

Part number:

42701-1001

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October 11, 2011, 04:44 AM

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Legal disclaimer

Specifications subject to change without further notice. Camera models and accessories subject to regional market considerations. License procedures may apply.

Information and equipment described herein may require US Government authorization for export purposes. Diversion contrary to US law is prohibited.



General description

The FLIR A300 (9 Hz) camera offers an affordable and accurate temperature measurement solution for anyone who needs to solve problems that do not call for the highest speed or reaction and who uses a PC. Due to its composite video output, it is also an excellent choice for thermal image automation applications, where you can utilize its unique properties such as looking through steam.

Key features:

- MPEG-4 streaming
- PoE (Power over Ethernet)
- Built-in web server
- General purpose I/O
- 100 Mbps Ethernet (100 m cable, wireless, fiber, etc.)
- Synchronization through SNTP
- Composite video output
- Multi-camera utility software: FLIR IP Config and FLIR IR Monitor included
- Open and well-described TCP/IP protocol for control and set-up
- 16-bit 320 × 240 images @ 3 Hz, radiometric
- Lenses: 25° included, 15° and 45° optional

Typical applications:

- Fire prevention, critical vessel monitoring, and power utility asset management
- Volume-oriented industrial control (multi-camera installation is possible)

Imaging and optical data

| | |
|---------------------------|---|
| IR resolution | 320 × 240 pixels |
| Thermal sensitivity/NETD | < 0.05°C @ +30°C (+86°F) / 50 mK |
| Field of view (FOV) | 25° × 18.8° |
| Minimum focus distance | 0.4 m (1.31 ft.) |
| Focal length | 18 mm (0.7 in.) |
| Spatial resolution (IFOV) | 1.36 mrad |
| Lens identification | Automatic |
| F-number | 1.3 |
| Image frequency | 9 Hz |
| Focus | Automatic or manual (built in motor) |
| Zoom | 1–8× continuous, digital, interpolating zooming on images |

Detector data

| | |
|------------------------|--|
| Detector type | Focal Plane Array (FPA), uncooled microbolometer |
| Spectral range | 7.5–13 μm |
| Detector pitch | 25 μm |
| Detector time constant | Typical 12 ms |

Measurement

| | |
|--------------------------|---|
| Object temperature range | –20 to +120°C (–4 to +248°F) 0 to +350°C (+32 to +662°F) |
| Accuracy | ±2°C (±3.6°F) or ±2% of reading |

Set-up

| | |
|----------------|---|
| Color palettes | Color palettes (BW, BW inv, Iron, Rain) |
|----------------|---|



FLIR A300 (9 Hz)

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Set-up

| | |
|-----------------|-----------------------------|
| Set-up commands | Date/time, Temperature°C/°F |
|-----------------|-----------------------------|

Storage of images

| | |
|---------------|---|
| Storage media | Built-in memory for image storage |
| File formats | Standard JPEG, 16-bit measurement data included |

Ethernet

| | |
|---------------------------|--|
| Ethernet | Control and image |
| Ethernet, type | 100 Mbps |
| Ethernet, standard | IEEE 802.3 |
| Ethernet, connector type | RJ-45 |
| Ethernet, communication | TCP/IP socket-based FLIR proprietary |
| Ethernet, video streaming | MPEG-4, ISO/IEC 14496-1 MPEG-4 ASP@L5 |
| Ethernet, image streaming | 16-bit 320 × 240 pixels @ 3 Hz - Radiometric |
| Ethernet, power | Power over Ethernet, PoE IEEE 802.3af class 0 |
| Ethernet, protocols | TCP, UDP, SNMP, RTSP, RTP, HTTP, ICMP, IGMP, ftp, SMTP, SMB (CIFS), DHCP, MDNS (Bonjour), uPnP |

Digital input/output

| | |
|--------------------------------|---|
| Digital input, purpose | Image tag (start/stop/general), Input ext. device (programmatically read) |
| Digital input | 2 opto-isolated, 10–30 VDC |
| Digital output, purpose | Output to ext. device (programmatically set) |
| Digital output | 2 opto-isolated, 10–30 VDC, max 100 mA |
| Digital I/O, isolation voltage | 500 VRMS |
| Digital I/O, supply voltage | 12/24 VDC, max 200 mA |
| Digital I/O, connector type | 6-pole jackable screw terminal |

