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Iran's KOLCHUGA antenna device passively detects stealth planes 800 Km away
By: sealion on: 22.09.2006 [20:25] (2245 reads)



(7310 bytes) [c]

Iran's KOCHULGA antenna device passively detects stealth planes 800 Km away, making the billions of Dollars spent on stealth technology and the AWACS planes (600km detection range) utterly useless. In addition, being passive, it cannot detect, so the targeted plane(s) are unaware of detection and have nothing to home in to destroy the equipment made by Ukraine....

This is a dream come TRUE for the defense of Iran against the Barbaric Usans....

Ukraine sells Kolchuga to Iran

By Robert Karniol JDW Asia-Pacific Bureau Chief Bangkok

The Kolchuga is intended to detect the take-off and formation of aircraft groups at ranges beyond those of existing radar, as well as determine the course and speed of targets while designating them for air-defence systems. It can identify aerial targets through their emissions and identify the mode of aircraft weapon control systems.

Three Kolchuga stations would normally operate along with a command vehicle to provide accurate triangulation on a target. The system is claimed to have a range of 600 km (narrow beam) or 200 km (wide beam) along a front of 1,000 km.

It is not known how many Kolchuga stations Iran has acquired. However, sources told Jane's that each costs about USD25 million, with deliveries either recent or imminent.

http://www.janes.com/defence/news/jd...0922_1_n.shtm

When the newly independent Ukraine that had only just survived a severe economic crisis, developed an advanced passive radiolocation complex, it was a severe blow to the Americans, who were so sure of their domination in the air thanks to their stealth planes. On the one hand, the advantages of the attacker's "invisibility" were reduced to zero. On the other, passive radiolocation, i.e., the absence of the radar's own radiation, radically reduced the disadvantage of insufficient secrecy. Besides, an attacking object detected by a passive radar is never aware of its detection and so has no reasons to activate its own defenses. It means that the most important advantage is now in the hands of the air defense, especially considering the impression produced on experts by the latest Kolchuga modification.

- A complex consisting of three Kolchuga radar stations makes it possible to spot ground and surface targets and trace their movement within a radius of 600 km (air targets at the 10 km altitude - up to 800 km), which makes an effective early warning air defense system;

- The Kolchuga station is equipped with five meter-, decimeter-, and centimeter-range aeriels, which provide for high radio sensitivity within a 110dB/W - 155 dB/W swath, depending on the frequency;

- A parallel 36-channel preset receiver makes it possible to spot instantly, identify, and classify signals from any source with unlimited input density within the entire frequency range from 130MHz to 18,000MHz;

- All radio objects are spotted and identified automatically, a powerful computer digitizing and identifying targets by comparing their parameters with the available databank, results being shown on a field display;

- Special inhibitory sorters omit up to 24 interfering signals, and tracking sorters make it possible to synchronously sort out and track signals from 32 targets;

- All normal operations require only one operator (two other operators work on a shift basis for 24-hour duty), who

Since the whole U.S. non-nuclear military power hinges on stealth technologies, the prospect of worldwide proliferation of the unique Ukrainian radar systems definitely runs counter to U.S. interests. They were first demonstrated at the SOFEX-2000 arms expo in Jordan. That is, probably, why such close interest, especially from the United States, catalyzed the notorious "Kolchuga scandal".

The Ukrainian scientific, engineering, and design solutions in the field of passive radiolocation, embodied in the Kolchuga complex, are what is eating U.S. designers and government functionaries, who are responsible for stealth technologies in modern armaments. Such technologies are meant to fulfill every general's dream: to make his aircraft, ships, tanks, and other hardware invisible to enemies. The geometrical shape may be changed (like in the F-117 or B-2) to disperse a reflected signal from active radars, or there may be various wave-absorbing coatings to transform active signals into heat energy. But no modern military aircraft, tank, or ship can exist without its own radar. Without a radiating aerial it is simply "blind". That is why every aircraft, ship, and ground-based radar complex has active radiolocation devices. These devices are always on, emitting radio signals. Each specific type of hardware emits signals within different parameters. Consequently, a machine on which an emitting radar is mounted can be identified.

Competitors Lagging Far Behind

Such a promising trend as passive radiolocation is certainly of great interest to highly developed countries. But the Ukrainian Kolchuga radar, with all its technical and operational characteristics taken together, has no analogs anywhere in the world. And in its basic parameters it surpasses all known means of the same or similar purpose.

The 800-km detection range has been achieved only by the Ukrainian Kolchuga. The best the U.S. AWACS can do is 600 km, while the ground-based complexes Vera (Czech Republic) and Vega (Russia) can reach out up to 400 km - half what the Ukrainian complex can reach. The Kolchuga's lower limit of the working frequency range is 130MHz and is the lowest of all analogs. For the AWACS it is 2,000 MHz, for the Vera it is 850MHz, for the Vega it is 200MHz.

