



Modernized 'Krasukha' Electronic Warfare System Entering the Ranks

OE Watch Commentary: The accompanying excerpted articles from *Rossiyskaya Gazeta* and *Armeyskiy Standart* discuss Russian plans to field a modernized version of the “Krasukha-20” electronic warfare jamming system that is designed to interfere with Airborne Warning and Control Systems (AWACS). According to *Rossiyskaya Gazeta*, the Krasukha-20 can either interfere with an AWACS actively (through the emission of radiation) or passively relate the AWACS coordinates to an air defense system. The modernization of the Krasukha-20 will reportedly push its range from 250 km to 400 km, among other improved characteristics. Judging by the Krasukha-20’s role in defending Iskander missile systems, the Krasukha-20 may be found in Russia’s new electronic warfare battalions that are subordinated to the Combined Arms Armies. **End OE Watch Commentary (Bartles)**

“In the clutter of the airwaves the “Krasukha” will unerringly find its necessary type of radar signal, intercept its source, and begin to track it... If necessary, the coordinates of the target can be forwarded to air defense troops, and if no such team is present, the electronic warfare troops can handle the situation themselves.”



1RL257E Krasukha-4 EW System.

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Continued: Modernized 'Krasukha' Electronic Warfare System Entering the Ranks

Source: Anton Valagin, "Ослепить AWACS: что может новая версия системы РЭБ "Красуха" (New Version of 'Krasukha' Electronic Warfare System Can Blind an AWACS)," *Rossiyskaya Gazeta Online*, 13 July 2020. <https://rg.ru/2020/07/13/oslepit-awacs-cto-mozhet-novaia-versiia-sistemy-reb-krasuha.html>

The modernized version of the "Krasukha-20" electronic warfare jamming system has begun to be acquired by the troops. Like the predecessor vehicles of this family, it is primarily designed to counteract hostile radars, without the use of which enemy aviation cannot operate...

The evolution of the "Krasukha" electronic warfare system has proceeded along a path of reducing the size of the complexes and expanding their capabilities. The "Krasukha-2" was an analog system and it was housed in three all-terrain vehicles. The "Krasukha-4" was digital and placed in two vehicles. The full characteristics of the "Krasukha-20" are classified, but it is known that its radius of operation has grown to 400 kilometers. This is a key metric since one of the main missions of the system is to neutralize AWACS flying radars. Without their assistance the F-22 Raptor and the F-35 Lightning II stealth aircraft cannot attack. In battle their own radars will compromise their stealth capabilities.

In the clutter of the airwaves the "Krasukha" will unerringly find its necessary type of radar signal, intercept its source, and begin to track it...If necessary, the coordinates of the target can be forwarded to air defense troops, and if no such team is present, the electronic warfare troops can handle the situation themselves. The active jamming generated by the system will block the radiation of the powerful AWACS radar, without allowing it to see the targets and guide strike aircraft to them. During exercises the "Krasukha-20" confidently handled detection of the domestic A-50U long-range radar detection and command and control aircraft, which has characteristics similar to those of the American E-3 Sentry.

Source: Petr Nikolayev, "Дотянемся и до АВАКСа! (We Can Reach The AWACS!)," *Armeyskiy Standart Online*, 10 July 2020. <https://armystandard.ru/news/t/2020781134-FTx8l.html>

It is a secret to no one that success in combat operations depends with increasing frequency on the use of aerial vehicles and air attack assets. An ability to locate these assets would make it much harder for the enemy to reach the target. Air defense and aviation are also available, of course, to prevent air attacks, but in recent years special attention is being devoted to electronic warfare (REB) assets. Among the more effective innovations is the "Krasukha-20" complex.

The name itself is not new. Development of the "Krasukha" complexes (the "Krasukha-2 in the analog version and the Krasukha-4 in digital form) began in the mid-1990s, and since 2012 they have been acquired by electronic warfare troops.

Despite the successful state testing and its proven service, including in the Syrian Arab republic, it was decided to continue to improve this system. Two initiatives were crucial: increasing its range of operations (according to open sources the Krasukha-4 had a range of approximately 300 kilometers) and improving its mobility and compactness (the Krasukha-2 had a complement of three special vehicles and the Krasukha-4 had two vehicles).

What is the nature of the "Krasukha-20" complex developed at the All-Russia Scientific Research Institute (VNII) "Gradiyent" (Rostov-na-Donu) and manufactured at the Bryansk electromechanical plant, and that began to be acquired by the electronic warfare troops two years ago? It now operates to a distance of up to 400 kilometers, which for equipment of this kind is extremely significant. After all, one of the missions of the complex is to protect command posts, air defense positions, troop concentration regions and individual important sites from enemy radar stations.

The "Krasukha-20" detects and classifies the type of signal, intercepts and tracks the source of the radiation, and when necessary suppresses it. As a result the radar stations of the contending side are "blinded" and cannot guide strike assets.

The modernized "Krasukha" is even able to cope with such a powerful opponent as the AWACS airborne radar detection and control complex. The active jamming which the Russian electronic warfare complex can generate to hundreds of kilometers will not allow the AWACS to execute its mission. In any case, during exercises the "Krasukha-20" has successfully handled the detection of our domestic counterpart, the A-50U long-range radar detection and control aircraft.

And the developers solved the second task: the "Krasukha-20" is both compact and mobile. It is now a single 40-ton system mounted on a BAZ-6910-022 platform. Universal digitalization has allowed the enormous equipment to be removed and to be replaced with a miniature design. Naturally, this is important not only for ergonomics, but also for enhanced effectiveness. Moreover, the information and control data that appear on the screens are duplicated, which increases the reliability of operations. And locating a single vehicle is not the same as detecting two or three...