

FLIR KÉZI HŐKAMERÁK

FORGAI-MAZO

Modern Alarm Kit

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VANUATU modernisation bill

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2012 Metrics

# FLIR BHS-SERIE: sehen, ohne gesehen zu werden

Die Wärmebildkameras der BHS-Serie sind stoßfest. Sie geben auch in tiefster Dunkelheit klare Bilder wieder. Mit den Kameras der BHS-Serie sehen Sicherheits- und Polizeikräfte ihre Verdächtigen in absoluter Finsternis, durch Rauch und in nicht zu dichtem Laubwerk.

Die Kameras der BHS-Serie sind Binokulare und strengen die Augen daher nicht so sehr an wie Monokulare. Außerdem lassen sich undeutliche Objekte durch ein Binokular besser erkennen. Auch kleine Objekte sind auf diese Weise besser zu erkennen, weil sie sich deutlicher vom Hintergrund absetzen. Ein Binokular lässt sich zudem beim Beobachten eines Objekts nahezu wackelfrei halten. Dies wirkt sich besonders vorteilhaft aus, wenn Sie sich kleine Objekte in größerer Entfernung ansehen.



## Optionen für größere Reichweite

Die Kamera BHS-X ist mit einem ungekühlten Vanadiumoxid-Detektor ausgestattet. Dadurch sind hervorragende Weitsichten bei einer hohen Auflösung von 320 x 240 Pixel im Sucher möglich und ein zweifacher Digitalzoom bis zu 160 x 120 Pixel.

Mit dem 640 x 480 -Detektor von FLIR liefert die BHS-XR eine größere Entfernungsleistung bei einer klaren, deutlichen Auflösung von 320 x 240 Pixel im Sucher und ermöglicht gleichzeitig einen zweifachen Digitalzoom-Modus sowie einen zusätzlichen vierfachen Digitalzoom bis zu einer Vergrößerung von 160 x 120 Pixel. Die volle Auflösung von 640 x 480 Pixel der BHS-XR-Serie lässt sich auch über den „Aux Video“-Anschluss am Aufsteckadapter erreichen.



## Optionale Objektive

Die BHS-Serie kann mit verschiedenen Objektiven geliefert werden. Objektive mit höherer Brennweite haben ein schmales Sichtfeld (FOV) und können Zielobjekte in größerer Entfernung erfassen. Die Objektive sind austauschbar. Geben Sie bei der Bestellung einer Kamera auch mit an, welche Objektive Sie benötigen.

Die folgenden Objektive sind erhältlich:

OBJEKTIVE	BHS-X: 320 x 240 Pixel			BHS-XR: 640 x 480 Pixel		
	35 mm	65 mm	100 mm	35 mm	65 mm	100 mm
Sichtfeld (FOV)	13° x 10°	7° x 5°	5° x 3°	18° x 13°	10° x 8°	6° x 4°
Erkennung von mannshohen Zielen auf bis zu:	780 m	1,5 km	2,1 km	1,14 km	1,9 km	2,45 km



## Digitalzoom

Das Kameramodell BHS-X verfügt über einen zweifachen Digitalzoom und das Modell BHS-XR sowohl über einen zweifachen als auch über einen vierfachen Digitalzoom. Damit können Sie bei Bedarf Ihr Ziel näher heranholen.



## Handlich und robust

Die FLIR-Kameras der BHS-Serie sind mit unter 1000 Gramm (inklusive Akkus) echte Leichtgewichte. Sie entsprechen der Schutzart IP67 und können bei Temperaturen zwischen -20 °C und +60 °C betrieben werden.



## Einfache Bedienung

Die Kameras der BHS-Serie sind ergonomisch gestaltet. Mit ihren fünf Tasten oben auf dem Gerät ermöglichen sie eine einfache Bedienung.



## Ideal für verdeckte Operationen

Die Kameras der BHS-Serie geben keinerlei Betriebsgeräusche ab. Durch den Lichtschutz rund um die beiden Okulare bleibt der Bediener auch in völliger Dunkelheit verdeckt.



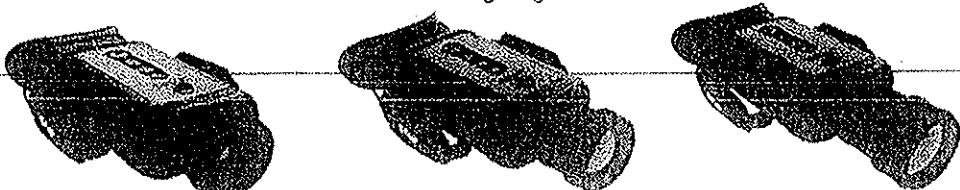
## Videoaufnahme auf Knopfdruck

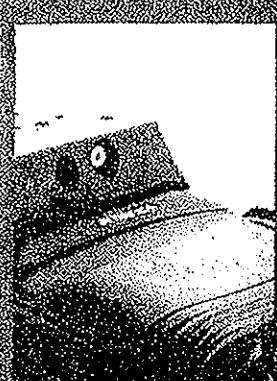
Mit nur einem Tastendruck können Sie Wärmebildvideos aufnehmen und auf einer SD-Karte speichern.



## Bildspeicherung

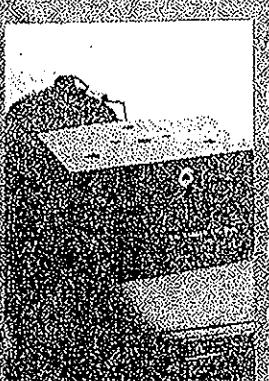
Mit beiden Modellen der BHS-Serie können Sie auch Wärmebilder im JPEG-Format auf einer SD-Karte speichern. Die Bilder können als Beweismaterial herangezogen werden.





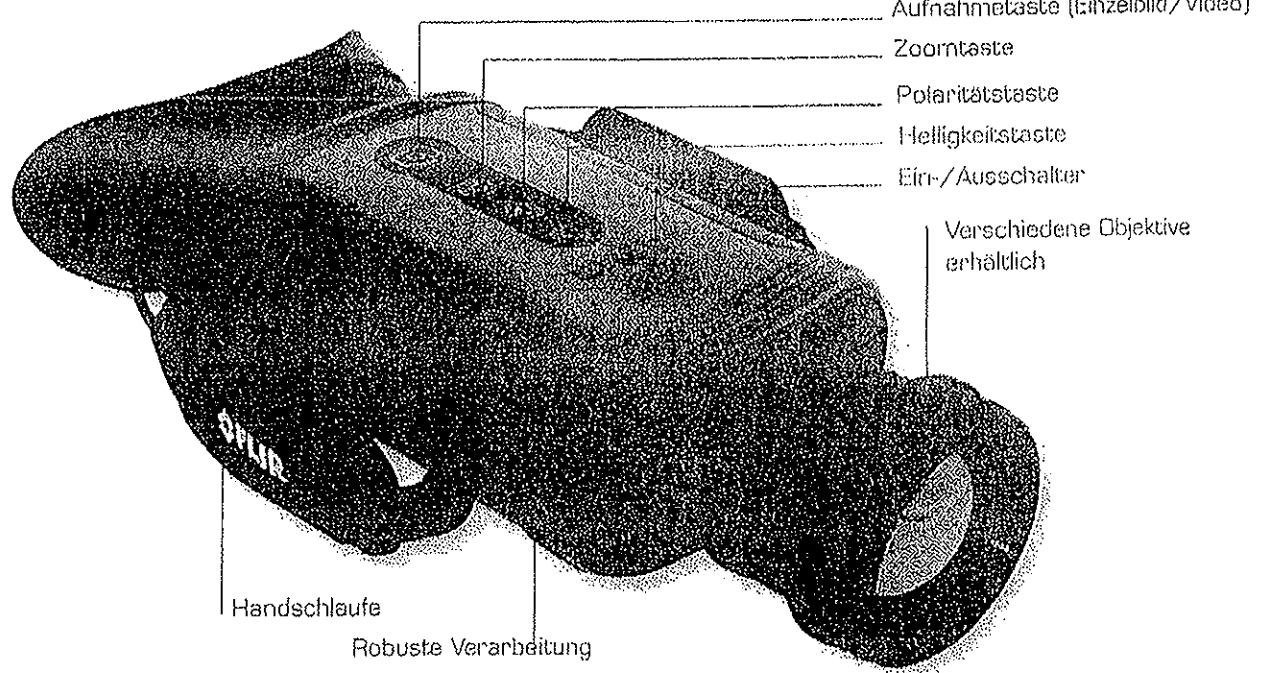
### Lange Akkulebensdauer

Das Akkufach enthält vier NiMH-Akkus vom Typ AA (Mignon). Damit kann die Kamera ca. vier Stunden betrieben werden. Geräte der BHS-Serie können auch mit handelsüblichen Alkaline- oder Lithium-Ionen-Mignonzellen betrieben werden.



