

“Mongoose” Portable System For Local Perimeter Protection

Purpose

Mongoose is a portable fast-deployable solution intended to protect open areas and sensitive approaches.

One set includes:

- CVD-102R security sensors,
- “Unicom-N”, a ruggedized smartphone intended to display received real-time data.
- “Unicom-Amulet”, a personal alert device.

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The sensors included in Mongoose system ensure intrusion detection and transmit alarms to the data collection unit. CVD-102R wireless passive infrared security sensors operate off-the-grid and are powered by non-chargeable high-capacity battery. All sensors have case tamper alarm and voltage level control.

A wireless repeater boosting the signal strength of the network and broadcasting data from all security sensors within the line-of-sight can extend the system coverage area. It incorporates accumulating batteries, solar power module to feed the batteries and a wireless modem with antenna. Repeater has self-test and report, temperature and voltage control functions.

The whole system is managed from “Unicom-1-N” smartphone with preinstalled software via 433 MHz radio channel. “Unicom-1-N” is applied to provide communication between patrolling squads and control and command center. VHF communication channel extend data broadcasting functions even further.

The system solves the following tasks:

- Receives and displays data from security sensors with map-reference.
- Transmits messages about current location and state from portable alert devices to the command and control center via 433 MHz link.
- Bidirectional message exchange (short texts up to 200 digits each) between personal alert devices and the command and control center.
- Displays the state and location of personal alert and other devices on the map.
- Positioning of the patrol squads on the map provided by GPS/GLONASS receiver.
- Displays location of portable alert devices on the map, control signs and state of other technical devices.
- Video recording and still-framing in automatic and manual modes and by a command from the control center.

Scope of supply

Name	Q-ty	Description and purpose
CVD-102R security sensor, pcs.	8	Is intended to protect long outside and inside perimeters by generating alarm messages when intruder violates the linear detection area up to 50 m at 0.1 to 5 m/sec speed. It is a security sensor with autonomous power unit transmitting alarms via 433 MHz. Operating time on one power unit up to 2 years and depends on operating environment.

“Unicom-1-N” smartphone, set	1	Is intended to provide communication between border squads and duty officer. Provides control of the system equipment.
Extra accumulating battery for “Unicom-N”, pcs.	1	
“Unicom-Amulet”, a personal alert device, pcs.	4	Is a personal alert device to receive alarm messages and give light, sound and vibration alert.
CVD-931R wireless repeater, pcs.	1	Is applied to extend “Mongoose” coverage area.
Tripod, pcs.	9	A tripod to hold CVD-102R sensors and CVD-931R repeater
Clamp, pcs.	8	Is intended for mounting CVD-102R sensors on trees and bushes
Universal booster battery 20 Ah, pcs.	1	
CVD-943M charging device, pcs.	1	Is applied to charge accumulating batteries from 220V 50Hz network
USB2.0 cable USB A (m) – mini USB B (m), pcs.	5	Предназначен для подключения «Уником-Амулет» и «Уником-1-Н» к зарядному устройству STS-943М. To connect Unicom-Amulet” or “Unicom-1-N” to CVD-943R charger
Set of cases, к-т.	1	Covers to hold and carry equipment and tripods.
Backpack, pcs.	1	To carry the system

Technical specification

Parameter	Value
Operating frequency, MHz	433
Max distance within the line-of-sight between neighbor sensors, m	1000
Max quantity of CVD-102R sensors within one system, pcs.	65000
Detection range, m	50
Registered speed, m/sec	0,1...5
Automatic communication check with upper system level	Yes
Frequency channel adjustment	Yes
Battery charge level sensor	Yes
Tamper sensor	Yes
Voice alert on sensor disturbance	Yes
Automatic display of graphic map and illumination of the disturbance area	Yes
Full integration with "Scorpio" and "Centaur-K" systems	Yes
Auto link routing	Yes
Random network topology	Yes
Time before system technical availability upon voltage supply, not more, sec	200
Deployment time by 3 people, not more, min	20
Service life	7
Service life of accumulating batteries, up to	2
Operating temperatures, °C	from -40 to +50