Composite video

| | |
|-----------------------|---|
| Video out | Composite video output, PAL and NTSC compatible |
| Video, standard | CVBS (ITU-R-BT.470 PAL/SMPTE 170M NTSC) |
| Video, connector type | Standard BNC connector |

Power system

| | |
|--------------------------------|--------------------------------|
| External power operation | 12/24 VDC, 24 W absolute max |
| External power, connector type | 2-pole jackable screw terminal |
| Voltage | Allowed range 10–30 VDC |

Environmental data

| | |
|----------------------------------|---|
| Operating temperature range | –15°C to +50°C (+5°F to +122°F) |
| Storage temperature range | –40°C to +70°C (–40°F to +158°F) |
| Humidity (operating and storage) | IEC 60068-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F) |
| EMC | <ul style="list-style-type: none">EN 61000-6-2:2001 (Immunity)EN 61000-6-3:2001 (Emission)FCC 47 CFR Part 15 Class B (Emission) |
| Encapsulation | IP 40 (IEC 60529) |
| Bump | 25 g (IEC 60068-2-29) |
| Vibration | 2 g (IEC 60068-2-6) |

Physical data

| | |
|-------------------------|--|
| Weight | 0.7 kg (1.54 lb.) |
| Camera size (L × W × H) | 170 × 70 × 70 mm (6.7 × 2.8 × 2.8 in.) |
| Tripod mounting | UNC ¼"-20 (on three sides) |

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Physical data

| | |
|------------------|---|
| Base mounting | 2 × M4 thread mounting holes (on three sides) |
| Housing material | Aluminum |

Scope of delivery

- Cardboard box
 - Infrared camera with lens
 - Calibration certificate
 - Downloads brochure
 - Ethernet™ cable
 - Mains cable
 - Power cable, pig-tailed
 - Power supply
 - Printed Getting Started Guide
 - Printed Important Information Guide
 - Service & training brochure
 - User documentation CD-ROM
 - Utility CD-ROM
 - Warranty extension card or Registration card
-

Optional Accessories

- 1196961 IR lens, f = 30 mm, 15° incl. case
 - 1196960 IR lens, f = 10 mm, 45° incl. case
 - T197215 Close-up 4× (100 μm) incl. case
 - T197214 Close-up 2× (50 μm) incl. case
 - T197407 IR lens, 76 mm (6°) with case and mounting support for A/SC3xx
 - T197411 IR lens, 4 mm (90°) with case and mounting support for A/SC3xx
 - T197415 Close-up 1× (25 μm) incl. case and mounting support for A/SC3xx
 - T197000 High temp. option +1200°C/+2192°F for FLIR T/B2xx to T/B4xx and A/SC3xx Series
 - 1910400 Power cord EU
 - 1910401 Power cord US
 - 1910402 Power cord UK
 - T910922 Power supply, incl. multi plugs, for A/SC3xx and A/SC6xx
 - 908929 Video cable, 3.0 m/9.8 ft.
 - T951004 Ethernet cable CAT-6, 2m/6.6 ft.
 - 1910586 Power cable, pigtailed
 - T197871 Hard transport case for A/SC3xx and A/SC6x5 series
 - T197870 Cardboard box for A/SC3xx and A/SC6x5 series
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Optional Software

- T197038 ThermoVision™ System Developers Kit Ver. 2.6
 - T197039 ThermoVision™ LabVIEW® Digital Toolkit Ver. 3.3
 - DSW-10000 FLIR IR Camera Player
-

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1196961; IR lens, f = 30 mm, 15° incl. case



General description

The 15° lens is a popular lens accessory and provides 1.7× magnification compared to the standard lens. Ideal for small or distant targets such as overhead power lines.

