

Technical Note

Setting a Persistent IP Address for a GigE Camera

Setting a persistent IP address for a GigE camera

The GigE Vision standard includes a “Force IP” function. With this function enabled, (typically the default mode of operation), a tool like the JAI Control Tool running on a host PC can automatically communicate to connected cameras and adjust each camera’s IP address and subnet mask to properly interact with the host NIC.

However, in some situations, the user may want to, or need to, set specific IP addresses for their GigE Vision host(s) and camera(s). In these situations, the user has two choices for allocating IP addresses.

- DHCP (for dynamic assignment of addresses)
- Persistent IP (for static assignment of addresses)

This document describes how to set a persistent IP address.

Valid persistent IP addresses and Net masks:

To allocate a persistent IP address, a user can select from two methods:

1. Manual method for setting NIC’s IP address

In connecting camera(s) to a NIC using persistent IP addresses, common subnets shall be allocated to both the NIC and the camera(s). In the case of multiple NIC’s, each NIC shall have different IP subnets.

In these cases, you can set the following IP addresses and subnet masks using Windows (see Figure 1):

The 1st NIC: IP Address 192.168.11.10, Subnet mask 255.255.255.0

The 1st Camera: IP Address 192.168.11.11, Subnet mask 255.255.255.0

The 2nd NIC: IP Address 192.168.12.10, Subnet mask 255.255.255.0

The 2nd Camera: IP Address 192.168.12.11, Subnet mask 255.255.255.0

The 3rd NIC: IP Address 192.168.13.10, Subnet mask 255.255.255.0

The 3rd Camera: IP Address 192.168.13.11, Subnet mask 255.255.255.0



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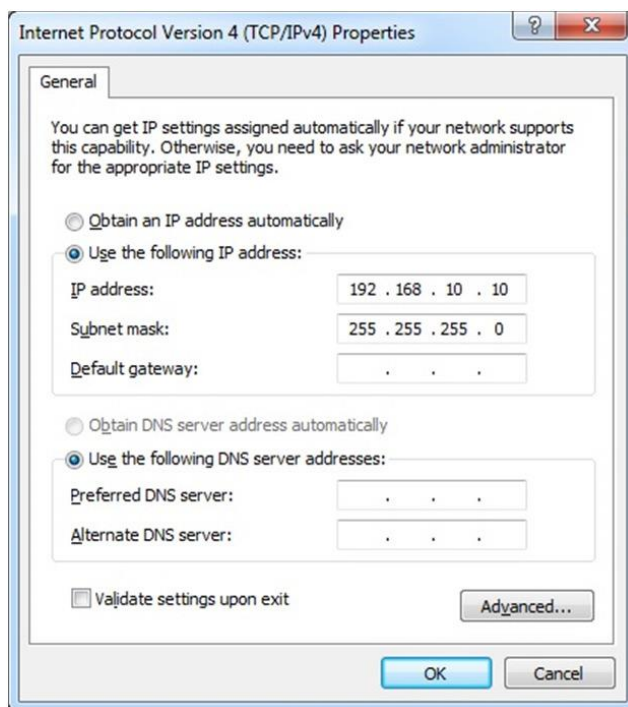


Figure 1

2. Automatic method for setting NIC's IP address

In Windows 7 systems, you can optionally select the button labeled "Obtain an IP address automatically" (see Figure 2). In this case, an IP address is automatically allocated in the 169.254.xxx.yyy range and the subnet mask is set to 255.255.0.0 (see Figure 3).

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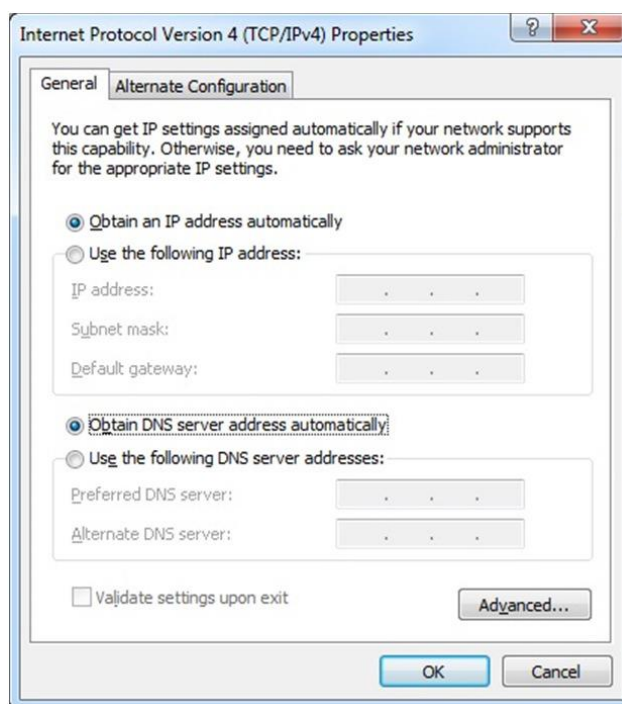


