



Groza-Z

counter-multicopter zone (facility) protection Complex

Typical mass-production multicopters



Phantom 2 Vision Plus quadcopter



Phantom 4 quadcopter



Parrot AR.Drone quadcopter

Designation

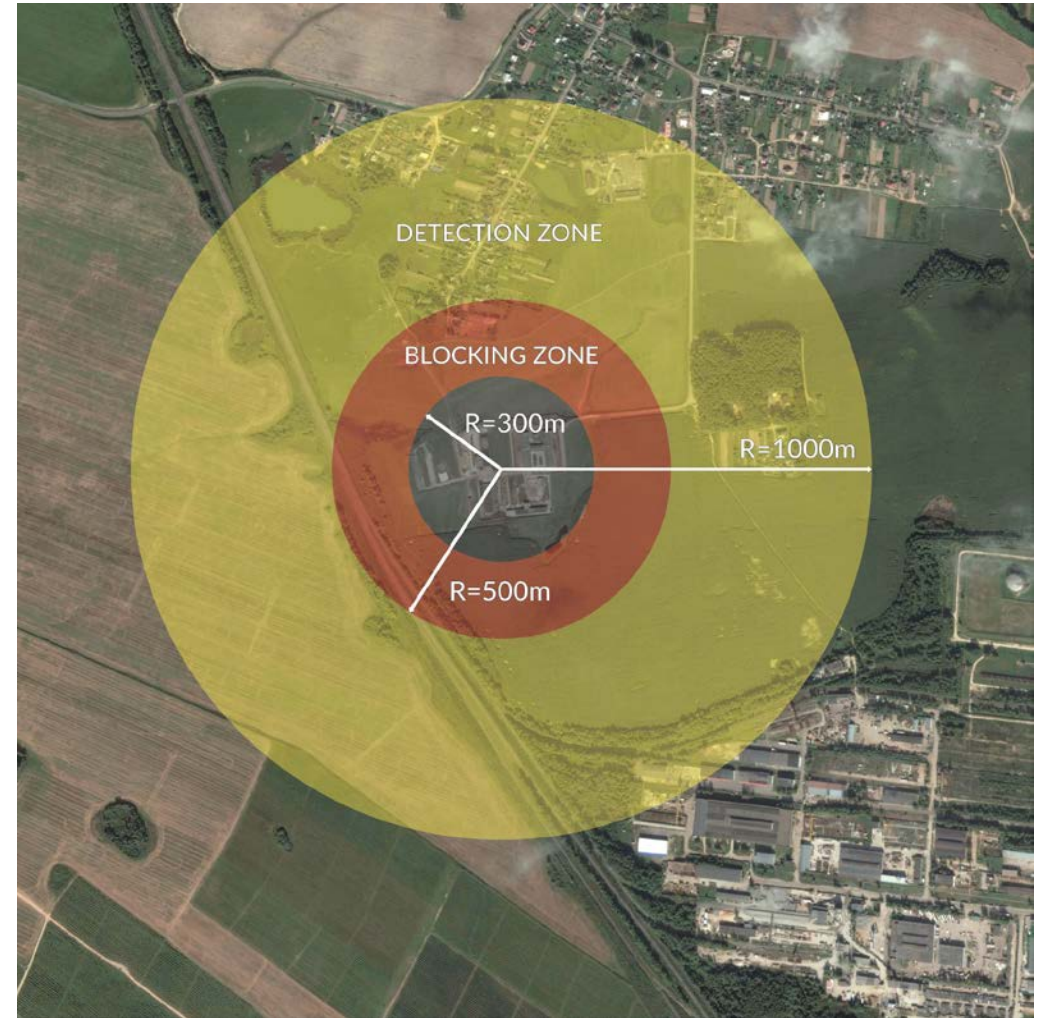
Facility protection against mass-production civilian multicopters of DJI Phantom 2, 3, 4; Inspire; Mavic; Matrice; Walkera Voyager 3, etc. type. The Complex ensures detection zone with a radius not less than 500-1000 m from the center of the protected facility, multicopter flight blocking zone with radius not less than 300-500 m; detection and direction-finding of radiated Ground Control Post (Operator's location).

Detection and surveillance :

- direction-finding of radiated multicopter signals;
- direction-finding of radiated Ground Control Post (GCP) signals;
- electro-optical (TV and thermal imaging) tracking multicopter and GCP.

Jamming (4 jamming channels):

- control and data transmission frequencies: 2.4 GHz and 5.8 GHz jamming;
- navigation system frequencies jamming: L1 GPS, L1 GLONASS.



Composition



jamming transmitter antennas system



electro-optical module



DF antenna system



radio equipment case-container

Main capabilities

- detection of multicopters by radiation of their on-board video and telemetry data transmission means, determination of their direction and their tracking by the detector/direction-finder at ranges up to 3 km (not less than 1 km);
- detection of Ground Control Post (Operator's location) of multicopters by radiation of their remote control units at ranges up to 2 km using the detector/direction-finder;
- detection of multicopters in visible and infrared wavebands at ranges up to 2 km (not less than 500 m) basing on the target guidance provided by the detector/direction-finder;
- detection of GCP (Operator and/or vehicle location) in visible and infrared wavebands at ranges up to 4 km basing on the target guidance provided by the detector/direction-finder;
- jamming of multicopters' control links in automatic mode in 360° sector in azimuth and 90° in elevation at range up to 3 km (depending on the distance to the GCP);
- jamming of GPS and GLONASS signals in 360° sector in azimuth and 90° in elevation at range not less than 5 km (provided there is a line-of-sight);
- number of simultaneously shaped jammers – 4 (2.4 GHz; 5.8 GHz; L1 GPS, L1 GLONASS frequencies);
- detector/direction-finder frequency range: 100–6000 MHz, DF accuracy 11.25 deg.;
- control and navigation link jammer shaping frequency range:
 - channel 1: 2.4–2.485 GHz;
 - channel 2: 5.76–5.85 GHz;
 - channel 3: 1.565–1.585 GHz;
 - channel 4: 1.598–1.605 GHz.