Technical data

| | |
|---------------------------|--|
| Field of view (FOV) | 15° × 11.25° |
| Minimum focus distance | 1.2 m (3.93 ft.) |
| Focal length | 30.38 mm (1.2 in.) |
| Spatial resolution (IFOV) | 1.31 mrad/0.82 mrad |
| F-number | 1.3 |
| Lens note | When two pieces of data are separated by "/" the first piece of data is for T/B200 and T/B250 and the second piece of data is for T/B360, T/B400 and A320/A325 |
| Weight | 0.092 kg (0.203 lb.), incl. two lens caps |
| Size (L × D) | 24 × 58 mm (1.0 × 2.3 in.) |

Scope of delivery

- Lens
- Lens case

v1.02

1196960; IR lens, f = 10 mm, 45° incl. case



General description

This wide angle lens has a field of view almost double that of the standard lens. Perfect for wide or tall targets or when working in crowded spaces.

Technical data

| | |
|---------------------------|--|
| Field of view (FOV) | 45° × 33.8° |
| Minimum focus distance | 0.20 m (0.66 ft.) |
| Focal length | 9.66 mm (0.38 in.) |
| Spatial resolution (IFOV) | 3.93 mrad/2.45 mrad |
| F-number | 1.3 |
| Lens note | When two pieces of data are separated by "/" the first piece of data is for T/B200 and T/B250 and the second piece of data is for T/B360, T/B400 and A320/A325 |
| Weight | 0.105 kg (0.231 lb.), incl. two lens caps |

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Technical data

Size (L x D) 38 x 47 mm (1.5 x 1.9 in.)

Scope of delivery

- Lens
- Lens case

v1.01

T197215; Close-up 4x (100 µm) incl. case



General description

For R&D usage or development purposes. As an example looking at PCB's or small electronic components.

Technical data

Field of view (FOV) 32 x 24 mm

Magnifying factor 4x

Working distance 79 mm

Depth of field ±2.0 mm

Focal length 73 mm (2.9 in.)

Spatial resolution (IFOV) 160 µm/100 µm

F-number 1.3

Number of lenses 2 (2 asph)

MTF @ 70% of FOV Normal requirements (52%)

Distortion 3%

Lens note When two pieces of data are separated by “/” the first piece of data is for T/B200 and T/B250 and the second piece of data is for T/B360, T/B400 and A320/A325

Weight 0.11 kg (0.24 lb.)

Size (L x D) 35.2 x 55 mm

Scope of delivery

- Lens
- Lens case

v1.02

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T197214; Close-up 2× (50 μm) incl. case



General description

For R&D usage or development purposes. As an example looking at PCB's or small electronic components.

Technical data

| | |
|---------------------------|--|
| Field of view (FOV) | 16 × 12 mm |
| Magnifying factor | 2× |
| Working distance | 33 mm |
| Depth of field | ±0.4 mm |
| Focal length | 37 mm (1.5 in.) |
| Spatial resolution (IFOV) | 80 μm/50 μm |
| F-number | 1.3 |
| Number of lenses | 2 (2 asph) |
| MTF @ 70% of FOV | Normal requirements (52%) |
| Distortion | 3% |
| Lens note | When two pieces of data are separated by "/" the first piece of data is for T/B200 and T/B250 and the second piece of data is for T/B360, T/B400 and A320/A325 |
| Weight | 0.11 kg (0.24 lb.) |
| Size (L × D) | 35.2 × 55 mm |

Scope of delivery

- Lens
- Lens case

v1.03

T197407; IR lens, 76 mm (6°) with case and mounting support for A/SC3xx



General description

A narrow FOV is used in applications where the object that is going to be monitored is remote from the Camera or when the Camera needs to be far away from the object due to for an example high temperatures.

Technical data

| | |
|------------------------|-----------------|
| Field of view (FOV) | 6° × 4.5° |
| Minimum focus distance | 4 m (13.11 ft.) |
| Focal length | 76 mm (3.0 in.) |

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Technical data

| | |
|---------------------------|--|
| Spatial resolution (IFOV) | 0.33 mrad |
| F-number | 1.3 |
| Number of lenses | 3 (3 asph) |
| MTF @ 70% of FOV | Normal requirements (52%) |
| Distortion | 3% |
| Weight | Lens: 0.328 kg (0.723 lb.) Support: 0.15 kg (0.331 lb.) |
| Size (L x D) | 106 x 89 mm (4.17 x 3.48 in.) |

Scope of delivery

- Lens
- Lens case
- Mounting support

v1.03

T197411; IR lens, 4 mm (90°) with case and mounting support for A/SC3xx



General description

A wide angle lens is used when working in confined areas or when a large object area needs to be covered. This lens is also designed for to look in to electrical cabinets down to 1/2" windows.