### Auflichtsteckdose erlaubt

Die BHS-Serie verfügt über eine Steckdose, die den Einsatz der Kameras unter erschwerten Bedingungen ermöglicht. Mit Hilfe des Zugschnur-Lichtschleiers kann die Kamera in Dunkelheit und bei schlechtem Wetter eingesetzt werden. Die Kamera ist auf einen Stecker angeschlossen.



#### Verschiedene Modelle erhältlich

	BHS-X	BHS-XR
Sehen, ohne gesehen zu werden	✓	✓
Sicht durch Staub, Smog, Rauch und leichte Niederschläge	✓	✓
Video- und Bildspeicherung	✓	✓
Bildauflösung	320 x 240 Pixel	640 x 480 Pixel
Digitalzoom	2x	2x, 4x



**BHS-Serie:** auch am helllichten Tag  
Die BHG-Serie signalisiert nicht nur hervorragend für den Einsatz bei Dunkelheit. Die vom Körper ausgehende Wärmestrahlung lässt sich ohne spezielle Ausrüstung nicht unterdrücken. Personen, die sich im Gebüsch oder Schatten verstecken, werden durch ein Wärmebild sofort sichtbar.

814

# FLIR HS-SERIE:

alle Vorteile der Wärmebildtechnik in einer Hand

Die Kameras der HS-Serie sind kompakt und stoßfest. Sie geben auch in totaler Finsternis scharfe Bilder wieder. Die Kameras erlauben Sicherheits- und Polizeikräften Verdächtige in tiefster Dunkelheit, durch Rauch und in nicht zu dichtem Laubwerk auszumachen.

Die HS-Serie eignet sich hervorragend für Patrouillen, die Gewerbegebiete und Grenzen ablaufen, für Zoll- und Polizeibeamte und für alle anderen, die im Dunkeln und unter den widrigsten Wetterbedingungen verdeckt operieren müssen.

Da es sich bei den Kameras der HS-Serie um Monokulare handelt, sind sie sehr handlich und leicht. Sie passen problemlos in eine Tasche oder können an einem Gurt getragen werden. Ein weiterer Vorteil des Monokulars ist die einhändige Bedienung, sodass die andere Hand frei bleibt.



## Hochauflöste Wärmebilder

Kameras der HS-Serie geben Wärmebilder von 320 x 240 Pixel wieder; auf denen auch das kleinste Detail sichtbar wird. Die fortschrittliche integrierte Kamera-Software liefert ohne weiteres Zutun ein klares Bild.



## Äußerst erschwinglich

Die Kameras der HS-Serie sind preisgünstig. Infrarotgeräte mit Wärmebildtechnik sind von nun an für jeden erschwinglich. Hohe Anschaffungskosten sind keine Ausrede mehr. Und es gibt keinen Grund mehr, eine weniger effektive Nachtsichttechnologie zu verwenden.



## Optionale Objektive

Die Kameras der HS-Serie sind mit einem 19-mm- oder einem 65-mm-Objektiv ausgestattet. Für das 19-mm-Objektiv ist eine 2x-Vergrößerung erhältlich.

	HS-324	HS-324 mit 2x-Vergrößerung	HS-307
Objektiv	19 mm	19 mm	65 mm
Sichtfeld (FOV)	24°	12°	7°
Erkennung von mannshohen Zielen auf bis zu:	450 m	790 m	1,5 km



## Digitalzoom

Mit dem zweifachen Digitalzoom können Sie sich weiter entfernte Objekte näher heranholen.



## Extrem handlich und robust

Die FLIR-Kameras der HS-Serie sind mit 660 Gramm (inklusive Akkus) echte Leichtgewichte, mit denen Sie sich in jeder Situation schnell und frei bewegen können. Sie entsprechen der Schutzart IP67 und können bei Temperaturen zwischen -20 °C und +60 °C betrieben werden.



## Einfache Bedienung

Die Kameras der HS-Serie sind ergonomisch gestaltet. Mit ihren fünf Tasten oben auf dem Gerät ermöglichen sie eine einfache Bedienung.



## Ideal für verdeckte Operationen

Die Kameras der HS-Serie geben keinerlei Betriebsgeräusche ab. Durch die Augenmuschel rund um das Okular bleibt der Bediener auch in völliger Dunkelheit verdeckt.



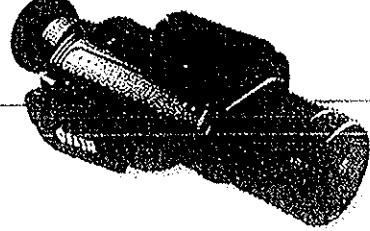
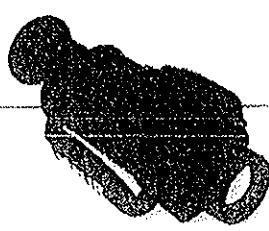
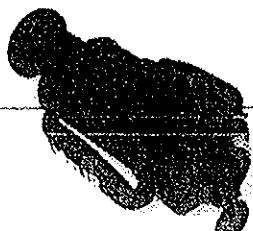
## Aufsteckadapter

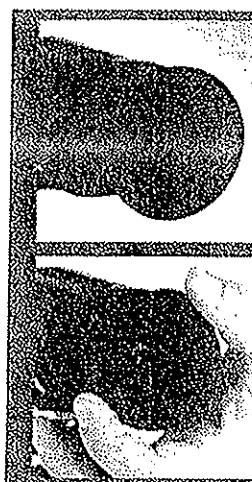
Die HS-Serie verfügt standardmäßig über einen Aufsteckadapter, der leicht an der Kamera befestigt werden kann. Dieser Aufsteckadapter ist mit einem Stromanschluss und einem Videoausgang ausgestattet. Die Kameras der HS-Serie sind damit auch dann voll funktionstüchtig, wenn sie auf einem Stativ angebracht sind und die Akkus aufgeladen werden.



## Lange Akkulebensdauer

Die Betriebsspannung der HS Serie bei voll aufgeladenen Akkus beträgt mehr als fünf Stunden. Einsetzen sind vier NiMH-Akkus vom Typ AA (Mignon). Geräte der HS-Serie können auch mit handelsüblichen Alkaline- oder Lithium-Ionen-Mignonzellen betrieben werden.





