



# ASAHI PENTAX NOCTA<sup>®</sup> *for infra-red telephotography*



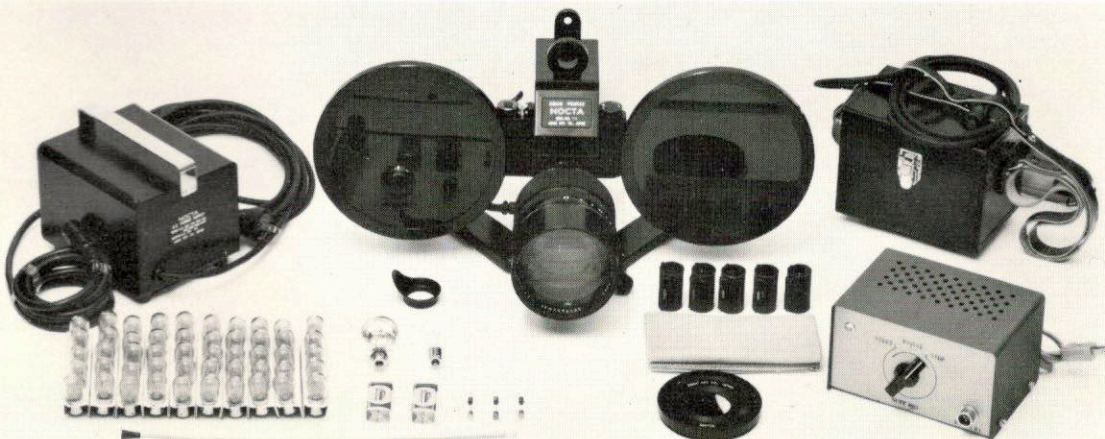
The Asahi Pentax NOCTA is a 35mm single-lens reflex camera with an infra-red electro-optical system, designed and constructed for infra-red telephotography in total darkness. The unique feature of this instrument is that it permits constant surveillance in total darkness through the conversion of an infra-red scene by electronic means to a bright representation visible in the camera's viewfinder. The new NOCTA is extremely suitable for criminal and military clandestine photography, psychological and other specialized applications.

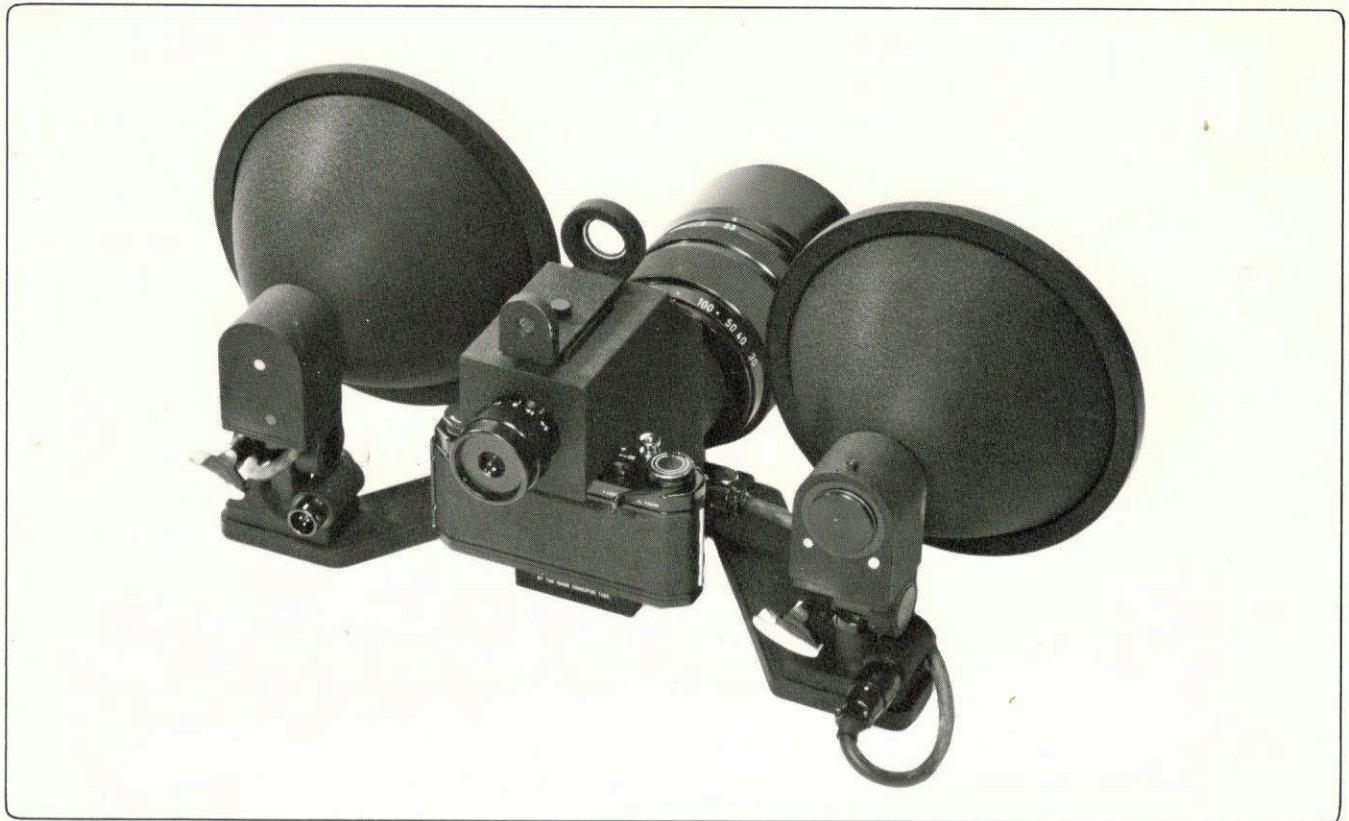
An infra-red flash gun and a search light are provided on both sides of the 300mm taking lens. Behind the infra-red filter of the search light is a tungsten light source. The search light illuminates a scene, and the infra-red light reflected from the scene, coming through the taking lens, is converted electro-optically to a visible image on the fluorescent screen of the noctovision viewfinder for surveillance and focusing.

