

User's manual FLIR IP Config



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Legal disclaimer

1.1 Legal disclaimer

All products manufactured by FLIR Systems are warranted against defective materials and workmanship for a period of one (1) year from the delivery date of the original purchase, provided such products have been under normal storage, use and service, and in accordance with FLIR Systems instruction.

Products which are not manufactured by FLIR Systems but included in systems delivered by FLIR Systems to the original purchaser, carry the warranty, if any, of the particular supplier only. FLIR Systems has no responsibility whatsoever for such products.

The warranty extends only to the original purchaser and is not transferable. It is not applicable to any product which has been subjected to misuse, neglect, accident or abnormal conditions of operation. Expendable parts are excluded from the warranty.

In the case of a defect in a product covered by this warranty the product must not be further used in order to prevent additional damage. The purchaser shall promptly report any defect to FLIR Systems or this warranty will not apply.

FLIR Systems will, at its option, repair or replace any such defective product free of charge if, upon inspection, it proves to be defective in material or workmanship and provided that it is returned to FLIR Systems within the said one-year period.

FLIR Systems has no other obligation or liability for defects than those set forth above.

No other warranty is expressed or implied. FLIR Systems specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

FLIR Systems shall not be liable for any direct, indirect, special, incidental or consequential loss or damage, whether based on contract, tort or any other legal theory.

This warranty shall be governed by Swedish law.

Any dispute, controversy or claim arising out of or in connection with this warranty, shall be finally settled by arbitration in accordance with the Rules of the Arbitration Institute of the Stockholm Chamber of Commerce. The place of arbitration shall be Stockholm. The language to be used in the arbitral proceedings shall be English.

1.2 Usage statistics

FLIR Systems reserves the right to gather anonymous usage statistics to help maintain and improve the quality of our software and services.

1.3 Changes to registry

The registry entry HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa \LmCompatibilityLevel will be automatically changed to level 2 if the FLIR Camera Monitor service detects a FLIR camera connected to the computer with a USB cable. The modification will only be executed if the camera device implements a remote network service that supports network logons.

1.4 Copyright

© 2018, FLIR Systems, Inc. All rights reserved worldwide. No parts of the software including source code may be reproduced, transmitted, transcribed or translated into any language or computer language in any form or by any means, electronic, magnetic, optical, manual or otherwise, without the prior written permission of FLIR Systems.

The documentation must not, in whole or part, be copied, photocopied, reproduced, translated or transmitted to any electronic medium or machine readable form without prior consent, in writing, from FLIR Systems.

Names and marks appearing on the products herein are either registered trademarks or trademarks of FLIR Systems and/or its subsidiaries. All other trademarks, trade names or company names referenced herein are used for identification only and are the property of their respective owners.

1.5 Quality assurance

The Quality Management System under which these products are developed and manufactured has been certified in accordance with the ISO 9001 standard.

FLIR Systems is committed to a policy of continuous development; therefore we reserve the right to make changes and improvements on any of the products without prior notice.

Notice to user

2.1 Training

To read about infrared training, visit:

- http://www.infraredtraining.com
- http://www.irtraining.com
- http://www.irtraining.eu

2.2 Documentation updates

Our manuals are updated several times per year, and we also issue product-critical notifications of changes on a regular basis.

To access the latest manuals, translations of manuals, and notifications, go to the Download tab at:

http://support.flir.com

It only takes a few minutes to register online. In the download area you will also find the latest releases of manuals for our other products, as well as manuals for our historical and obsolete products.

Customer help

3.1 General

For customer help, visit:

http://support.flir.com

3.2 Submitting a question

To submit a question to the customer help team, you must be a registered user. It only takes a few minutes to register online. If you only want to search the knowledgebase for existing questions and answers, you do not need to be a registered user.

When you want to submit a question, make sure that you have the following information to hand:

- The camera model
- The camera serial number
- The communication protocol, or method, between the camera and your device (for example, SD card reader, HDMI, Ethernet, USB, or FireWire)
- Device type (PC/Mac/iPhone/iPad/Android device, etc.)
- Version of any programs from FLIR Systems
- · Full name, publication number, and revision number of the manual

3.3 Downloads

On the customer help site you can also download the following, when applicable for the product:

- Firmware updates for your infrared camera.
- Program updates for your PC/Mac software.
- Freeware and evaluation versions of PC/Mac software.
- User documentation for current, obsolete, and historical products.
- Mechanical drawings (in *.dxf and *.pdf format).
- Cad data models (in *.stp format).
- Application stories.
- Technical datasheets.

