

# SYCH-H 6K10 Portable Device of Reconnaissance

## SYCH-H 6K10 Portable Device of Reconnaissance

SYCH-H 6K10 portable device is a binocular type multispectral optoelectronic device designed both for optic reconnaissance and observation of defined objects and targets at day and night time, and for searching and automatic detection of optical aiming and tracking devices camouflaged in the terrain folds, behind the windows of houses and vehicles.

SYCH-H 6K10 makes possible to monitor the terrain and observe thermal objects in limited visibility conditions (poor lighting, smoke, fog), as well as to detect other passive and active heat sources hidden by vegetation. Moreover, the device measures the distance and determines the coordinates of the detected targets, showing the received data on the built-in display. The display also reflects information about the operating modes of the device.

The complex includes an optoelectronic unit and thermal imaging module fixed on the pan-and-tilt platform and a tripod or bracket in case of mobile applications, and also a remote computer and an external battery. The device consists of a thermal imaging module, a television module, a laser module, a laser rangefinder, a GPS receiver, a digital compass, a control unit and a power supply. The laser module contains designators and an emitter in various spectral bands used for aligning and laser reconnaissance of determined areas in order to detect camouflaged optical aiming and tracking devices by their gleams formed as a result of laser radiation reflection from their optical systems. The control of operating modes and parameters of all modules is performed with the help of buttons on the device housing or using a removable unit of the eyepiece modul



Possibilities of application.

### [AT Communication ©](#)

1. Mobile use.

1.1. Passive mode (video monitoring).

1.2. Scan mode.

1.3. Mode of the designator.

The combination of the above modes depending on the task.

2. Stationary use involves installation of the device on a motorized pan-and-tilt platform with the possibility of autonomous functioning (platform control is performed by the device following a timely-developed pattern), with alarm on the given conditions, and also full control from the control point.

2.1 Automatic scan mode: detecting and target classification, coordinate calculation of the detected objects with plotting on a terrain map.

2.2. Automatic passive monitoring mode:

motion detection, analysis

and identification of the object.

All received data of the detected targets can be recorded on the external media, and also transferred to the central control point and to the fire damage systems.



### FUNCTIONALITY

- ✓ Optical channel in the spectral range 7-14 microns.
- ✓ Optical channel in the spectral range 450-850 nm.
- ✓ Merging of two video streams in a multispectral image, "Fusion" mode.
- ✓ Digital zoom.
- ✓ Digital image stabilization.

- ✓ Video recording and video play (MJPEG, H264).
- ✓ Dual-band irradiation sensor (irradiation detector).
- ✓ Range finder with target selection.
- ✓ Laser radiation unit for "Scan / Designator mode".
- ✓ Inertia unit: Compass, accelerometer, gyroscope.
- ✓ GPS (GPS RTK):
  - ✓ plug-in data storage for recording;
  - ✓ plug-in display unit with a possibility of remote connection.
- ✓ Ability to manage and transfer video stream (based on RTP / RTSP protocols) through interfaces: Ethernet, Wi-Fi, 3G, 4G modems (connected to USB).
- ✓ Self-diagnosis mode.
- ✓ Ability to display 2D-3D topographic maps on the device display.
- ✓ Motion detector, object classifier based on the built-in image base.
- ✓ Digital video signing
- ✓ Videostream cipher function.

### TECHNICAL CHARACTERISTICS

<b>THERMAL IMAGING MODULE</b>	
Thermal sensor type	Uncooled microbolometer
Thermal sensor resolution	640 x 512
Objective	100 mm
Objective F number	F/1.0
Field of view	6.2° x 4.9°
Detection range (man/vehicle)	2500 m / 6000 m
<b>TELEVISION MODULE</b>	
Video sensor type	CMOS
Video sensor resolution	1280 x 720
Objective range	4.3 ... 129 mm
Wide field of view (H x V)	63.7° x 47.9°
Narrow field of view (H x V)	2.3° x 1.7°
Illumination operating range	0.001...100000 lm
<b>LASER MODULE</b>	
Spectral range of laser emitter	Infrared
Spectral range of laser designators	Infrared / Visible
Detection range of optical devices	up to 2000 m
<b>LASER RANGEFINDER</b>	
Wavelength	1550 nm
Radiation divergence	1 x 1 mrad
Measurement range	25 ... 6000 m
<b>DISPLAY</b>	
Display type	AMOLED
Display resolution	800 x 600 (1280 x 1024)
<b>GENERAL PARAMETERS</b>	
Connection interface	USB, RS422, Ethernet 1000mbps, Wi-Fi (2.4 – 5GHz MIMO 700mbps) , BT, CVBS
Video interface	CVBS, HDMI

Power supply type	batteries 18650 (6 pieces)
Power supply	22 V
Operating time	> 7 h
Operating temperature	-30°C ... +50°C
Dimensions (L x W x H)	260 x 260 x 130 mm
Weight	3.5 kg
Protection level	IP67

**SYCH-H 6K10 - Portable Device of Reconnaissance - Surveillance - Optical Devices Detection**