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EFFECTIVE APPLICATION OF TELEMETRY SYSTEMS IN UNMANNED AERIAL VEHICLES

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Currently, various types of unmanned aerial vehicles (UAVs) are widely used on the battlefield and in operations as both intelligence and strike tools, and are viewed as highly effective tools that can solve combat tasks. The conduct and outcome of military operations, the degree of combat readiness of the army, and the ability to perform the assigned task depend significantly on the use of UAVs. The analysis of modern wars shows that the widespread use of UAVs makes it possible to significantly reduce the loss of manpower of units, as well as to have an advantage over the enemy both in terms of strength and morale-psychological condition. It is known that the characteristic feature of the military operations that began in Karabakh on September 27, 2020 was the effective use of various types of UAVs by the Azerbaijani Army. The Armenian army defends the occupied territories with S-300PS, S-125, 2K2 Kub, 2K11 Krug, Buk-M2, Tor-M2, OSA-AKM Air Defense and Autobaza-M, Repellent1, Groza -S, Mortira, Manushak, Pole -21 was organized in several echelons with Radio Electronic Combat systems [1-4]. From UAVs in military operations it was used in echeloning, swarming and interaction with other types of weapons. Its use for military, civilian and professional purposes is increasing rapidly, and it is interesting to study the telemetry systems used in UAVs.

Telemetry is the technology used to receive, record and transmit various data collected by UAVs during flight, collecting basic information such as its flight status, position, speed, altitude and battery level. It can also provide information such as interior and exterior conditions, engine temperature, engine speed, and GPS location. This information is essential to monitor in real-time how the UAV is operating and under what conditions, to optimize flight parameters, ensure safety and intervene when necessary. Telemetry systems provide operators with detailed

information to ensure safe UAV flight, as well as collect data for analysis or further review. It processes data received from various sensors and can transmit them to a control station, an operator or a ground station. The UAV operator can receive information about its condition during flight and intervene if necessary. It is essential to ensure safe and efficient operation.

The data provided by the telemetry systems have a great impact on the UAV's flight quality, safety and ability to successfully perform its tasks. Telemetry systems may include: flight control systems; positioning GPS/GNSS systems; sensors that monitor altitude and other flight parameters; cameras and sensors to monitor battery level, power consumption and power status. RFD-900X, 3DR radio and RFD-868x telemetry modules are currently used. In order to investigate the effective application of these telemetry tools, using the methodology given in [5-9], the RFD 900X for a distance of 10 km, the RFD 868x for a distance of 40 km, it is appropriate to use telemetry system [10-11].

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