Installation

4.1 General information

4.1.1 Explanation

The following programs are included on the ThermoVision System Tools & Utilities CD (the programs can also be downloaded from the Downloads tab at http://support.flir.com):

- FLIR IP Config A setup and configuration program for detecting and finding FLIR automation and science cameras on a network and automatically assigning or manually setting IP addresses.
 - FLIR IR Monitor A program for controlling FLIR automation and science cameras on a network. You typically use FLIR IR Monitor to change camera settings, lay out measurement tools on the screen, set up alarms, etc.
- FLIR IR Camera Player A PC-based remote control and video player for infrared cameras from FLIR Systems.
- A link to a web installation of FLIR Axxx Control & Image Interfaces An installation that includes Interface Control Documents (ICDs), user documentation, and C-code examples. We recommend that you read through the documentation.

4.1.2 Default installation paths

- C:\Program Files\FLIR Systems\FLIR IP Config
- C:\Program Files\FLIR Systems\FLIR IR Monitor
- C:\Program Files\FLIR Systems\FLIR IR Camera Player
- C:\Program Files\FLIR Systems\FLIR Axxx Control & Image Interfaces

Note Functionality in the PC programs is dependent on the camera model.

4.2 System requirements

4.2.1 Operating system

- Microsoft Windows 10, 32-bit and 64-bit.
- Microsoft Windows 7, 32-bit and 64-bit.

4.2.2 Hardware

- Personal computer with a 2 GHz 32-bit or 64-bit processor.
- 1 GB of RAM or more.
- 20 GB of hard disk space.
- Super VGA (1024 × 768) or higher-resolution monitor.
- Support for DirectX 9 graphics with:
 - WDDM driver
 - 128 MB of graphics memory (minimum)
 - Pixel Shader 2.0 (in hardware)
 - 32 bits per pixel.
- DVD-ROM drive.
- Audio output.
- Keyboard and Microsoft mouse, or a compatible pointing device.

4.2.3 Software

- Google Chrome version 70 or higher (recommended).
- Microsoft Internet Explorer 11 or higher.

4.3 Installation

4.3.1 General

Important information can be found in the read-me file on the installation CD. We recommend that you read that file before you start the installation.

The installation files can also be downloaded from the Downloads tab at <u>http://support.flir.com</u>.

Note

- If you experience problems during the installation, visit our Customer Help at http:// support.flir.com.
- You must be an Adminstrator or a user with Administrative Rights to install the programs.
- A complete installation consists of several subinstallations, some of which are from third-party vendors. Do not abort these subinstallations, as they are needed for the complete installation.
- A complete installation can take up to 10 minutes to complete.

4.3.2 Install from CD

Follow this procedure:

- 1. Close down all applications.
- Insert the ThermoVision System Tools & Utilities CD into the CD drive of the computer.

The installation should start automatically. If not, start Windows File Explorer and double-click SETUP.HTM on the CD.

- 3. Click Install FLIR IP Config.
- 4. Follow the on-screen instructions.

4.3.3 Install from downloaded files

Follow this procedure:

- 1. Close down all applications.
- 2. Download the FLIR IP Config installation zip file from the Downloads tab at http://support.flir.com.
- 3. Extract the installation zip file.
- 4. To start the installation, double-click the executable file (.exe).
- 5. Follow the on-screen instructions.

Detecting cameras in a network

5.1 General

With FLIR IP Config, you can do the following:

- Automatically assign or manually set the IP address for a camera.
- Set the subnet mask for a camera.
- Set the default gateway for a camera.
- Go to the camera's web interface (dependent on the camera model). For more information, refer to the user's manual of your camera.

5.2 Modifying IP Address settings

Follow this procedure:

1. On the *Start* menu, click FLIR IP Config (*Start* > *Programs* > FLIR Systems > FLIR IP Config). This will display the FLIR IP Config main window:

Name	IP Address	MAC Address	Interface	
neco-04F057	10.64.11.91	00:40:7F:04:F0:57	Local Area Connection	
neco-04F064	10.64.11.92	00:40:7F:04:F0:64	Local Area Connection	
neco-04F073	10.64.11.96	00:40:7F:04:F0:73	Local Area Connection	
neco-04F053	10.64.11.100	00:40:7F:04:F0:53	Local Area Connection	
linux	10.64.11.108	00:40:7F:04:F0:55	Local Area Connection	
IRCAM2842	10.64.11.79	00:40:7F:04:0B:1A	Local Area Connection	
FLIR A310 - 48220678	10.64.11.83	00:40:7F:07:EB:09	Local Area Connection	