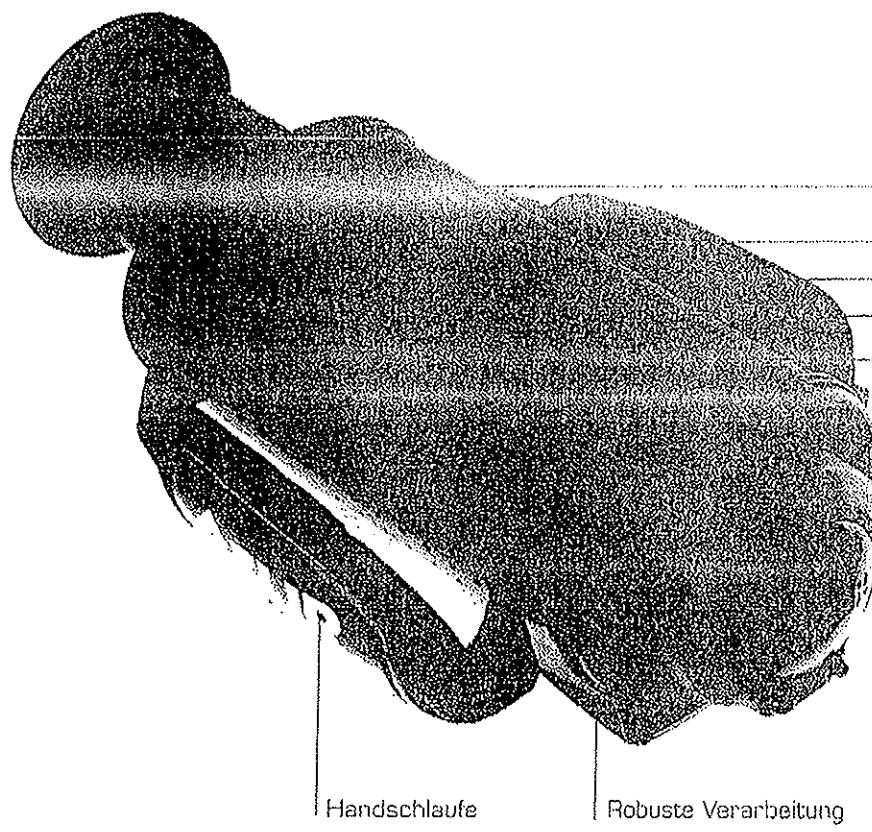
## Augenmuschel rund um das Okular

Die Kameras der HS-Serie verfügen über ein Faltenbalgokular. Es verhindert, dass sich dem Sucher entweicht und sorgt somit dafür, dass der Bediener unentdeckt bleibt.



## Objektiv Abdeckkappe

Die Abdeckkappe kann die Kamera vor Staub, Schmutz und Feuchtigkeit schützen. Sie kann leicht abgenommen werden, um die Kamera zu reinigen. Ein Einsatz ist empfohlen, wenn die Kamera nicht verwendet wird.



Ein-/Ausschalter

Aufnahmetaste (Einzelbild/Video)

