«Centaur» Standalone Mobile Video Surveillance And Thermal Imaging System

Product

Centaur is intended for video and thermal surveillance for perimeter security, monitoring of remote sites and important locations.

System is applied for 24/7 video surveillance in visual and infrared ranges, to watch open land and water areas, far-flung sites and enforce fire control in complete darkness and in different environmental conditions.

Centaur has manual and auto mode to scan designated areas. The system automatically scans preset positions, finds and tracks targets by PTZ video and thermal imaging cameras using proprietary FineTrack^{tm} and FineDome^{tm} technologies.

It is an easily deployable system providing continuous unmanned operation. High portability is provided by fast-assembled parts of the system. Centaur is car-portable and allows setup by 3 people within 1 hour. Specially designed carrying cases are included to store and carry the system component parts and accessories.

Solved tasks:

- real time smart video surveillance of big open spaces;
- object video detection and ranging mode - automatic target detection and tracking by PTZ video camera and thermal camera;
- wireless communication with remote monitoring center;
- integration with “RadioFence” security sensors. Sensors detect a disturbance and activate cameras that capture video of the alarm source;
- Inherent security enforced by “RadioFence” sensors;
- Independent power supply by solar energy or gas fuel generator.

Inherent security of Centaur is provided by CVD-102 security sensors from “RadioFence” system supplied separately. System operates in power-saving mode (all system modules are off-the-line) – sensors detect disturbances and trigger activation of the system. Customer-tailored sequence of the system’s actions on sensor alarms.

Radio Detection and Ranging Station CVD-172 can be included in the scope of supply by order. The system software allows visualizing CVD-172 operation and pinpointing video and thermal camera unit to the target coordinates received from CVD-172.

