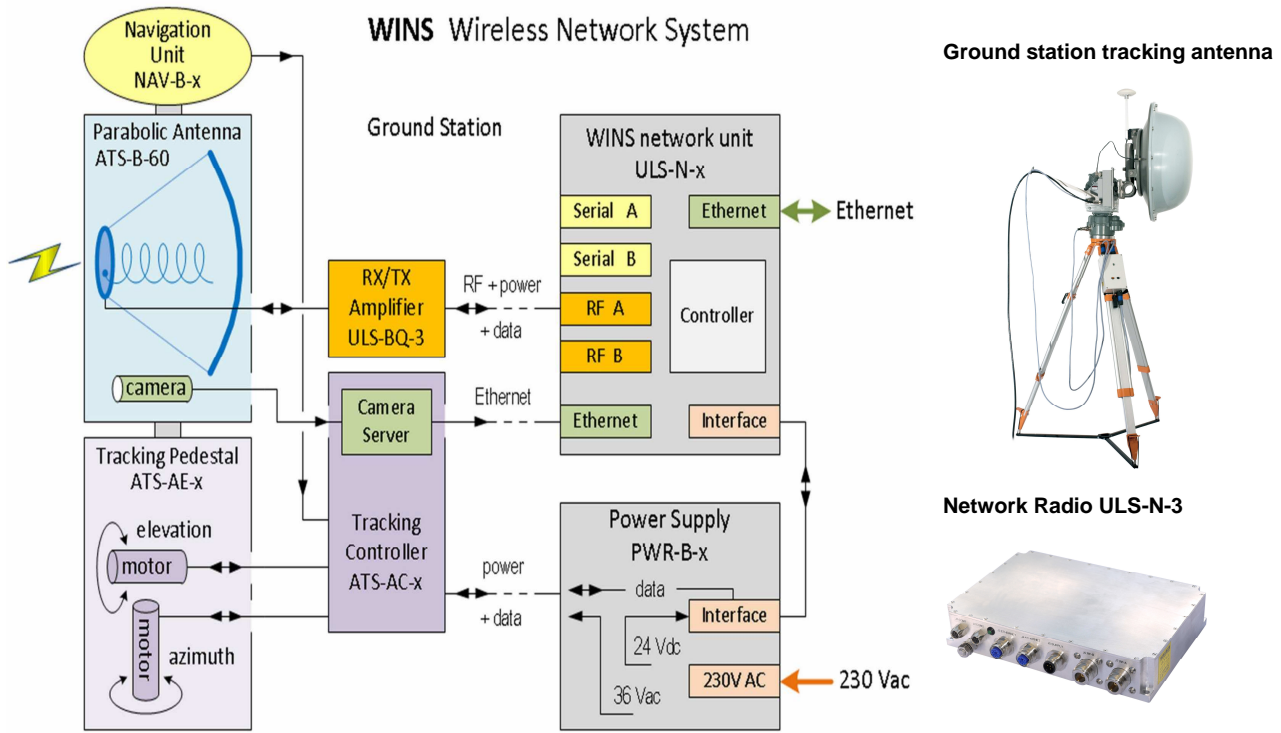
LAN ports: 2 x Ethernet 100 Mbit/s

I/O ports: 2 x RS232

Navigation unit: One GPS airborne receiver (external GPS support available on request); one GPS ground station; electronic compass, accelerometers; pitch, roll, mag. hdg. input support available on request

Video control: Video camera support and control available on request optionally

**FUNCTIONAL BLOCK DIAGRAM II**



**Application example:**

Concept Drawing of the Ultra Reliable Microwave Network Link between Helicopter and Vessel