Zoomtaste

Polaritätstaste

Helligkeitstaste

SD-Karten-Slot

## Verschiedene Modelle erhältlich

Sehen, ohne gesehen zu werden

### Standard

### Pro

Sicht durch Staub, Smog, Rauch und leichte Niederschläge



Bildspeicherung für Beweismaterial



Videospeicherung

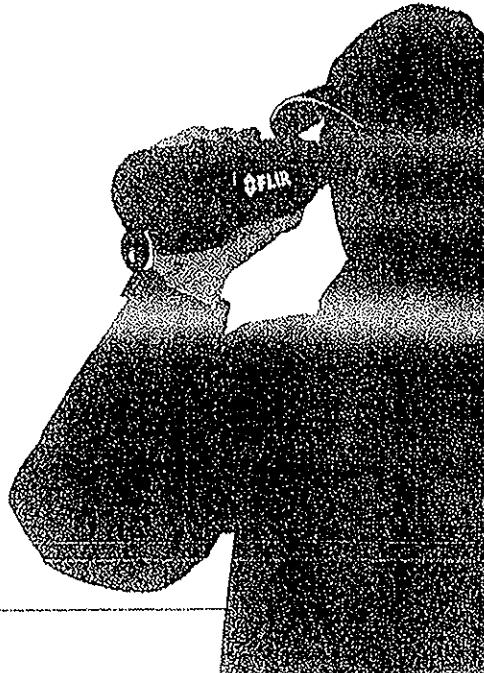
JPEG-Format auf SD-Karte

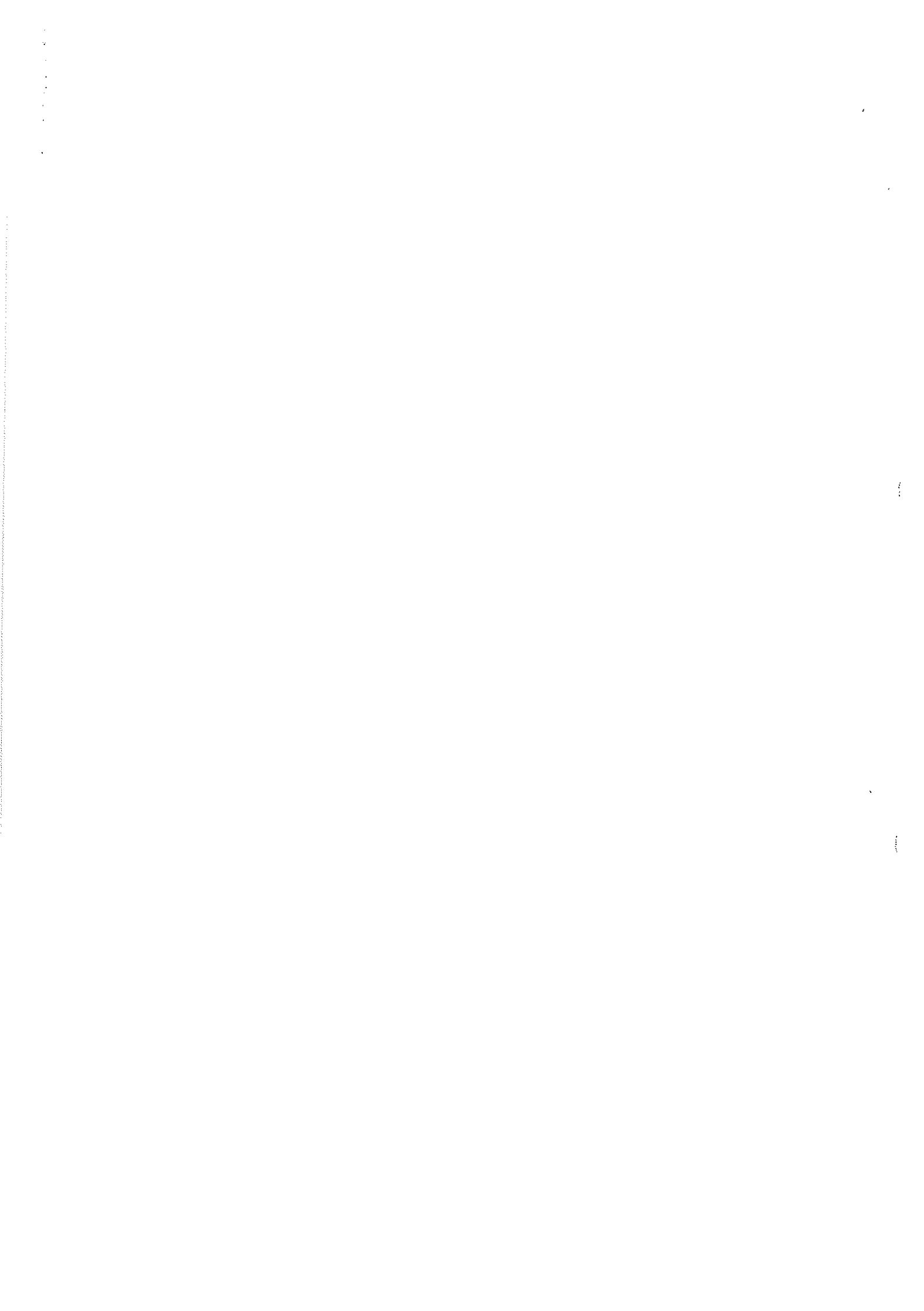
USB2-Anschluss

AVI-Format auf SD-Karte

Echtzeituhr

Bildübertragung auf PC

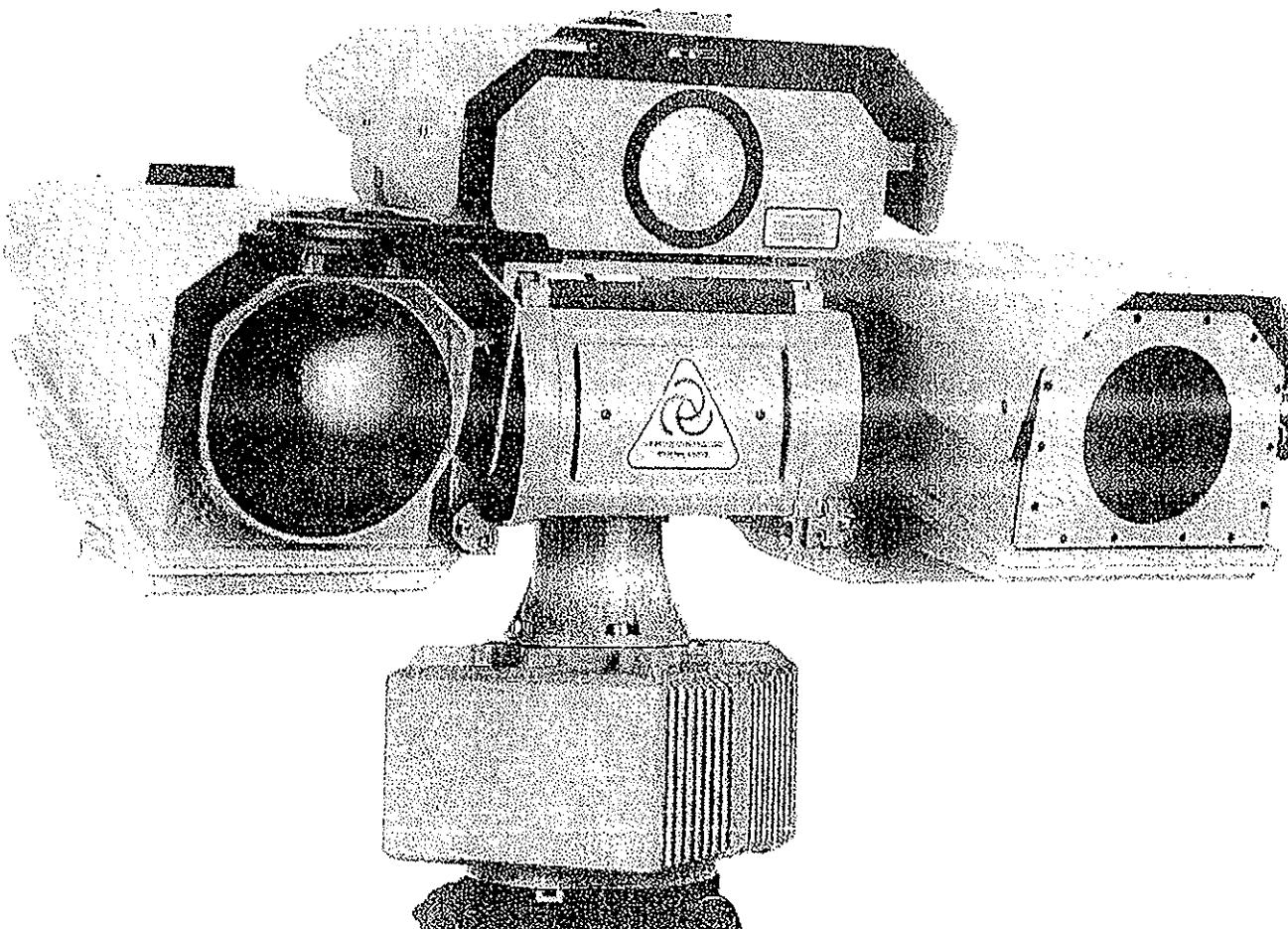
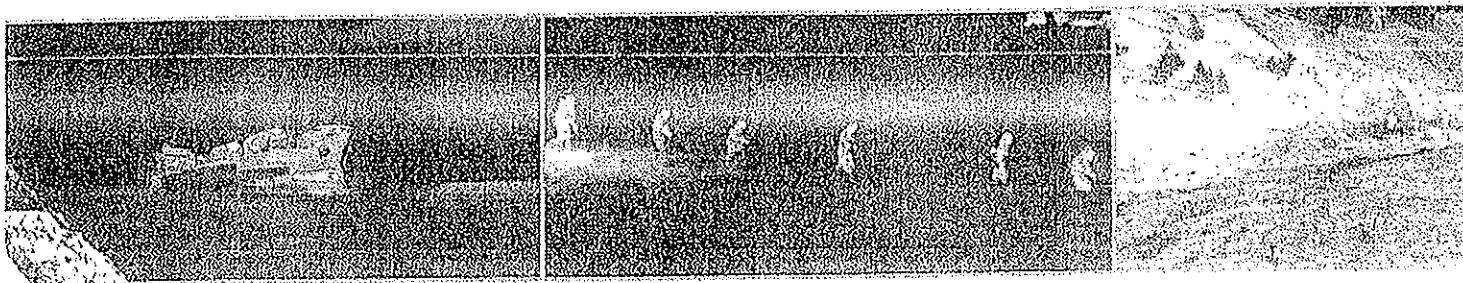