- 2. In the list of detected cameras, do the following:
 - Right-click one camera and select Modify.
 - Select one camera and click and the toolbar. This will display the *IPAddress Settings* dialog box:

LIR A310 - 48220678	B
Obtain IP address a	automatically
Use the following I	Paddress
, out the following in	
IP address	10 . 64 . 11 . 83
IP address Subnet mask	10 . 64 . 11 . 83

- 3. In the *IP Address Settings* dialog box, you can enter new values for one or more of the following parameters:
 - IP address.
 - Subnet mask.
 - · Default gateway.
- 4. Click OK.

Note

- A network switch may have the spanning tree algorithm (STA) enabled. The STA blocks all packets from a new connected port for a "forward delay" second. This forward delay is usually between 15 and 45 seconds. A GigE Vision device complying with the GigE Vision standard will attempt for only 6 seconds (±2 seconds) to get its IP address through DHCP before using the local link address (LLA = 169.254.x.x) to get its IP address. The DHCP process for a GigE Vision-compliant device may therefore fail if connected to a switch which has STA enabled. To prevent this from happening, the forward delay should be set to 4 seconds, or the STA disabled for the switch port.
- If you change the IP address, you need to restart the camera (dependent on the camera model).

5.3 Changing the language

Follow this procedure:

- On the Start menu, click FLIR IP Config (Start > Programs > FLIR Systems > FLIR IP Config).
- 2. On the main menu bar, click Options. This will display the Options dialog box:

E X
•]
Cancel

- 3. To change the language, select a new language in the Language box.
- 4. Click OK.

Program reference section

6.1 Main menu bar

Table 6.1 The File menu

Exit	By clicking <i>Exit</i> , the program closes down.
Table 6.2 The Tools menu	
Options	By clicking <i>Options</i> , the <i>Options</i> dialog box will be displayed. In this dialog box the language can be changed. Options Language English OK Cancel

Table 6.3 The Help menu

Manual as HTML Help	By clicking <i>Manual as HTML Help</i> , the user documentation will be displayed as a Microsoft HTML help file.
Manual as Adobe PDF file	By clicking <i>Manual as Adobe PDF file</i> , the user documentation will be displayed as an Adobe Acrobat PDF file.

6.2 Main toolbar

Table 6.4 The main toolbar

	By clicking this toolbar button, a dialog box will be displayed where the IP address, the subnet mask, and the default gateway can be changed. The IP address can also be obtained automatically.
	IP Address Settings
	FLIR A310 - 48220678
	Obtain IP address automatically Use the following IP address
	IP address 10 . 64 . 11 . 83
	Default gateway
	OK Cancel
	By clicking this toolbar button, the camera's web interface will be displayed (dependent on the camera model).
2	By clicking this toolbar button, the list of cameras will be refreshed.

6.3 Right-click menu

 Table 6.5
 The right-click menu

Modify	By clicking <i>Modify</i> , a dialog box will be displayed where the IP address, the subnet mask, and the default gateway can be changed.
	IP Address Settings
	FLIR A310 - 48220678
	Obtain IP address automatically Use the following IP address
	IP address 10 . 64 . 11 . 83
	Subnet mask
	Default gateway
	OK Cancel
Web	By clicking <i>Web</i> , the camera's web interface will be displayed (dependent on the camera model).
Refresh	By clicking <i>Refresh</i> , the list of cameras will be refreshed.

Network troubleshooting

Try one of the following if you experience network problems:

- Reset the router and unplug and replug the Ethernet cable at both ends.
- Reboot the computer with the cables connected.
- Swap your Ethernet cable with another cable that is either brand new or known to be in working condition.
- Connect your Ethernet cable to a different wall socket. If you are still not able to get online, you are probably experiencing a configuration issue.
- Verify your IP address.
- Disable network bridging.
- Disable your Wi-Fi connectivity (if you use it) to ensure that the wired Ethernet port is open.
- Renew the DHCP license.
- Make sure that the firewall is turned off when you troubleshoot.
- Make sure that your wireless adapter is switched off. If not, the search for the camera
 might only look for a wireless connection.
- Normally a computer will handle both crossed and uncrossed cable types automatically, but for troubleshooting purposes try both or use a switch.
- Turn off any network adapters that are not connected to the camera.
- For troubleshooting purposes, power both the camera and the computer using a mains adapter. Some laptops turn off the network card to save power when using the battery.