After the scene has been brought into focus, the shutter is released, the flash bulb behind the infra-red filter of the flash gun is fired, and the infra-red image of the scene is exposed onto the infra-red film.

The infra-red beam from the search light is almost invisible, and the infra-red flash beam from the flash gun, at the instant of exposure, may be seen as an extremely weak red light beam by the subject at the scene if he is looking directly at the camera.

The effective photographable distance of this instrument depends upon the effective distance of the infra-red illumination and flash, and upon the identifiability of the feature of the subject exposed on the infra-red film. With the 300mm f/3.3 lens, mounted on the NOCTA, using a "Toshiba Super 5R" flash bulb (special order) and Kodak High Speed Infra-Red film, considerably boosted through development, the maximum photographable distance is approximately 100 meters (328 ft.).





## SPECIFICATIONS

### 1. Optical Specification

**Camera:** Picture size — 24mm × 36mm / shutter speed — 1/20 sec. & Bulb / synchronized flash terminal / detachable sports finder.

**Lens:** 300mm f/3.3, especially designed for infra-red / minimum aperture f/22 / angle of view — 8° / supplied with 256× N.D. protective filter (42mm φ).

**Eyepiece:** Focal length — 25mm / adjustable between —4 & +2 diopter.

**Total viewfinder image magnification:** 10×

**Effective angle of viewfinder image:** Approximately 5°

**Resolution of image on image converter tube:**  
Approximately 50 lpm at center

**Maximum visible distance:** Approximately 100 meters (328 ft.) with 50W bulb in search light.

**Maximum photographable distance:**  
Approximately 100 meters (328 ft.) when operated as specified.

**Range of wavelength band used:** 0.85/1.2 microns.

**Parabolical mirror of infra-red search light:**  
Effective diameter ..... 170mm  
Focal length ..... 20mm  
Effective angle of irradiation ..... 5°

**Parabolical mirror of infra-red flash gun:**  
Effective diameter ..... 170mm  
Focal length ..... 20mm  
Effective angle of irradiation ..... 12°

### 2. Electrical Specification

#### Image converter tube in noctovision viewfinder:

Image converter tube .....	RCA 6914-V1
Output .....	16KV
Consumption .....	30 milliwatts
Power source	— One 9V dry cell contained in camera body.

#### Infra-red search light:

Bulb used ..... 12V, 50-watt (DC/AC)

Power source:

DC — 12V, 8A/H battery, approximately 1.5-hour life after full charge / automatic warning signal against over-discharge / on-off switch / supplied with special battery charger (AC input — 100, 120, 220V, 50-60 cycles).

AC — 12V, 70-Watt (AC input — 100, 110, 120, 125, 200, 220, 230, 240V, 50-60 cycles).

Direction and angle of infra-red beam is adjustable / parabolical mirror reflector is capped with an infra-red filter (RT-1A).

#### Infra-red flash gun:

Power source — one 9V dry cell / direction and angle of infra-red beam is adjustable / equipped with flash bulb test button / parabolical mirror reflector is capped with an infra-red filter (R90-A).

#### Flash bulb:

Toshiba Super 5R	
Peak Lumen .....	1,500,000
Total output .....	25,000 Lumen/sec.
Effective duration .....	14 milli-seconds