

INTRODUCTION

The NVD-KOF3NVTV is a high performance day/night camera designed for long-range observation, surveillance and registration of moving and immovable objects in daylight and at night. Built over exclusive digital technology the NVD-KOF3NVTV operates during the night as well as day without interruption of its operation.

The camera is based on the silicon high-sensitive CCD sensor with special system of electronic accumulation and multiplication of a signal. The four-stage system of automatic control and superior anti-blooming allow seeing in a wide range of illumination without regulation of contrast and brightness. The NVD-KOF3NVTV has wide range of operation from 0.0005 lx (starlight) to 30 000 lx (solar day). Specially designed lens system allows viewing a human form on the distance more than 1500 meters at night. High-power laser infrared illuminator allows observing objects in active mode on the distance more than 1500 meters by external illumination lower 0.001 lx.

SPECIFICATIONS

Magnification (LCD monitor 14 inch.).....	13X
S/N ratio	
in daylight.....	46 dB
at night.....	20 dB
Max. distance of identification of a human form at illumination 0.001 lx.....	1500 m
Minimum distance of observation.....	20 m
Resolution:	
in daylight.....	420 TV lines
at night.....	210...420 TV lines
Field of view	4.4 deg.
Range of operation.....	0.0005...30 000 Lx
Video output.....	Standard composite video
	1.0Vp-p, 75
Lens system.....	F1.5/110 mm
Power supply.....	12V, 400 mA
Weight of IR camera	0.85 kg
Weight of IR illuminator.....	0.4 kg
Recommended temperature range	-20 deg.C to +50 deg.C
The increased relative humidity.....	98% at temperature 25 deg.C
Shock.....	20g
Atmospheric pressure.....	96-104 kPa

The kit includes: NVD-KOF3NVTV..1 pce.
 Cable.....1 pce.
 Tripod.....1 pce.
 Case.....1 pce.
 Manual.....1 pce.



OPERATION

CAUTION! Prevent from lighting with IR laser illuminator a human face closer than 150 meters away.

The KOF3NVTV camera can work both in a passive mode at natural night illumination and in active mode with infrared laser illuminator.

In an active mode the system has the best identification properties but has lack - another night vision devices can discover the camera NVD-KOF3NVTV.

The active mode has the limited angle of viewing equal to an angle of divergence of laser radiation of illuminator. Therefore for reduction of time of search of object in a zone of the review it is recommended to conduct search and detection of objects in a passive mode, and then the identification of objects - in active mode.

The maximal range of detection of the camera depends on the following factors:

- Transparency of an atmosphere (smoke, fog, rain, snow);
- Reflecting properties of object;
- Contrast an object / background;
- Resolution of the system.

The magnification of the system depends on the diagonal size of the monitor screen:

$$M=D \times 0.92$$

M - magnification of the system.

D - diagonal of the monitor screen in inches.

The magnification of the maximum range at the expense of the monitor size is limited to resolution of the system. Optimal size of the screen diagonal is 12 inches.

The four-stage system of automatic control and superior anti-blooming allow seeing in a wide range of illumination without regulation of a contrast and brightness.

The four-stage system of automatic control operates in the next conditions:

The first stage is from 1000 to 30000 lx (daylight).

The second stage is from 1.0 to 1000 lx (twilight and daylight).

The third stage is from 0.01 to 1 lx (moonlight and twilight) (function of addition of sensor pixels).

The fourth stage is from 0.0005 to 0.01 lx (starlight) (function of addition of pixels and TV lines).

1. Fix the camera on a platform or tripod with a connection - R1/4 "on the holder (11) (fig.3).
 2. Fix a cable of a feed in the plug input 12V (4) (fig.1) of the camera and in the plug input 12V (9) of the infrared laser illuminator IR-530-1000 and in the accumulator battery 12V, car battery or standard household current through AC/DC adaptor 220V/12V.
 3. Fix a video cable in the video input (5) of the camera and in the plug video input of the monitor.
 4. Switch ON the monitor.
 5. Switch on the camera by the switch (3) (fig.2).
 6. Use the brightness and contrast controls on the panel of monitor to adjust the brightness and contrast of a picture.
 7. By focusing objective lens (1) in turn, try to achieve a bright image of the object under observation.
 8. At very low light level at the night (lower than 0.001lx), use the IR laser illuminator (10), mounting it on the platform, using the fixing screw (8).
- Switch on the IR laser illuminator (6) (fig.2). The IR-530-1000 has rotary switch with four positions available:

1. OFF
2. IR illuminator is ON at minimal output power.
3. IR illuminator is ON at middle output power.
4. IR illuminator ON at maximal output power.

- Observing in the monitor, adjust an optimum situation of the IR illuminator with the help adjustment mechanism (7);

- By focusing objective lens (2) of the IR illuminator, try to achieve optimum angle of radiation and illumination of scene.