Technical data

| | |
|---------------------------|---|
| Field of view (FOV) | 90° x 73° |
| Minimum focus distance | 20 mm (0.79 in.) |
| Focal length | 4 mm (0.157 in.) |
| Spatial resolution (IFOV) | 6.3 mrad |
| F-number | 1.3 |
| Number of lenses | 3 (3asph) |
| MTF @ 70% of FOV | Normal requirements (52%) |
| Distortion | 5% |
| Weight | Lens: 0.262 kg (0.578 lb.) Support: 0.048 kg (0.106 lb.) |
| Size (L x D) | 90 x 60 mm (3.54 x 2.36 in.), excluding support |

Scope of delivery

- Lens
- Lens case
- Mounting support

v1.04

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T197415; Close-up 1× (25 μm) incl. case and mounting support for A/SC3xx



General description

For R&D usage or development purposes. As an example looking at PCB's or small electronic components.

Technical data

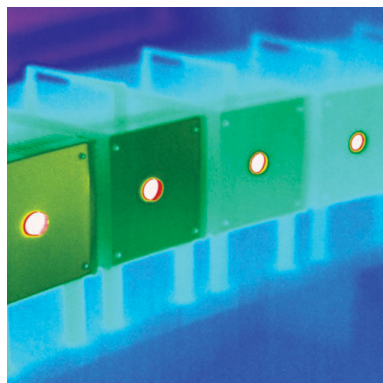
| | |
|---------------------------|---|
| Field of view (FOV) | 8 × 6 mm |
| Magnifying factor | 1× |
| Working distance | 20 mm |
| Depth of field | ±0.15 mm |
| Focal length | 18.2 mm (0.72 in.) |
| Spatial resolution (IFOV) | 25 μm |
| F-number | 1.3 |
| Number of lenses | 3 (3 asph) |
| MTF @ 70% of FOV | Normal requirements (52%) |
| Distortion | 3% |
| Lens note | The lens and mounting support does not mechanically fit the FLIR T/Bxxx series. |
| Weight | 0.38 kg (0.83 lb.) |
| Size (L × D) | 167 × 60 mm |

Scope of delivery

- Lens
- Lens case
- Mounting support

v1.04

T197000; High temp. option +1200°C/+2192°F for FLIR T/B2xx to T/B4xx and A/SC3xx Series



General description

For high temperature applications the camera can be calibrated for high temperature ranges.

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Technical data

| | |
|-----------------------------------|-------------------------|
| Optional object temperature range | Up to +1200°C (+2192°F) |
|-----------------------------------|-------------------------|

v1.0

1910400; Power cord EU



General description

Power cord (EU) for the power supply (1910585) used together with the FLIR A/SC3xx and A/SC6xx series. The power supply (1910585) itself is discontinued and replaced by a new power supply (which includes multiplugs and another power cable).

Technical data

| | |
|--------------|-----------------|
| AC operation | 250 V 16 A |
| Cable length | 2.0 m (6.6 ft.) |
| Color | Black |

v1.02

1910401; Power cord US



General description

Power cord (US) for the power supply (1910585) used together with the FLIR A/SC3xx and A/SC6xx series. The power supply (1910585) itself is discontinued and replaced by a new power supply (which includes multiplugs and another power cable).

Technical data

| | |
|--------------|-----------------|
| AC operation | 125 V 15 A |
| Cable length | 2.0 m (6.6 ft.) |
| Color | Black |

v1.01

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1910402; Power cord UK



General description

Power cord (UK) for the power supply (1910585) used together with the FLIR A/SC3xx and A/SC6xx series. The power supply (1910585) itself is discontinued and replaced by a new power supply (which includes multiplugs and another power cable).