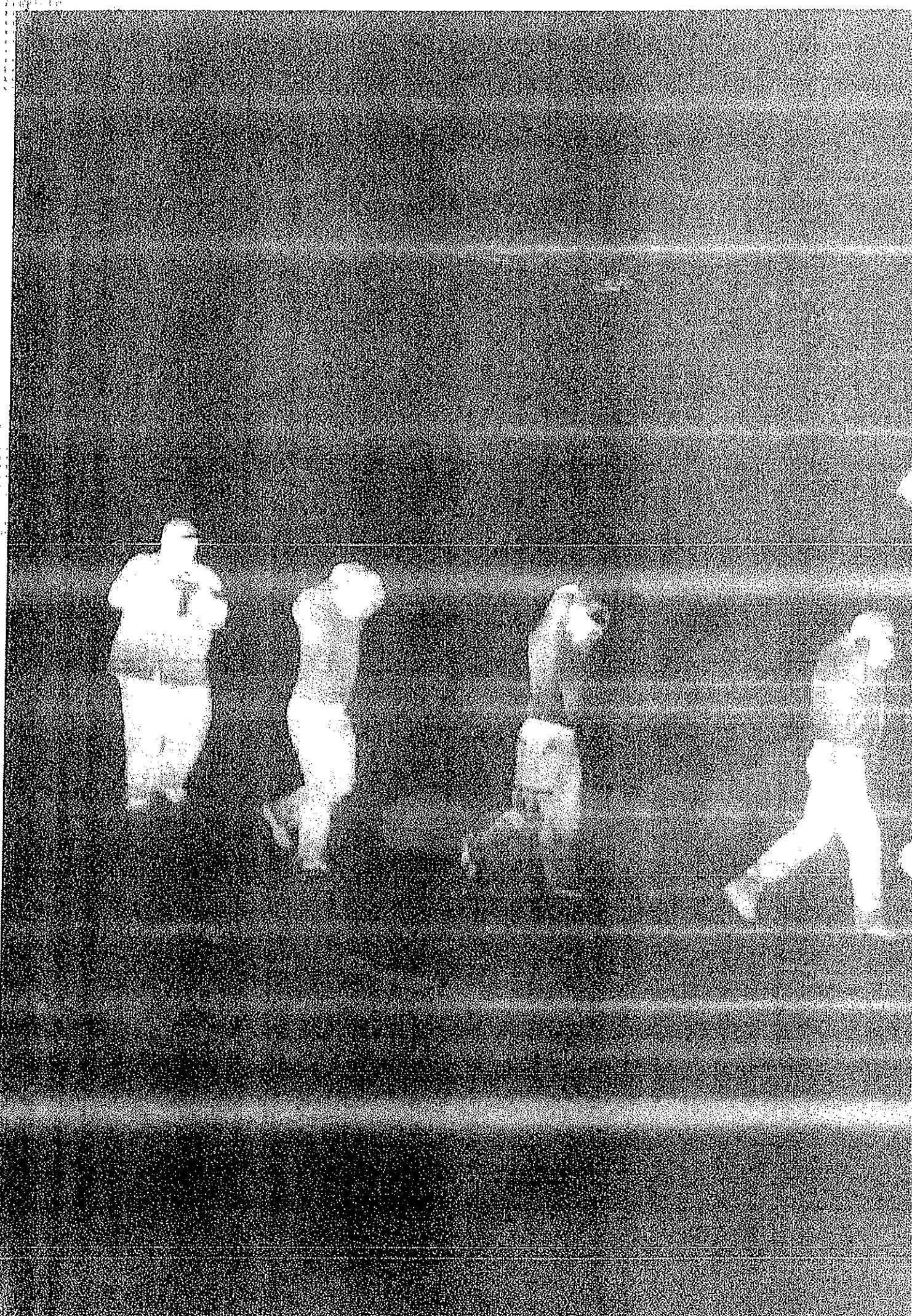


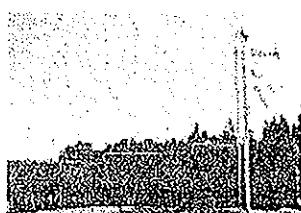


## HRC-Series

Long-range thermal imaging cameras for  
border and coastal surveillance applications







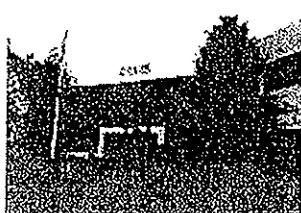
FLIR Systems, Stockholm, Sweden



FLIR Systems, Boston



FLIR Systems, Santa Barbara



FLIR Systems, Portland

## FLIR Systems: the world leader in thermal imaging cameras

FLIR Systems is the world leader in the design, manufacturing and marketing of thermal imaging systems for a wide variety of commercial, industrial and government applications.

FLIR Systems' thermal imaging systems use state-of-the-art infrared imaging technology that detects infrared radiation - or heat - enabling the user to see in total darkness, in practically all weather conditions. We design and manufacture all of the critical technologies inside our products, including detectors, electronics, and special lenses ourselves.

### Rapidly emerging markets and organization

Interest in thermal imaging has grown considerably over the last few years in a large variety of markets. To face this increased demand FLIR Systems expanded its organization drastically. Today we employ more than 2,700 people. Together, these infrared specialists realize a consolidated annual turnover of more than 1 billion US dollars. This makes FLIR Systems the largest manufacturer of commercial thermal imaging cameras in the world.

### Manufacturing capabilities

FLIR Systems currently operates 6 production facilities: three in the USA (Portland, Boston and Santa Barbara, California) one in Stockholm, Sweden, one in Paris, France and one in Tallinn, Estonia.

### Thermal imaging: more than building a camera

There is more to the world of thermal imaging than building a camera. FLIR Systems is not only committed to providing you with the best camera, we are also able to offer you the best software, service and training to suit your thermal imaging needs.

# Thermal imaging cameras:

Thermal imaging cameras like the FLIR HRC-Series create a virtual security fence and are finding their way into many security and surveillance applications.

Thanks to their ability to detect man-sized targets several kilometers away, they are extremely suited for border surveillance and coastal protection. Protecting a country's borders is vital to its national security. It is however very challenging to detect potential intruders or smugglers in total darkness, in the most diverse weather conditions. Thermal imaging cameras can help border control professionals to meet the demands they face at night and in other low-light situations.

Also ports and airports, nuclear plants, petrochemical installations... are vulnerable to theft, or even worse terrorist attacks, and can be protected by using thermal imaging cameras like the FLIR HRC-Series.

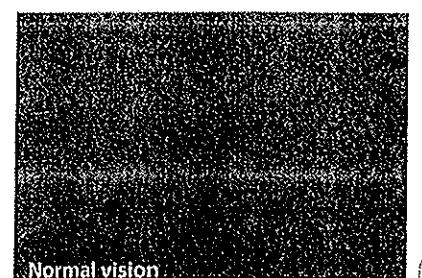
Terrorism, vandalism, and random violence threaten the safety of personnel and the integrity of public and private facilities. A comprehensive security program utilizing thermal imaging cameras like the FLIR HRC-Series is the key to asset protection and risk mitigation. Thermal imaging cameras expose threats hidden in the darkness, concealed by adverse weather, and veiled by obscurants like dust, fog, and smoke.

The HRC-Series thermal imaging cameras detect intruders sooner, provide more time to react and protect people, assets, and infrastructures. They are operational 24 hours a day even in the darkest of nights, dense fog, snow, smoke,...

## Day and night operations



*Because everything generates heat, thermal imaging cameras can see as well at night as they can during the day. Cameras dependent on visible light are useless at night or in poor visibility without supplementary illumination from lamps, LEDs or lasers.*



Protect your borders and assets also in broad daylight

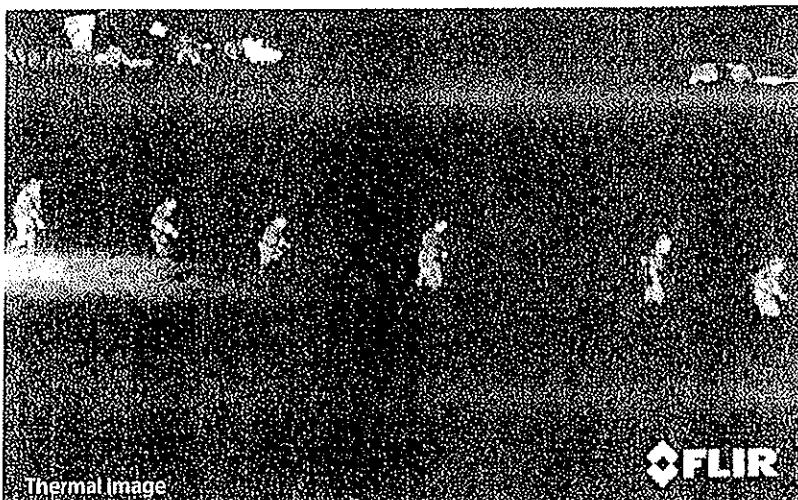


*The HRC-Series will not only protect borders and assets against intruders during the darkest of nights. The cameras are also perfectly suited for daytime surveillance. The FLIR HRC-Series will detect objects that remain invisible to the naked eye. For example people hiding in the shadows or in bushes, will be seamlessly detected. The HRC-Series are also not blinded by glare from the sun.*



FLIR Systems, Inc. • 10000 Willows Road NE • Redmond, WA 98052 • 425.936.8800 • Fax: 425.936.8809 • www.flir.com

## Border Security



Thermal Image

The FLIR HRC-Series cover more territory with greater detail than any other sensor suite available. Networkable video and control make the HRC-Series the perfect border security imaging solution. The HRC Multi-Sensor, or HRC MS-Series can be connected to a radar in a so called "slew to cue" configuration. If the radar detects an object the camera turns in the correct direction so that you get a visual image from that blip on your radar screen.