If none of these steps help you, contact FLIR Customer support at http://support.flir.com.

About FLIR Systems

FLIR Systems was established in 1978 to pioneer the development of high-performance infrared imaging systems, and is the world leader in the design, manufacture, and marketing of thermal imaging systems for a wide variety of commercial, industrial, and government applications. Today, FLIR Systems embraces five major companies with outstanding achievements in infrared technology since 1958—the Swedish AGEMA Infrared Systems (formerly AGA Infrared Systems), the three United States companies Indigo Systems, FSI, and Inframetrics, and the French company Cedip.

Since 2007, FLIR Systems has acquired several companies with world-leading expertise in sensor technologies:

- Extech Instruments (2007)
- Ifara Tecnologías (2008)
- Salvador Imaging (2009)
- OmniTech Partners (2009)
- Directed Perception (2009)
- Raymarine (2010)
- ICx Technologies (2010)
- TackTick Marine Digital Instruments (2011)
- Aerius Photonics (2011)
- Lorex Technology (2012)
- Traficon (2012)
- MARSS (2013)
- DigitalOptics micro-optics business (2013)
- DVTEL (2015)
- Point Grey Research (2016)
- Prox Dynamics (2016)



Figure 8.1 Patent documents from the early 1960s

FLIR Systems has three manufacturing plants in the United States (Portland, OR, Boston, MA, Santa Barbara, CA) and one in Sweden (Stockholm). Since 2007 there is also a manufacturing plant in Tallinn, Estonia. Direct sales offices in Belgium, Brazil, China, France, Germany, Great Britain, Hong Kong, Italy, Japan, Korea, Sweden, and the USA —together with a worldwide network of agents and distributors—support our internation-al customer base.

FLIR Systems is at the forefront of innovation in the infrared camera industry. We anticipate market demand by constantly improving our existing cameras and developing new ones. The company has set milestones in product design and development such as the introduction of the first battery-operated portable camera for industrial inspections, and the first uncooled infrared camera, to mention just two innovations.



Figure 8.2 1969: Thermovision Model 661. The camera weighed approximately 25 kg (55 lb.), the oscilloscope 20 kg (44 lb.), and the tripod 15 kg (33 lb.). The operator also needed a 220 VAC generator set, and a 10 L (2.6 US gallon) jar with liquid nitrogen. To the left of the oscilloscope the Polaroid attachment (6 kg (13 lb.)) can be seen.



Figure 8.3 2015: FLIR One, an accessory to iPhone and Android mobile phones. Weight: 90 g (3.2 oz.).

FLIR Systems manufactures all vital mechanical and electronic components of the camera systems itself. From detector design and manufacturing, to lenses and system electronics, to final testing and calibration, all production steps are carried out and supervised by our own engineers. The in-depth expertise of these infrared specialists ensures the accuracy and reliability of all vital components that are assembled into your infrared camera.

8.1 More than just an infrared camera

At FLIR Systems we recognize that our job is to go beyond just producing the best infrared camera systems. We are committed to enabling all users of our infrared camera systems to work more productively by providing them with the most powerful camera– software combination. Especially tailored software for predictive maintenance, R & D, and process monitoring is developed in-house. Most software is available in a wide variety of languages.

We support all our infrared cameras with a wide variety of accessories to adapt your equipment to the most demanding infrared applications.

8.2 Sharing our knowledge

Although our cameras are designed to be very user-friendly, there is a lot more to thermography than just knowing how to handle a camera. Therefore, FLIR Systems has founded the Infrared Training Center (ITC), a separate business unit, that provides certified training courses. Attending one of the ITC courses will give you a truly hands-on learning experience.

The staff of the ITC are also there to provide you with any application support you may need in putting infrared theory into practice.

8.3 Supporting our customers

FLIR Systems operates a worldwide service network to keep your camera running at all times. If you discover a problem with your camera, local service centers have all the equipment and expertise to solve it within the shortest possible time. Therefore, there is no need to send your camera to the other side of the world or to talk to someone who does not speak your language.



Website http://www.flir.com

Customer support http://support.flir.com

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Publ. No.:	T559494
Release:	AC
Commit:	54394
Head:	54394
Language:	en-US
Modified:	2018-12-17
Formatted:	2018-12-17