Giganetix Series

1. Minimum Required Components

- SMARTEK Vision Giganetix™ Digital Camera
- C-Mount lens
- 10-24V DC Power Supply, 12-pin circular connector with correct pin-assignment (see 6., page 2)
- Ethernet cable (minimum Cat5e grade) with RJ45 connectors
- PC with Gigabit Ethernet Network Interface Card (NIC)
- SMARTEK Vision GigEVisionSDK PC acquisition software (or third party software)
- Gigabit Ethernet Switch (optional)

2. Recommended System Requirements for Optimal Performance

- Microsoft Windows XP/7 32- or 64-bit with the latest Service Pack
- Intel® Core2Duo™/Core-i3™ processor (or higher)
- Gigabit Network Interface Card with the following key-data:
  - PCI Express Interface
  - Jumbo frames support
  - Intel® Pro/1000 chipset
- Firewall and anti-virus software should be turned off. NOTE: You do this only at your own risk!
- Use of non-onboard video cards with own memory

3. Software and Driver installation – SMARTEK Vision GigEVisionSDK

Note: Before installing the GigEVision® SDK please make sure to **uninstall any other GigE-Vision SDK** from your system!

Step 1: Download the latest SMARTEK Vision GigEVision® SDK for Microsoft Windows from:
http://www.smartekvision.com/downloads.php
For the latest Linux SDK please contact your local sales representative or our support team via support@smartekvision.com and denote the target Linux distribution and architecture.

Step 2: To start the installation **Unzip** and **Run** the GigEVision® SDK software installation. During installation you will be asked to install the SMARTEK Vision GigEVision® Filter Driver, for stability and performance. Its installation is highly recommended. Please follow the installation instructions to complete the installation process.

4. Starting up the camera

Step 1: Connect the camera with a Gigabit Ethernet cable to the network interface card (NIC) of the target PC or switch, and connect the power supply. Make sure that the power supply is turned on and the NIC is enabled in your operating system.

Step 2: Run the *GigEVisionClient* from Start Menu -> Programs -> SMARTEK Vision and press the button **Find Devices**  which makes the application search for cameras and display them in the *Devices* list.

Note: There is one of three available flags in front of the camera name displayed in the *Devices* list:
- Device available and waiting for connection
- Connection to device established
- Unable to connect to device; usually caused by bad IP-configuration

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In case of the sign ⚠ *Unable to connect to device* is shown in front of your camera name, there are two possibilities:

1. Changing the NIC's IP-address and subnet mask
2. Changing the cameras IP-address and subnet mask

For a quick start we recommend the configuration as shown in the table:

	NIC (Cameras)	NIC (others)	Camera 1	Camera 2	Camera 3
IP	169.254.0.1	not 169.254.x.x if 255.255.0.0	169.254.1.1	169.254.1.2	169.254.1.x
Subnetmask	255.255.0.0		255.255.0.0	255.255.0.0	255.255.0.0

In all cases it must be ensured that further NIC's within the PC are not configured for an IP-address within the same logical network as the NIC for the camera connection.

Step 3: In the *Devices* list, choose the camera you want to connect to and press the button ***Connect Device*** 

Note: If connection to the cameras fails, although the camera is listed as available and well configured, there are most likely two network cards within the PC configured to the same logical network.

Step 4: As soon as the connection is established successfully, you can start the video stream by pressing the 

- button. All camera preferences and features can be accessed via the GenICam™ node-map under the panel *Device properties* → tab *Parameters*. Please note that for changing some features it is required to stop the video stream first.

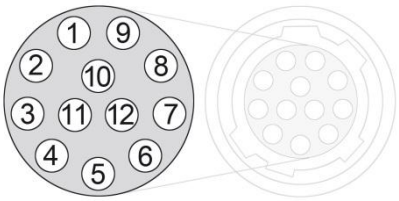
Note: In order to achieve optimal performance and prevent packet loss due to network overload, the use of Jumbo-packets is highly recommended. If the NIC supports this feature, it can be activated and adjusted in the properties of the NIC's driver, usually in its "Advanced Settings".

5. Firmware Update

Due to continuous improvements of the cameras and their features it is highly recommended to use the latest camera Firmware. Please ask your local distributor about the latest firmware release and flash the firmware via the Smartek Vision GigEVision Client under *Control* → *Firmware Update*, after connecting to the target camera.

6. Power and I/O Interface

EIAJ (Hirose compatible) 12 pin



1 – Power GND
2 – 10-24V DC input
3 – Output 1 -
4 – Output 1 +
5 – Input 2 -
6 – Input 2 +
7 – Input 1 +
8 – Input 1 -
9 – Output 2 -
10 – Output 2 +
11 – Input 1 +
12 – Input 1 -

7. Further Documentation and Contact

Further technical information on getting started and using the SMARTEK Vision Giganetix Cameras can be found in the appropriate **Quickstart Guide** and **User's Manual** which can be downloaded from http://www.smartekvision.com/downloads.php
In case of any further questions please do not hesitate to contact your local sales representative or our support team via support@smartekvision.com