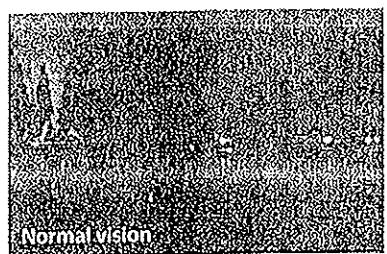
Normal Vision

## Coastal Surveillance



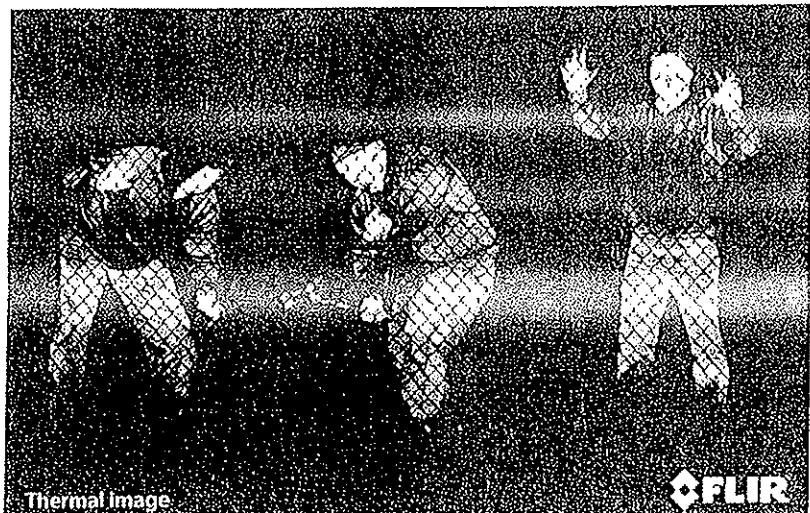
Thermal Image

Cape Cod has one hundred big thousand of kilometers of coastline. The FLIR HRC-Series are the perfect tools to monitor what is happening along the coastline. They can be used to intercept illegal immigrants or to detect other threats coming from the sea. They are perfect for Vessel Traffic Monitoring and can work together with Automatic Identification Systems (AIS) and radars.



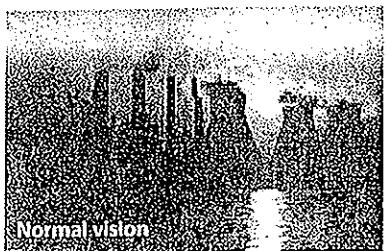
Normal Vision

## Perimeter Security



Thermal Image

Airports, hydropower generation, refineries, oil and gas pipelines and any other large infrastructures have perimeters that can be kilometres long. The FLIR HRC-Series provide the ultimate security solution.



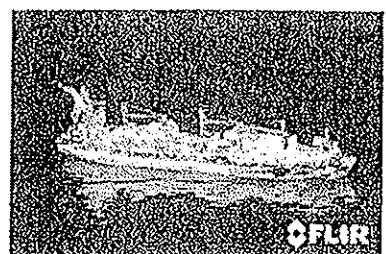
Normal Vision



# FLIR HRC-Series

## Thermal imaging cameras for ultra long range surveillance applications with cooled detector

The HRC-Series are equipped with a highly reliable, mid-wave, cooled detector which offers extremely long range detection in all weather conditions. The cameras offer a continuous optical and electronic zoom. This offers excellent situational awareness while also giving the possibility to zoom in at suspect activities, and have a closer look, once they are detected. The HRC-Series can be integrated into existing networks or used as a stand alone unit.



The HRC-Series offer extreme long range detection and excellent image quality, in the darkest of nights, through smoke and dust. You can detect a man-size target several kilometers away. All thermal imaging cameras are extremely suited for border and coastal surveillance but also for mid-range threat detection.

### Cooled detector

The HRC-Series are equipped with a mid-wave, cooled detector. A thermal imaging camera with a cooled detector gives you the advantage that you can see and detect potential threats much farther away than with an uncooled detector. But there is more. Objects which are at a close distance can be seen with much more detail. You can see what people are carrying. There is no need anymore to send someone out in the field to take a closer look since small details can clearly be seen on the thermal image.

According to his needs and preferences, the user can choose a FLIR HRC-Series that is either equipped with a cooled Indium Antimonide (InSb) or a cooled Mercury Cadmium Telluride (MCT) detector.

### Crisp, high resolution thermal images: 640 x 480 pixels

All thermal imaging cameras are equipped with a cooled Mid-Wave InfraRed (MWIR) detector (InSb or MCT) that produces ultra-sharp thermal images of 640 x 480 pixels. This will satisfy users that want to see the smallest of detail and demand the best possible image quality.

It allows the user to see more detail and detect more and smaller objects from a farther distance. Coupled with high sensitivity, the HRC-Series offer extremely long range performance and excellent image quality.

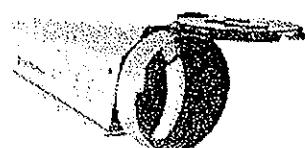
### Four different versions available

- HRC-E: Equipped with a 22 x 275 mm lens. It zooms between a 21° field of view and a 2° field of view.
- HRC-S: Equipped with a 39 x 490 mm lens. It zooms between a 14.1° field of view and a 1.1° field of view.
- HRC-U: Equipped with a 59 x 735 mm lens. It zooms between a 9.4° field of view and a 0.75° field of view.
- HRC-X: Equipped with a 88 x 1100 mm lens. It zooms between a 6.3° field of view and a 0.5° field of view.

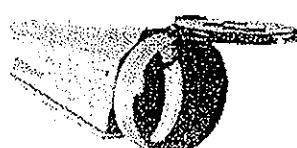
### Continuous optical and digital zoom on the thermal image

The HRC-Series thermal imaging cameras are equipped with powerful continuous optical zoom capability on the thermal image. It offers excellent situational awareness but also the possibility to zoom-in, and see more detail, once a target has been detected. This way operators can see farther recognize more detail and react more quickly to security threats. The advantage of continuously zooming compared to other systems that are using a rotating lens system is that there is no switch or swapping between the different images. You can gradually zoom in while keeping your focus all the time.

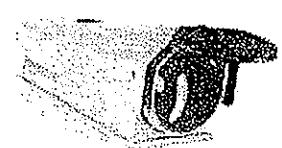
All systems are also equipped with an up to 16x continuous digital zoom.



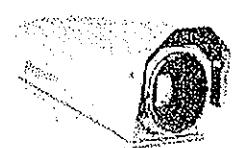
HRC-X 1100 mm lens  
Horizontal Field of View: 0.5° to 6.3°



HRC-U 735 mm lens  
Horizontal Field of View: 0.75° to 9.4°



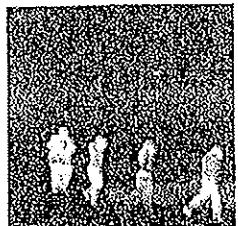
HRC-S 490 mm lens  
Horizontal Field of View: 1.1° to 14.1°



HRC-E 275 mm lens  
Horizontal Field of View: 2° to 21°

### **Advanced image processing**

FLIR Systems has developed a powerful algorithm that helps to overcome the problem of finding low contrast targets in high dynamic range scenes. Advanced Digital Detail Enhancement (DDE) assures clear, properly contrasted thermal images. DDE delivers a high contrast image even in extremely dynamic thermal scenes. It provides high quality thermal imaging in any night- or daytime environmental conditions.



### **Auto focus**

The HRC-Series contain an exclusive auto focus feature which delivers crisp, clear images at the press of a button. Focus is kept while zooming in or out. The system allows you to experience better situational awareness in the wide field of view, while maintaining detailed recognition capabilities in the narrow field of view.