Scope of supply

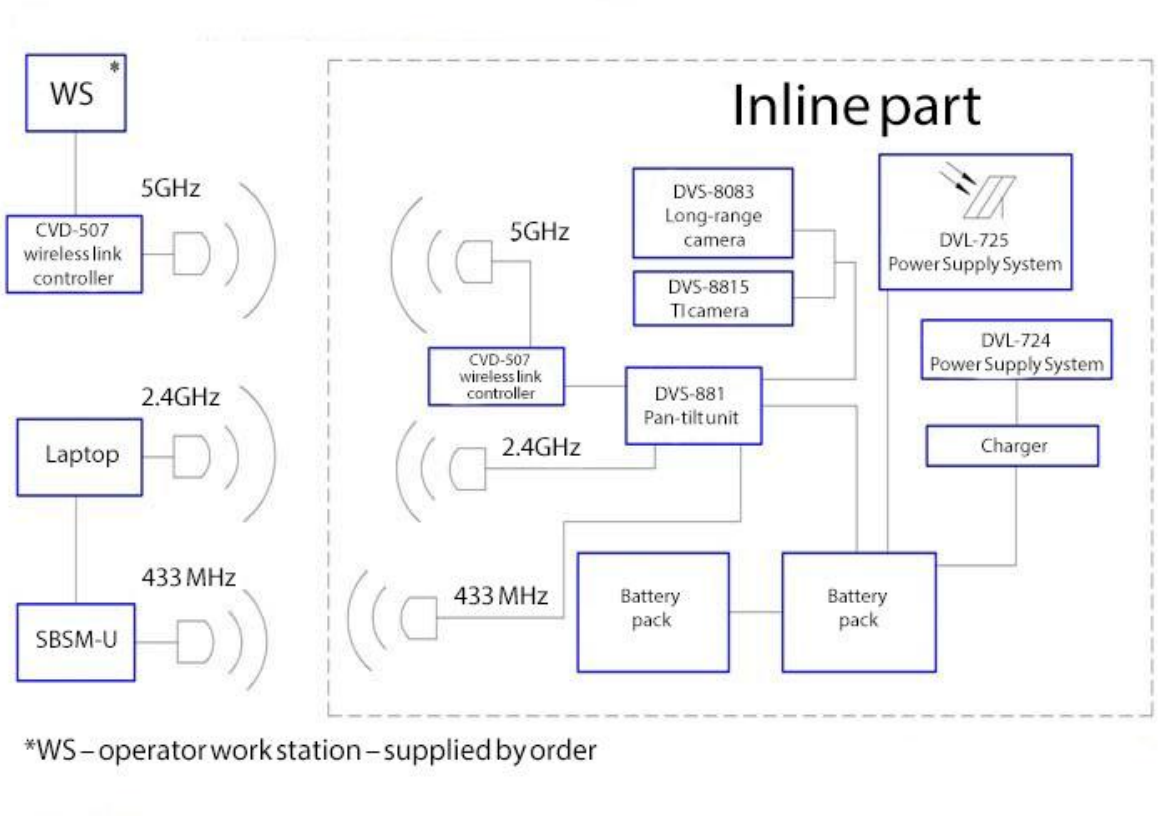
Position	Q-ty	Purpose
CVD-10901, pc.	1	Intended to hold video and thermal module with car-mount bracket
CVD-10903, pc.	1	Pneumatic telescopic mast to hold video and thermal module, control unit, broadband link-up and CVD-172 radio detection and ranging unit *.
DVS-881 pan-and-tilt unit, pc.	1	Video and thermal module for surveillance in visual and thermal range
DVS-8083 long range video camera, pc.	1	
DVS-8815 thermal vision camera, pc.	1	
12V/24 power supply, pc.	1	To supply power for the system from vehicle network
CVD-507 radio relay controller, pc.	2	To generate high throughput wireless link between two points
Battery pack, pcs.	2	To store and provide power from solar modules (DVL-725), gas fuel generator (DVL-724) for the system. 1 unit is sufficient to power the system.
Charger, pc.	1	To charge accumulating batteries and control gas fuel generator in automatic mode.
SBSM-U unit, pc.	1	To generate wireless network within 433 MHz. Allows connection of “RadioFence” security sensors. Provides remote control of the system power supply – “sleeping mode”.
Laptop with preinstalled “Centaur” software, pc.	1	To generate common information space, store and display data acquired from video and thermal cameras.
Laptop charging device 220V, pc.	1	To power laptop from the grid 220V.
Laptop charging device 12V, pc.	1	To power laptop from vehicle network.
Package set	1	Lightweight aluminum cases to hold solar modules, cables and main mast.
Connecting cables set	1	For fast and accurate connection of the system components
STL-725 standalone power supply unit, set	1	To provide solar power for the system and accumulating batteries
STL-724 standalone power supply unit, set	1	To provide power for the system and accumulating batteries from gas fuel generator
Radar set	1	CVD-172 radio detection and ranging unit to control open land, air and water areas.

* - *supplied separately by order*

Technical specification

Parameter	Value
Detection range by camera, m - "human" - "vehicle"	 Up to 10000 Up to 10000
Detection range by thermal camera, m - "human" - "vehicle"	 Up to 2700 Up to 6900
Resolution at 25 fps, px - thermal imaging camera - long-range camera	 704x576 1280×960
Video camera view angle, degrees: - vertical - horizontal	 360 90
Distance of wireless communication link, km	8
Equipped mast height, m	5,2
Solar modules power, W	400
Accumulator battery capacity, Ah	200
Remote control of power supply for all system components for improved efficiency – smart power saving functions	Yes
Auto scan of preset positions	To 30 presets
Data transmission rate, up to, Mbit/sec	50
Wireless communication frequency range, GHz	5–6
System readiness time after power up, sec	180
DC voltage, V	24 ± 10%
AC voltage for Getac X500 laptop, V/Hz	220/50
Accumulating batteries lifetime, not less, years	3
System operating temperatures, °C	From - 40 to + 50
*Gas fuel generator (from DVL-725) operating temperatures, °C	From - 30 to + 50
*Laptop operating temperatures, °C	From - 20 to + 50

Block diagram «Centaur»



*WS – operator work station – supplied by order