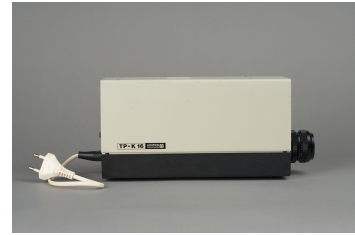


TP-K16 closed-circuit television camera

AUTHOR

TIME AND PLACE OF CREATION

Place:
, Poland



TECHNICAL DATA

Dimensions:
height: 134 mm, width: 100 mm, depth: 320 mm

OTHER

MIM 700/VI/83

KEYWORDS

aparatura naukowa, bezpieczeństwo, biuro, drogownictwo, elektronika, komunikacja miejska, komunikacja, łączność, obraz, odtwarzanie obrazu, prąd, przemysł, sprzęt RTV, telewizja, zapis obrazu, wzornictwo polskie, ulica, telewizor, sprzęt filmowy

DESCRIPTION

The TP-K 16 black-and-white, analog CCTV camera was produced from the 1970s by the Warszawskie Zakłady Telewizyjne, and later by their subsidiary, Zakłady Telewizyjnych Systemów Profesjonalnych, later renamed to Unitra Polkolor after becoming an independent entity. The camera was manufactured until the end of the 1980s in the basic and improved version (marked TP-K 162). According to the manufacturer's description, the TP-K 16, as "a utility television camera, is a device converting an optical image into its counterpart electric signal which, when sent through a television monitor, is turned into an optical image again". Different ways of using it were envisaged in different areas of the economy, including "recording amateur programmes on a video recorder", "controlling production processes and phenomena that are hazardous for people", teaching – for example in connection with a microscope in order to "enhance the teaching process and

provide information – or to “work in security systems (banks, warehouses, shops)” or “for observation of patients in hospitals, children in nurseries and kindergartens”. The application that was not mentioned in the Service instruction is related to direct social control in the form of monitoring and remote surveillance systems that were developed from the 1970s. Among other things, the use of CCTV cameras was expected to prevent theft of materials by employees of production facilities, as well as help in managing traffic, or to control behaviour of people in public spaces. The design of the TP-K 16 was based on an aluminium alloy frame to which housing components and printed circuit boards with transistors, integrated circuits, and capacitors were mounted. Initially, foreign components were used for its production, which were later substituted by Polish parts. A lens by Carl Zeiss from Jena, imported from the German Democratic Republic, was used in the optical system. Images are converted to electrical signals with the use of an analysing tube made by the Japanese Toshiba company – the vidikon 7262A (later substituted by the Polkolor PWM41A vidicon). It utilises the photoconductivity phenomenon. The tube has the form of a glass vacuum bulb in which the image is projected on a signal plate made of a semi-transparent conductor, placed on the inside of the bottom. On the inner side of the plate is a photoconductive layer that has a large electrical resistance value when exposed to light. When an image is projected on the signal plate, the resistance of the photoconductive layer decreases in the places that are illuminated. A stream of electrons emitted by the electron emitter partly reaches the signal plate at the illuminated spots, thus producing a current whose value is dependent on the distribution and intensity of light in the projected optical image. The electrical signal is then sent to the television receiver, where it is decoded.

Author: Filip Wróblewski