SURFACE-TO-AIR

Tetraedr's new A3 gun-missile system to begin firing trials within months

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Tetraedr plans to begin preparations for the first firing trials of its new A3 (Anti-Air, Anti-Armour, Anti-Terrorism) gun-missile system once it returns to Belarus after being displayed at the International Defence Exhibition (IDEX) 2011 in United Arab Emirates (UAE) on 20-24 February.

Jane's was given the chance to see the hardware, which is now close to its definitive configuration, before it was shipped to the UAE.

The main components of the system are the A31 command post and six A32 remotely controlled combat modules. Support components include two TZM (Transportno-Zaryazhayuschaya Mashina) transport and loading vehicles and one MTO (Mashina Tekhnicseskovo Obsluzivania) technical service vehicle.

Communication and data transfer between the A31 and its A32 combat modules are via the RRS (Radio-Releynaya Stantsia) radio-relay system or the VOLS (Volokonno-optiocseskaya linia svyazi) optical link. The latter can be used at distances up to 2 km, but the RRS communication system needs line of sight between antenna units. The RRS is the main method of communication, with the VOLS being used for static deployments. There will also be voice and data communications with higher-level command positions and with other A3 units.

The A31 command post is installed on a Kamaz-43114 three-axle truck. During previous presentations of the system at the 'Osen-2008' exercise and MILEX-2009 exhibition in Belarus, the command post had an interim standard of workstations, but it now has fully automated workstations positioned at new locations in the cabin.

The commander's RM2-3 workstation is positioned at the right-hand side of the cabin (facing the direction of travel). It includes the OES optronic system information display, a video signal switching system, a computing unit with its own display, a control system for the combat modules, a fire-control system, data-link and other communications. A rack positioned directly behind the commander contains modems and two radio systems.

The RM1-2 and RM3-2 operator workstations are positioned one behind the other on the opposite side of the cabin. Both have an OES optronic system information display, a computing system, a combat module status panel, a control system for the combat modules and a fire-control system.

The A31 command post also contains the AFKT (Apparatura funktsionalnovo kontrola i trenirovki lits boyevovo rascsota) crew-training system.

A missile-armed A32 combat module is towed by the A31 command post. Miroslav Gyürösi: 1331766

When the vehicle is in action, each crew member will control two A32 combat modules. When running in automatic mode, each module will provide information, including sensor data, to its operator, but the decision to fire can only be taken by the operator.

The configuration of the A32 combat module is unchanged from that seen in earlier presentations, but the unit now has a functional electro-optical system that combines daylight television, a thermal camera and a laser rangefinder. The module is also equipped with a target-tracking system, a geographical orientation subsystem, a GPS/GLONASS satellite navigation receiver, communications hardware and a power unit.

The daylight TV channel operates in the 0.6-1.1 micron band and has two cameras with wide and narrow fields of view respectively. The night channel is fitted with bolometric thermal camera, which offer much shorter readiness time (up to 30 seconds after switch on) and very long lifetime (10,000 hours) in opposite to previous cooled thermal camera designs used by the company.

The mast-mounted electro-optical system of the A32 combat module combines daylight television, a thermal camera and a laser rangefinder. Miroslav Gyürösi: 1331767

The operating band of the thermal camera would be chosen to suit the local environment. A 3-5 micron wavelength is suggested for coastal areas or countries where the humidity is high, or 8-14 microns wavelength for use in areas of lower humidity. The laser rangefinder operates at a wavelength of 1.1 microns.

Each A32 combat module is armed with Igla or Igla-1 surface-to-air missiles, or the Luch Bar'er (Barrier) laser-guided anti-tank missile. Three versions of Bar'er are offered: the RK-2S-TK with a tandem shaped-charge anti-tank warhead; the RK-2S-OF with an explosive warhead with penetrating core; and the RK-2S with a thermobaric warhead. All have a range of almost 5,000 m. A crew of two can reload the combat module in less than 10 minutes.

Every combat module is connected two remote controlled weapon stations based on the Adunok design by Display company, based in Vitebsk, Belarus. Located up to 50 m distance away, this can be armed with the KT-7.62 machine gun, K-12.7 or KT-12.7 12.7 mm calibre machine guns, the 30 mm KVA.117 automatic grenade launcher or the 40 mm UAG-40 automatic grenade launcher. . ●