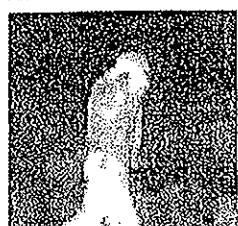
### **Easy and fast to install**

All cameras incorporate easily with common power and video interfaces found in existing and new security systems. They can be easily integrated into any existing infrastructure providing early detection and visibility 24// all the year round. The images from the 640 x 480 pixels detector can be displayed on virtually any existing display that accepts standard composite video.



### **Portability**

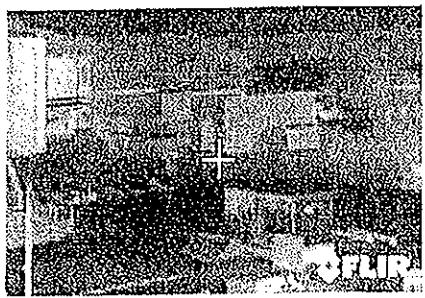
All systems are configured to be either fixed mounted or field transportable for fast deployment. They can be mounted on a standard tripod. A single operator can set up the system in minutes, making it ideal for mobile operations and quick deployments.



*Continuous optical zoom  
on the thermal image*

### **Designed for use in harsh environments**

All systems are extremely rugged. Their vital core is well protected against humidity and water. They all operate between -32°C and +55°C. All HRC-Series are Commercially Developed, Military Qualified (CDMQ). They comply with various Mil-Std standards.

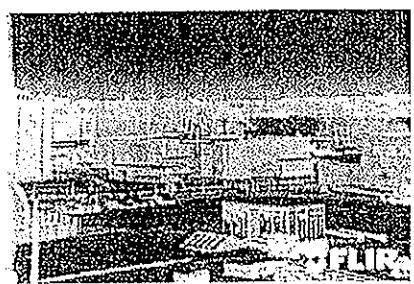


*High contrast scene with standard AGC algorithm applied*

### **Multiple installation options**

Various options exist to connect the HRC-Series and integrate them in your existing systems. All cameras can be configured for stand alone use, as part of a network or in a hybrid configuration with local and network based control:

- Serial Configuration: Simply connect the HRC-Series over serial to your remote control panel or use the Joystick Control Unit.
- TCP/IP configuration: all HRC MS cameras can be integrated in any existing TCP/IP network and controlled over a PC. No need to put extra cables. Using this configuration, you can monitor all activity in a protected area over the internet. Even when you are thousands of kilometers away.



*DDE applied - all targets can be observed simultaneously*

# HRC-Series Multi-Sensor

The HRC-Series Multi-Sensor systems integrate the long range, mid-wave thermal imaging camera found in the HRC-Series with a variety of powerful daylight sensors, and optionally a Laser Range Finder, GPS, Digital Magnetic Compass and Automatic Video Tracker. An array of advanced functions and options are available to meet the most demanding needs. All sensors on the HRC MS-Series units are mounted on an accurate Pan & Tilt unit.



## Powerful daylight imaging camera

The Multi-Sensor systems feature different powerful and sensitive daylight cameras with excellent zoom and color quality for additional target identification when conditions permit. Displaying both the thermal image and the daylight image at the same time is also possible.



## Pan & Tilt

All sensors on the HRC MS unit are mounted on an accurate Pan & Tilt unit. They can be connected to a RADAR in a "slew to cue" configuration.



## Programmable search

The Multi-Sensor systems can be programmed to scan an entire area automatically. Different spots that need to be monitored periodically can be preset. This not only ensures that the entire area is being monitored but also reduces operator workload.



## Tailored to all needs

Different thermal and daylight cameras can be installed in the HRC MS-Series System. The GPS and Digital Magnetic Compass are optional. They can also be equipped with an Automatic Video Tracker.

Thermal imaging camera: HRC-S

Global Positioning System (GPS)  
Laser Range Finder  
Digital Magnetic Compass

Long range daylight camera (LR-TV)

TCP/IP compatible electronics

Pan & Tilt providing continuous rotation

## Optionally available



### Advanced Global Positioning System (GPS)

The Multi-Sensor systems can be equipped with an advanced GPS. This way the systems will know where they are located. This can be extremely important when the Multi-Sensor systems are installed on moving equipment or when they are used as portable systems.



### Digital Magnetic compass

Optionally, a built-in digital magnetic compass allows to determine in which direction the HRC MS-Series are pointing.



### Laser Range Finder

The Multi-Sensor systems can be equipped with an eye safe Laser Range Finder. Combined with the GPS system and the electromagnetic compass, it will allow you to exactly determine where a suspected object is located and how far it is away.



### Automatic Video Tracker

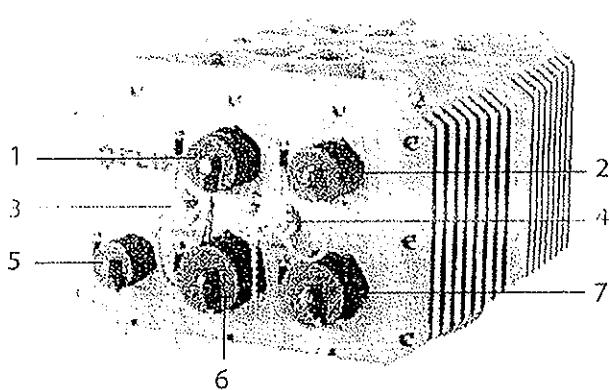
When equipped with an Automatic Video Tracker, the user can select a given target. Selecting and engaging in tracking mode is easily done by the touch of a button. Once the tracker is engaged, the Multi-Sensor systems will follow the object as long as it can be seen.

The video tracker also provides electronic stabilization. A useful feature when the Multi-Sensor is installed on a mast where it is susceptible to movement by the wind.



## Junction Protocol Converter (JPC3-G)

The optional JPC3-G box is converting the various low level communication protocols and electrical interfaces of all installed sensors and cameras into a single and common TCP/IP middleware protocol accessible via a standard Ethernet interface. The JPC3-G uses electronic boards in PC104 format and the server is running on industrial grade CompactFlash. Including dual channel MPEG-4 encoders, an optional automatic video tracker can be integrated as well.

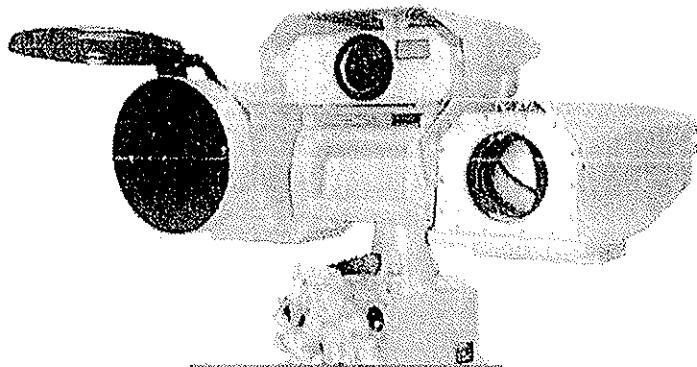


1. 26-pin System Connector (System Interface to Pan & Tilt Head)
2. Video Output Connector (Analog Video Output)
3. Video Loopback 1 Connector (Analog Video Output)
4. Video Loopback 2 Connector (Analog Video Output)
5. Power Input Connector
6. Ethernet Connector (C2 System Interface)
7. JCU Connector (JCU / Serial Remote Interface)

# HRC Multi-Sensor systems: Different configurations possible

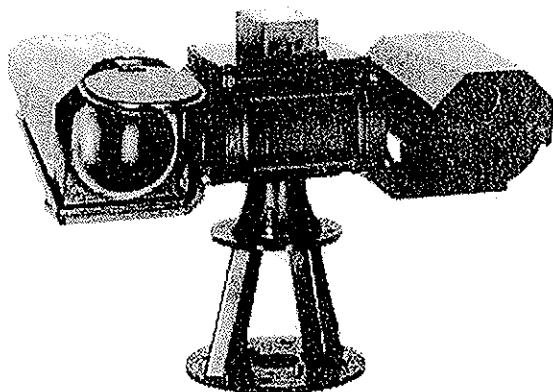
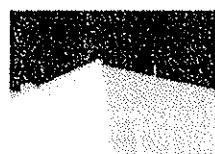
FLIR Systems offers the Multi-Sensors in different configurations. The user can choose either an HRC-E, HRC-S, HRC-U, or HRC-X thermal camera. Multiple options exists for the daylight camera as well. Depending on the needs of the user, the HRC Multi-Sensor systems can be equipped with a Short Range (SR-TV) or Long Range (LR-TV or UR-TV) daylight camera.