Figure 2

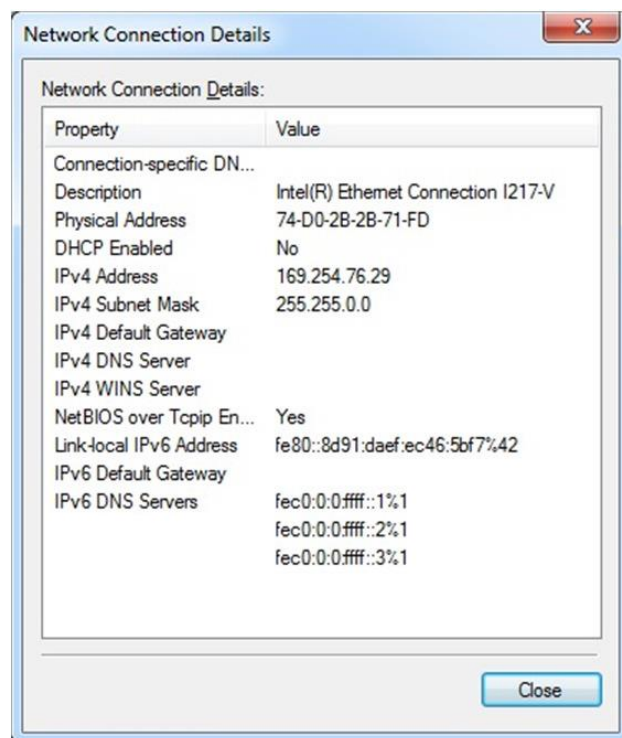


Figure 3



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When using this method, the camera's subnet should be identical to NIC's subnet. Therefore the following IP address should be set on the camera (see next section for how to set).

IP Address 169.254.xxx.yyy, Subnet mask 255.255.0.0.

However, when multiple cameras are connected to one PC, this method results in all cameras belonging to the same subnet. This is not recommended.

Therefore, when multiple cameras are involved, it is preferable to use method 1 - "Manual method for setting NIC's IP address".

Setting the IP address for a camera

Regardless of the method used for setting the NIC's IP address, the process for setting the camera's IP address will be the same.

First, confirm the IP address and subnet mask that has been allocated to the NIC. You can check this in the same Internet Protocol Version 4 Properties form used to set the address (Figure 4).

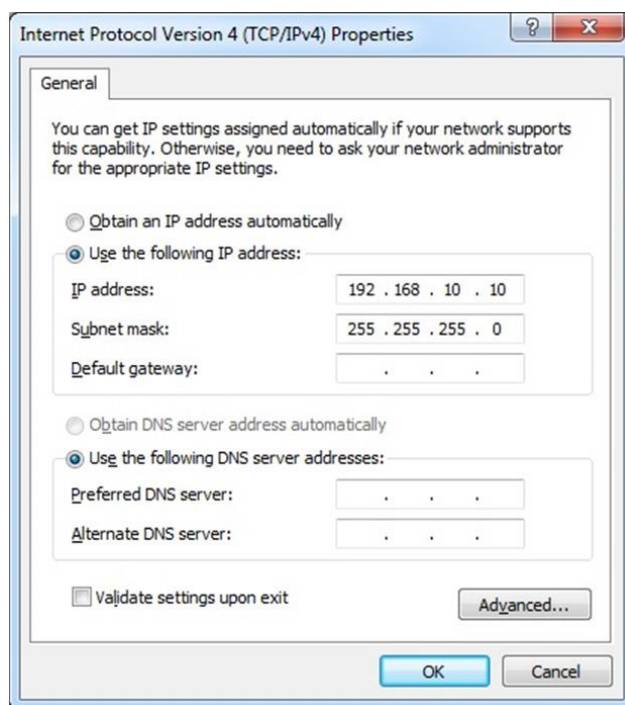


Figure 4

Next, open the Persistent IP configuration tool.

- Launch Start Menu -> JAI SDK -> Tools -> Persistent IP configuration tool (Figure 5).



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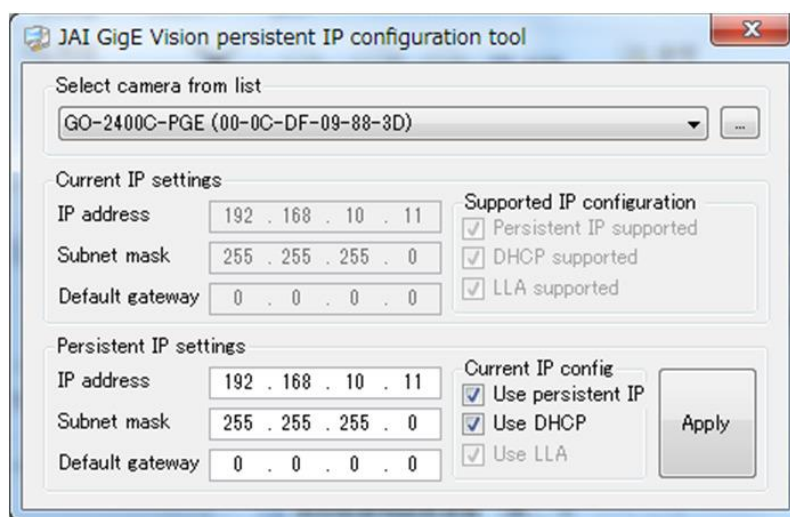


Figure 5

- Fill in “IP Address” and “Subnet mask” fields in “Persistent IP Settings” and check “Use persistent IP”.
- Press “Apply” button.

The Persistent IP you have entered will be set to the camera.

Note: By checking “Use persistent IP”, the check mark in “Use DHCP” is ignored.

Note: The IP address settings are kept even when the default/factory UserSet is loaded to the camera.

End.

Revision History

Revision	Date	Changes
1	2017/2/9	New release