Technical data

| | |
|--------------|-----------------|
| AC operation | 250 V 13 A |
| Cable length | 2.0 m (6.6 ft.) |
| Color | Black |

v1.01

T910922; Power supply, incl. multi plugs, for A/SC3xx and A/SC6xx



General description

Power supply, incl. multi plugs

Technical data

| | |
|------------------|---------------------------------------|
| AC operation | 100–240 VAC, 50/60 Hz, 12 VDC out |
| Power | 2000 mA at 12 VDC |
| Size (L x W x H) | 81 x 47 x 34 mm (3.2 x 1.9 x 1.3 in.) |
| Cable length | 1.5 m (4.9 ft.) |
| Color | Black |

Scope of delivery

- Power supply including cable
- EU plug
- UK plug
- US plug
- AU plug

v1.0

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908929; Video cable, 3.0 m/9.8 ft.



General description

This cable is used to transfer video signals from the infrared camera to an external monitor, or to a computer featuring an internal video card.

Technical data

| | |
|--------------|-----------------|
| Weight | 163 g (5.7 oz.) |
| Cable length | 3.0 m (9.8 ft.) |
| Connector | BNC |

v1.01

T951004; Ethernet cable CAT-6, 2m/6.6 ft.



General description

This cable is used to connect the infrared camera to Ethernet.

Technical data

| | |
|--------------|-----------------|
| Weight | 80 g (2.8 oz.) |
| Cable length | 2.0 m (6.6 ft.) |
| Connector | RJ-45 to RJ-45 |
| Cable type | CAT-6 |

v1.01

1910586; Power cable, pigtailed



General description

This cable is used, when a separate power supply is used (not the one supplied with the camera)

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Technical data

| | |
|--------------|-----------------|
| Weight | 75 g (2.6 oz.) |
| Cable length | 2.0 m (6.6 ft.) |
| Connector | Pigtailed |
| Color | Black |

v1.02

T197871; Hard transport case for A/SC3xx and A/SC6x5 series



General description

Rugged, watertight plastic case for FLIR A/SC3XX and A/SC65X series. Holds all items neatly and securely. The case can be locked with padlocks and features a breather valve to prevent pressure build-up in airplane cargo holds.

Technical data

| | |
|------------------|--|
| Weight | 3.1 kg (6.8 lb.) |
| Size (L x W x H) | 463 x 346 x 172 mm (18.2 x 13.6 x 6.8 in.) |
| Color | Black |

Scope of delivery

- Hard transport case

v1.02

T197870; Cardboard box for A/SC3xx and A/SC6x5 series



General description

Cardboard box with plastic handle for the FLIR A/SC3XX and A/SC65X series. Holds all items neatly.

Technical data

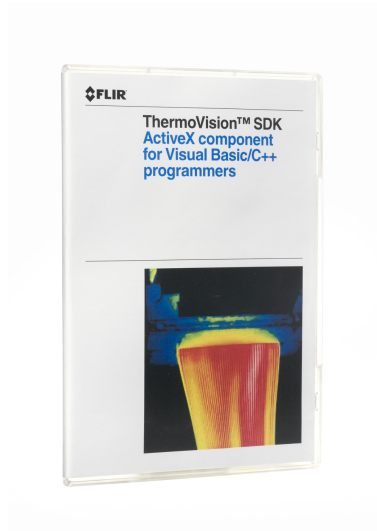
| | |
|------------------|--|
| Weight | 0.86 kg (1.9 lb.) |
| Size (L x W x H) | 455 x 300 x 165 mm (17.9 x 11.8 x 6.5 in.) |
| Material | Cardboard |

v1.02

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T197038; ThermoVision™ System Developers Kit Ver. 2.6



General description

ThermoVision™ System Developers Kit

Key features:

- Supports communication and broadcasting via FireWire™, Ethernet, and USB interfaces.
- Gives the user full control of the camera.
- Allows the user to set alarm conditions and measurement functions in the camera
- Allows the user to define I/O functionality (FLIR A series).
- Based on ActiveX technology.
- Supports acquisition of images through FireWire™, Ethernet, and USB interfaces.
- Reads from and writes to file in FLIR Systems' proprietary file format and writes to files in FLIR Systems' open floating point format (*.fpf).
- Converts 16-bit absolute pixels into temperature pixels and several intermediate types of pixels formats, for maximum user flexibility. Applies to all camera models with temperature measurement capabilities.
- Allows 16-bit temperature linear outputs from FLIR A series cameras.
- Includes method that allows using individual emissivity value correction on any single pixel or condensed measuring value – e.g. average, minimum etc.
- Supports conditional recording to file through FireWire™, Ethernet, and USB interfaces.

