

RISBO

AUTO-TRACKING MICROWAVE SYSTEM

*Precision Tracking.
Uninterrupted Connectivity.*

Auto-Tracking & Servo System

Radio module customizable to client requirements



RISBO^{my} Auto-Tracking Microwave System

Precision Tracking & Unbreakable Connectivity for Vessels, Trucks & Emergency Units



RISBO Auto-Tracking Microwave System

Reliable Connectivity. Anywhere.

-  **AUTO-TRACKING**
Maintains a stable link in motion
-  **HIGH RELIABILITY**
Robust performance in harsh conditions
-  **LONG-RANGE LINK**
High-capacity microwave data transmission

What Is It?

The Auto-Tracking Microwave System is a precision servo-driven platform that automatically rotates and tilts to maintain a stable line-of-sight link with a fixed base station, even when the host platform is moving.

Designed for vessels, vehicles, and mobile platforms, the system continuously calculates real-time position, roll, and azimuth, then drives high-precision motors to keep the microwave link perfectly aligned at all times.

The wireless radio module is fully customizable. Clients may select any compatible PtP radio based on their bandwidth, range, and frequency requirements from our wireless products portfolio.

Key Use Cases

Offshore Platforms

Maintain continuous data backhaul between vessels and offshore rigs

Ship-to-Shore / Ship-to-Ship

Reliable communication links across open water in challenging sea states

Military & Field Operations

Secure, mobile communications for ground vehicles and mobile command units

Core Tracking Technology

01



Sense

High-precision GPS, electronic compass, accelerometers & inertial navigation sensors continuously measure platform position, heading and attitude in real time.

02



Calculate

An onboard DSP processor computes real-time roll, pitch and azimuth — determining exactly where the antenna needs to point to maintain line-of-sight.

03



Command

Advanced control algorithms generate precise motor commands based on calculated deviations — compensating for platform motion within milliseconds.

04



Track

High-speed motors drive the two-axis gimbal (360° azimuth, -15° to 90° elevation) to realign the antenna, achieving tracking accuracy of $\pm 0.1^\circ$.

360°

Azimuth Range

±0.1°

Tracking Accuracy

30°/s

Tracking Speed

IP67

Ingress Protection



Military-Grade Build

All auto-tracking hardware uses military-grade components for stable performance in extreme conditions.



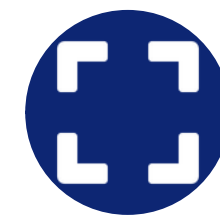
Marine-Ready (Grade 8)

Rated for operation in sea conditions up to Grade 8. Anti-salt-corrosion protection throughout.



Wide Operating Range

Operates from -50°C to +85°C. Humidity: 5%–90% non-condensing. Built for harsh field environments.



Two-Axis Gimbal

360° azimuth rotation with -15° to 90° elevation range, plus ±30° roll compensation for vessel motion.



Rapid Motor Response

High-speed servo motors track at 30°/s per axis, reacting instantly to sudden platform movements.



Sealed Enclosure

High-transparency fiberglass dome with IP67 rating — fully dust-tight and waterproof to 1m depth.

PART A — Auto-Tracking & Servo System

Azimuth Range	360°
Elevation Range	-15° ~ +90°
Tracking Accuracy	±0.5° (customizable to ±0.1°)
Tracking Speed per Axis	30°/s
Roll Compensation	±30°
Enclosure	High-transparency fiberglass, IP67
Marine Rating	Sea conditions up to Grade 8
Corrosion Protection	Anti-salt-corrosion for marine use
Operating Temperature	-50°C ~ +85°C
Operating Humidity	5% – 90% (non-condensing)
Dimensions	Ø1400 × 1500 mm (whole assembly incl. dome)
Weight	20 kg (whole assembly excl. bracket)
Power Supply *	12–24V PoE or AC 220V
Power Consumption *	≤170W
Installation	Dedicated mounting bracket

* Power figures are for the complete system (Part A + Part B combined)

PART B — Radio Module (Customizable)

⚠ The radio module is fully customizable. Figures below are reference values based on the RISBO RW2000E example unit. Actual performance depends on the radio model selected by the client.

Working Frequency Band	300 – 6000 MHz (customizable)
Transmission Rate	Up to 2000 Mbps (radio-dependent)
Transmission Distance	Up to 100 km (radio-dependent)
RF Chains / Streams	1:2×2
Networking Modes	nLoS / PtP / PtMP / MESH etc.
Wireless Encryption	AES-128 / AES-256, IEEE 802.1X
Network Interface ‡	1× 1000 Mbps RJ45 / 10GE SFP
Antenna Type	Built-in dual-polarized directional
Software / Management ‡	SNMP v1/v2, SSH, WEB, QoS, STP

‡ Network interface and software features are radio (Part B) dependent



Unmatched Tracking Precision

Proprietary DSP algorithms fused with GPS, compass, and inertial navigation deliver $\pm 0.1^\circ$ tracking accuracy, maintaining perfect antenna alignment even on a vessel rolling in Grade 8 seas.



Military-Grade Durability

Every component of the tracking system is built to military-grade standards: IP67 sealed, anti-salt-corrosion treated, and rated for -50°C to $+85^\circ\text{C}$ operating temperatures.



Rapid Real-Time Response

High-precision servo motors react at $30^\circ/\text{s}$ per axis, compensating for sudden platform movements in milliseconds to ensure the link never drops.



Proven Anti-Interference Technology

Built on RISBO's exclusive Anti-Interference RF optimization algorithm, the system maintains reliable connectivity even in complex electromagnetic environments, ie. offshore, military, or industrial.



Versatile Connectivity Modes

Supports nLoS, PtP, PtMP, and MESH operating modes. Adaptable to a wide range of deployment architectures without changing the hardware.

THE RISBO EDGE



Tailored Solutions

Radio module is fully customizable. Choose any compatible PtP radio based on your link budget and performance needs.



Full Lifecycle Support

RISBO provides end-to-end solution support from system selection to deployment and after-sales.



Deployment Flexibility

Flexible configurations available for different platform types: vessels, vehicles, fixed masts.