

Optical Zonu Announces Its Unmanned Aircraft System RFoF Solutions

VAN NUYS, CA, UNITED STATES, October 8, 2025 /EINPresswire.com/ -- [Optical Zonu Corporation](#), a leading provider of radio frequency over fiber (RFoF) solutions for the wireless, defense, and aerospace industries, today announced two new RFoF-based solutions purpose-built for unmanned aircraft systems (UAS): [Fiber Controlled Drone Link and the Drone Extender](#). These offerings expand the company's portfolio of fiber optic drone communications and deliver secure, high-performance, low-latency links for airborne platforms.

"Drones are increasingly becoming critical assets in defense, surveillance, inspection, and communications relay," said Meir Bartur, CEO of Optical Zonu. "But delivering resilient, low-latency RF connectivity in contested or cluttered environments is still a major hurdle. With these new UAS RFoF solutions, we are addressing that challenge by bringing fiber-quality reliability to airborne systems at a time when few others are providing this capability."

The Fiber Controlled Drone Link connects a drone to its operator through fiber optical cable. For persistent drones hovering for extended periods in fixed locations, the system can interface directly with the drone controller through coaxial cable or wirelessly via a local rebroadcast, allowing the operator to remain close to the ground station while controlling and accessing the payload (e.g. cameras or other sensors). The single fiber mixed signal (i.e., digital and analog) enables optimum linking capacity with the lowest weight. For single mission loitering munition drones, the fiber transport mixed signal capability provides an efficient way to interface and deliver full range connectivity without special interfaces or additional processing. The airborne unit supports a variety of power options (+12V, USB, or battery) and long fiber deployments through single-strand WDM technology. This flexibility allows the Fiber Controlled Drone Link to operate with any drone architecture, providing secure, low-latency control and reliable return data links for commercial inspections, defense operations, and other RF-challenging environments.

The Drone Extender is a fiber optic repeater extending Wi-Fi-based drone controllers using high dynamic range (HDR) RFoF technology up to 20 kilometers (KM). The system enables operators to position the controller in a protected or RF-isolated location while maintaining reliable, low-latency command and control of the drone over long distances. The Drone Extender consists of the Optical Controller Unit (OCU), located alongside the operator's drone controller, and the Optical Drone Unit (ODU), positioned in open air or indoor tunnels where extended coverage is needed. Together, these modules deliver a bidirectional, transparent RFoF link that preserves

signal fidelity, resists interference, and supports extended fiber deployment for demanding applications.

Both the Fiber Controlled Drone Link and Drone Extender solutions support wideband RFoF performance from 2.4 to 6 GHz, and feature lightweight, ruggedized drone units weighing less than 100 grams and IP68-rated for harsh environments.

For more information on the Fiber Controlled Drone Link and the Drone Extender, visit: <https://www.opticalzonu.com/solutions/fiber-optic-drones/>.

About Optical Zonu Corporation

Optical Zonu Corporation (OZC) is a leading provider of radio frequency over fiber (RFoF) transport solutions for the wireless, defense, and aerospace industries. OZC is the only company fully committed to custom solutions for every deployment and offers easy centralized management and patented fiber fault detection. The company provides a wide range of turnkey, modular, and OEM solutions that support satellite antenna remoting, GPS distribution, ground station redundancy, and radar calibration. OZC maintains strategic global relationships across the industries it serves, cooperating with major vendors and suppliers to enable rapid production of innovative solutions. For more information, visit <http://www.opticalzonu.com/>.

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