But where the Kolchuga has the greatest advantages is its ability to identify accurately radio objects thanks to unique algorithms and hi-tech equipment. In particular, the mean square deviation in frequency measurement - the most informative parameters for identifying types of spotted radio objects - is 0.4MHz in the Kolchuga. It is 0.5MHz - 1.0MHz in the Russian Vega, 1.0MHz in the U.S. AWACS, and as much as 3.6MHz - 21.0MHz in the Czech Vera. The maximal duration of detected impulses, measured by the Kolchuga, is 999.0 microseconds, versus 99.9 microseconds for the AWACS and 200 microseconds for the Vera. And the impulse repetition period can be measured by the Kolchuga up to the maximum of 79,999 microseconds, while no analogs can perform such measurements longer than 10,000 microseconds. As a result, the number of detected radio objects that the Kolchuga can classify is practically unlimited, which can not be said about any known analogs. The Ukrainian station has advanced algorithms and software programs for analyzing, systematizing, generalizing, and storing information about all radio objects and parameters of their signals. And the data already collected in the database can be used to identify newly detected radio objects and can be correlated with data obtained from other reconnaissance sources.

It should be noted that the Kolchuga's undeniable advantages are not accidental or temporary. The Ukrainian product is head and shoulders above all American, Russian, French, Czech, or Brazilian developments in this field. But those who developed and made this unique product aren't resting on their laurels. They continue to work.

Several contracts for exporting Kolchuga complexes have been fulfilled, but that is well below the export potential of this product, which already has numerous prospective buyers.

<http://www.hi-tech.org.ua/Ukraine/offshore-outsourcing-in-ukraine/publication/kolchuga-confidence/index.html>

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...
by Q' on 23.09.2006 [05:41]

The geometrical shape may be changed (like in the F-117 or B-2) to disperse a reflected signal from active radars, or there may be various wave-absorbing coatings to transform active signals into heat energy.

One seems to forgot so-called steath aircraft F-117 were shot down before using an old AAA. It was an utterly embarrassment for the USAF .
www.aeronautics.ru/f117down.htm

If Iran give U.S. a wack it needs...
by gmmonko on 23.09.2006 [06:29]

...than I will convert to Islam! Obviously all the testing of USAF weapons was against unarmed civilians, houses or infrastructure. Once the United Skunks soldiers in Iraq are killed all the should wipe the NATO - Nazi American Torture Organization - in Afghanistan and there it is finally: peace on earth. Israel will not survive anyway - low breeding rates and incredible diseases amongst the population, caused by an almost incestious inbreeding.

Wow! This is great!
by picard-fortune-500 on 23.09.2006 [08:10]

Does anyone know if it can detect ground hugging cruise missiles? I'm sure if the US launches an attack on Iran these missiles will be in the first wave.

this just in from Richard:
by picard-fortune-500 on 23.09.2006 [10:12]

"Frequently referred to as Kolchuga Radar, the system is not really a radar, but an ESM system comprising three or four receivers..."

(They define ESM as :

"In military telecommunications, the term electronic warfare support measures (ESM) is the division of electronic warfare involving actions taken under direct control of an operational commander to search for, intercept, identify, and locate sources of radiated electromagnetic energy for the purpose of immediate threat recognition.)

"Like any ESM system, it is of doubtful use against stealth aircraft, which are designed to operate without emitting any RF signals."

It would be great against Israeli aircraft, however, as the Israelis have no stealth aircraft as far as I know.

Kolchuga detects STEALTH: Wikipedia is Zionists controlled...
by sealion on 23.09.2006 [15:24]

...So, what would you expect...

ht tp://en.wikipedia.org/wiki/Kolchuga_passive_sensor

Here is the opinion of an Ukrainian Air Force officer, who flies Mig-29 and knows the equipment well...

QUOTE: It will pick up any of the stealth aircraft, they just will be closer than the others. The triangulation of Kolchuga helps to get different angles of the RCS of the stealth aircraft. This makes a bigger target on the radar screen. While the F-22 may be RCS of .05m head on, Kolchuga will get 2m RCS by hitting the F-22 from different angles thereby making her cross section bigger.

ht tp://www.irandefence.net/showthread.php?t=4495

QUOTE: Your western nations have not had the opportunity to "counter" it as they have never faced it. Ukraine makes some of the most sophisticated weapons in the world and are more than capable to defeat US systems.

ht tp://www.irandefence.net/showthread.php?t=4474

Global Security, a US specialized Website, even admits the capability:

QUOTE: The relatively cheap Ukrainian Kolchuga radar station, which is able to detect and identify practically all known active radio devices mounted on ground, airborne, or marine objects, actually cancels out all those billions of dollars spent on stealth-based armaments.

ht tp://www.globalsecurity.org/military/world/ukraine/kolchuga.htm

It's the REAL THING, guys and the US will soon learn at its expense, if it proceeds with attacking Iran...

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