Users with licenses for the previous version can download a free upgrade via the following link:
<http://support.flir.com/SwDownload/app/RssSWDownload.aspx?ID=62>

Release notes

| Version | ThermoVision 2.6 SP2 |
|--------------|--|
| New features | <ul style="list-style-type: none"> • --- News in SP2: • Support for FLIR GF3XX series • Support for windowing in FLIR A615 and FLIR SC6x5 • Support for windowing in FLIR SC6x0 • Various bug fixes |

v1.04

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T197039; ThermoVision™ LabVIEW® Digital Toolkit Ver. 3.3



General description

The ThermoVision LabVIEW Toolkit is a set of VIs (virtual instruments) for cameras that support alarms, measurement functions, and I/O functionality. Through LabVIEW, you can use these VIs as sub-VIs to manage communications with a FLIR IR camera in digital mode. You can also generate true temperature images from images acquired through LabVIEW, and can use the LabVIEW IR Measurement and Display tools to analyze the temperatures of imaged objects.

Key features:

- Set up communications between LabVIEW VI and a FLIR IR camera
- Capture and collect images via FireWire or Ethernet interfaces
- Adjust the camera configuration parameters and focus as you view a live image
- Control the camera calibration
- Send any other camera command to the camera
- Generate a true temperature image from a 16-bit image acquired using the camera's FireWire or Ethernet interfaces
- Close communications to the IR camera

Users with licenses for the previous version can download a free upgrade via the following link:
<http://support.flir.com/SwDownload/app/RssSWDownload.aspx?ID=63>

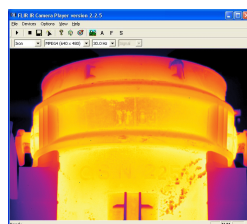
Note: Only supports National Instrument 32-bit Labview

Release notes

| | |
|--------------|---|
| Version | 3.3 |
| New features | <ul style="list-style-type: none"> • Windows 7 32- and 64-bit support • Support for FLIR A615 and FLIR SC6X5 (including windowing) • Support for windowing in FLIR SC660 • Various bug fixes • New example VIs |

v1.01

DSW-10000; FLIR IR Camera Player



General description

FLIR IR Camera Player is a PC-based remote control and viewer that you can use with cameras from FLIR Systems.

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General description

You can perform one or more of the following with FLIR IR Camera Player:

- Record a video stream from the camera.
- Save a frame from the video stream as a snapshot image (*.bmp).
- Autofocus, focus far, and focus near.
- Autoadjust the camera image.
- Freeze the camera image.
- Save a camera image in the camera.
- Change Color palette.
- Add an image description and a text comment to an image.

You connect a camera in one of the following ways:

- Ethernet
- FireWire
- USB

Download

This software is a freeware. To download, click the following link:

<http://support.flir.com/SwDownload/app/RssSWDownload.aspx?ID=89>

Release notes

| | |
|--------------|---|
| Version | 2.2.6 |
| New features | <ul style="list-style-type: none">• --- News in 2.2.6• Various bug fixes.• --- News in 2.2.5• Color palette menu.• Option to record AVI video clips from cameras that deliver MPEG or H264 image streams.• Option to compress the FLIR Researcher formats F7M0 and F7M2 to AVI.• Support for FLIR Exx series cameras.• Support for FLIR T6xx series cameras. |

System requirements

| | |
|------------------|--|
| Operating system | <ul style="list-style-type: none">• Windows XP, 32-bit• Windows Vista, 32-bit/64-bit• Windows 7, 32-bit/64-bit |
|------------------|--|

v1.02