The following are just three possible configurations for the HRC Multi-Sensor systems



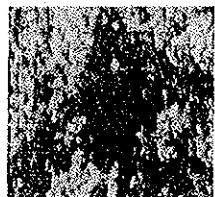
## Multi-Sensor configuration:

- Thermal imaging camera HRC-X
- Long range daylight camera (LR-TV)
- Robust Pan & Tilt
- TCP/IP electronics
- Digital magnetic compass
- GPS
- Laser range finder



## Multi-Sensor configuration:

- Thermal imaging camera HRC-S
- Short range daylight camera (SR-TV)
- Robust Pan & Tilt
- Laser range finder



## Multi-Sensor configuration:

- Thermal imaging camera HRC-U
- Long range daylight camera (UR-TV)
- Robust Pan & Tilt
- TCP/IP electronics
- Digital magnetic compass
- GPS
- Laser range finder

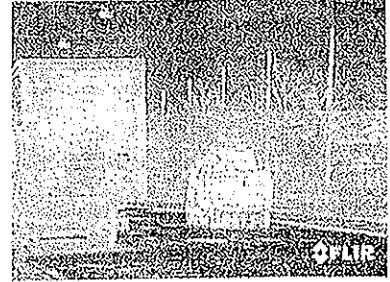


See more, see farther than ever before

HRC's high resolution imaging capability lets operators see more detail from farther away

#### Maximum detail, maximum Range

With FLIR's HRC-Series thermal security cameras you'll see more detail from greater distances than ever before. HRC's 640x480 detector creates crisp, high-resolution thermal video, putting more pixels on target for extreme image detail at unbelievably long ranges.

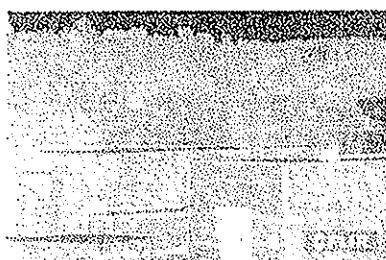


#### Optimized for long-range performance

The HRC's optics strike the perfect balance required for long-range imaging in challenging atmospheric conditions. The HRC-X, equipped with a 1100 mm lens, lets operators see small, distant targets clearly and reliably. Longer focal length lenses produce greater magnification, but just having a long telescope isn't enough - the lens and detector package must be designed and optimized to work together. FLIR Systems is uniquely capable of these complex tasks, as we design and manufacture all of the critical components in the imaging system: detector -- cooler -- video processing -- lenses.

#### Seeing more than ever before - Tunable Digital Detail Enhancement (DDE)

Beyond the capabilities of linear auto gain/level controls and even non-linear histogram equalization, Tunable DDE automatically provides system operators with buried image details without sacrificing image quality. Precision lens design allows for low-distortion across the entire image while maintaining optimized focus quality across the entire zoom range. High-durability anti-reflection coatings ensure long life and consistent performance of the optical lens.



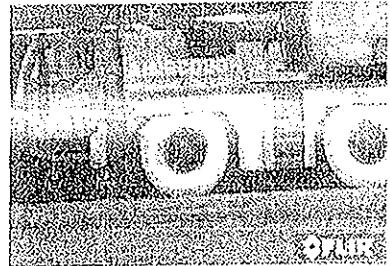
High contrast scene with standard AGC algorithm applied.



DDE applied - all targets can be observed simultaneously.

#### Continuous optical and digital zoom

Continuous zoom allows operators to customize their active field of view, observing from extreme ranges without ever losing sight of potential threats -- night and day, in all weather conditions.



HRC-Series equipped with an optical and digital zoom on the thermal image allowing to have a closer look at objects which are far.

# FLIR Networked Systems

## Your partner for intelligent TCP/IP sensor networks

Modern security systems are becoming more and more complex. A security network consists of various types of sensors that need to work together in order to offer maximum performance. Radar, perimeter and ground sensors, CCTV cameras, thermal imaging cameras and other sensors need to be geo-referenced and interconnected in "slew to cue" configurations.

FLIR Systems thermal imaging cameras can be configured for standalone use. But they are also "intelligent sensors". They can be easily deployed as plug & play elements in a TCP/IP network.



### FLIR Networked Systems

The mission of FLIR Networked Systems is to support system integrators that want to include FLIR Systems thermal imaging cameras and third party sensors in modern security networks.

FLIR Networked Systems is a group of highly skilled professionals that can help system integrators, product

manufacturers, government agencies and commercial end users to focus on their core business activities and quickly respond to changing market conditions.

### Your experienced partner

FLIR Networked Systems delivers components and services for critical security and surveillance applications to companies around the world. We have

built stable relationships with commercial and technological partners and work closely together with the engineering teams of many systems integrators and product manufacturers.

Basing their solutions on our tools, solution providers can reduce software development costs and integration risks.

## FLIR Networked Systems offers a wide variety of products to help integrators set up a professional security network

### Software

#### Nexus Middleware Technology

Our software agents or servers turn each sensor into a plug & play manageable network object in TCP/IP networks. The Nexus server resides in each of the sensors in the network making it a network manageable node. The server can run in rugged servers, embedded electronics or rack-mount industrial PCs. Drivers are available for devices such as: Thermal imaging and CCTV Cameras, Radars, Alarm Contacts, Fence & Ground Sensors, Vehicles, UAV or Meteo Stations.

#### Client Applications

FLIR Systems also offers client applications that make Nexus servers become visible and easy-to-use by operators. Our FLIR Sensors Manager GUI is entirely based on FLIR Systems Developers Tools.

#### Hardware

FLIR Systems offers specific hardware appliances such as Desktop Computers, Storage Servers (nDVR), or Industrial PC based Servers.

#### Development Tools

These allow developers to build their own Command and Control applications to manage and control sensors. Our toolkits include libraries for communications, image processing and video display or moving maps...

#### SDK - Software Development Kit

SW developers can use our SDK and technical support to easily develop their own command & control or sensor and video management applications.

**FLIR Maps** - This control offers a moving map display to be integrated in high level graphical user interface software applications.

**FLIR Video Player** - The FLIR Video Player is an embedded ActiveX control that provides a set of functions to display and process video from different sources. The FLIR Video Player provides video functions to be integrated in high level software applications.

**OEM Licenses** - nDVR and Video Analysis Tools are available for OEM customers. Yearly subscriptions for technical support including generation of licenses and updates are available.

#### Professional Services

Our past experience as systems integrators and with the devices allows us to help you minimize your network challenges and reduce your operating costs. We offer consulting, training and support services based on this know-how in the following fields:

- System Architecture Design and Networking
- Training & On Site Support and New Products

## FLIR Networked Systems: serving different types of customers

### End Users:

They demand open, flexible and scalable architectures that allow them to manage their security network and use multiple vendors.

### Systems Integrators:

Want to integrate and deploy complex systems and need "easy-to-integrate" sensors and low-level tools (SDK) that can make their job easier, reducing risks, schedules and software development costs.

### Sensors/Device Manufacturers:

FLIR Networked Systems can help them with the adoption of evolving standards and some of the other market challenges they face in bringing competitive devices to market.

