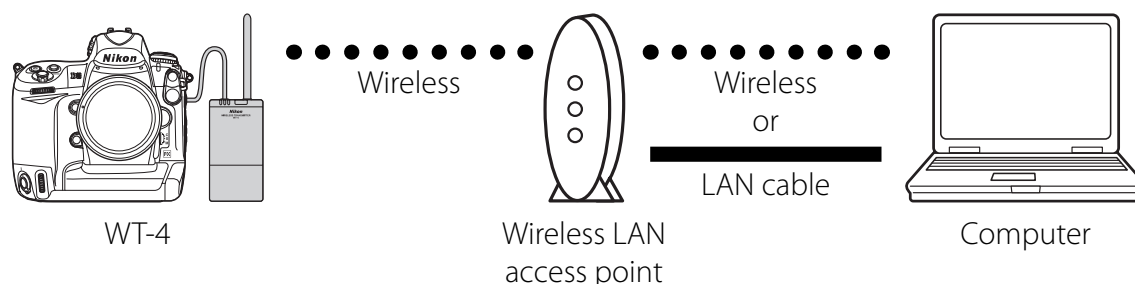


En **Configuring the WT-4 for Upload to a Computer (Infrastructure Mode)**

This document provides basic instructions on configuring the WT-4 wireless transmitter and a Windows 7 computer for transmission over an infrastructure network that includes a wireless LAN access point, or bridge.



Introduction

This section describes a simple network consisting solely of a wireless LAN access point (bridge) connected to an computer via a LAN cable or wireless, with no connections to other networks or devices. Follow the steps below to use the WT-4 in this type of network.

- 1: Get Ready..... pg. 2**
- 2: Assign the Computer an IP Address pg. 3**
- 3: Using Windows Firewall..... pg. 5**
- 4: Configure the Wireless LAN Access Point pg. 10**
- 5: Configure the Computer for Wireless Access..... pg. 11**
- 6: Copy the Network Profile to the Camera..... pg. 14**
- 7: Connect to the Computer..... pg. 19**

1: Get Ready

Equipment

Ready the following:

- A WT-4 wireless transmitter
- A fully-charged EN-EL3e battery for the WT-4
- A digital SLR camera that supports the WT-4 (the illustrations show a Nikon D3)
- A fully-charged battery for the camera
- A computer with Windows 7 Ultimate/Professional/Home Premium/Home Basic/Enterprise edition and a compatible version of the WT-4 Setup Utility installed
- A wireless LAN access point
- A LAN cable
- A memory card
- A USB cable
- Manuals for the above equipment

Network Settings

Note the IP addresses, encryption, and other settings that will be used in the wireless LAN. The following are intended as examples only.

- IP address for the WT-4: 192.168.1.4
- IP address for the computer: 192.168.1.3
- IP address of the wireless LAN access point: 192.168.1.2
- Subnet mask: 255.255.255.0
- Network name (SSID): WT-4
- Communication mode: Infrastructure
- Authentication: WPA-PSK
- Encryption: TKIP
- Encryption key: abcde123

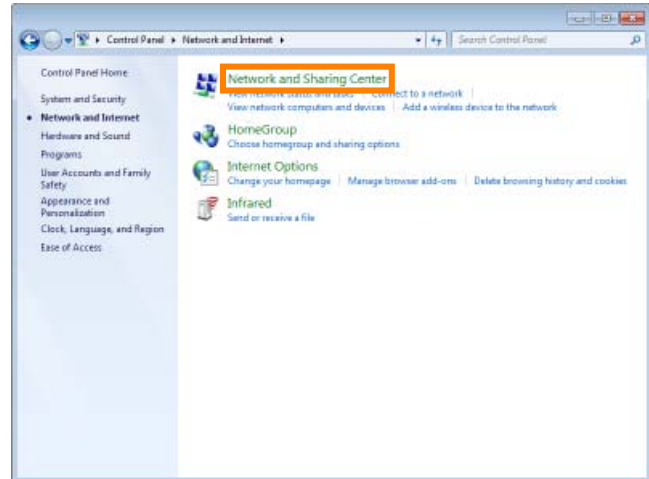
2: Assign the Computer an IP Address

Choose an address for the computer. The following IP address is intended as an example only.

- **IP address:** 192.168.1.3
- **Subnet mask:** 255.255.255.0

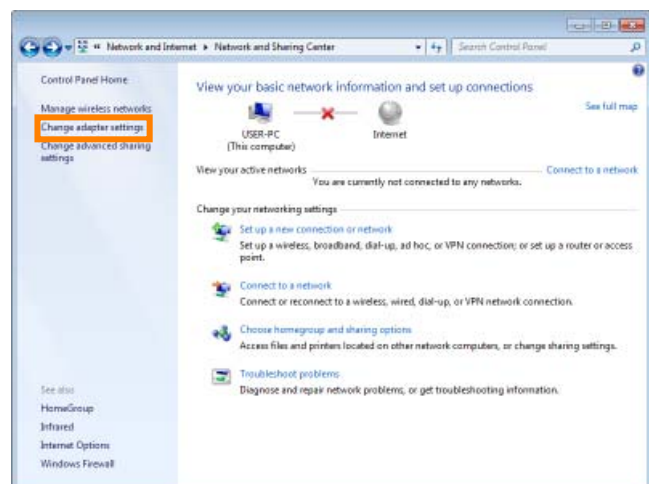
2-1

Open the **Network and Internet > Network and Sharing Center** control panel.



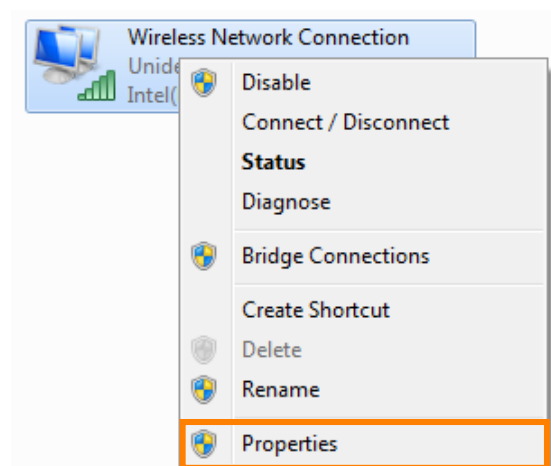
2-2

Select **Change adapter settings**.



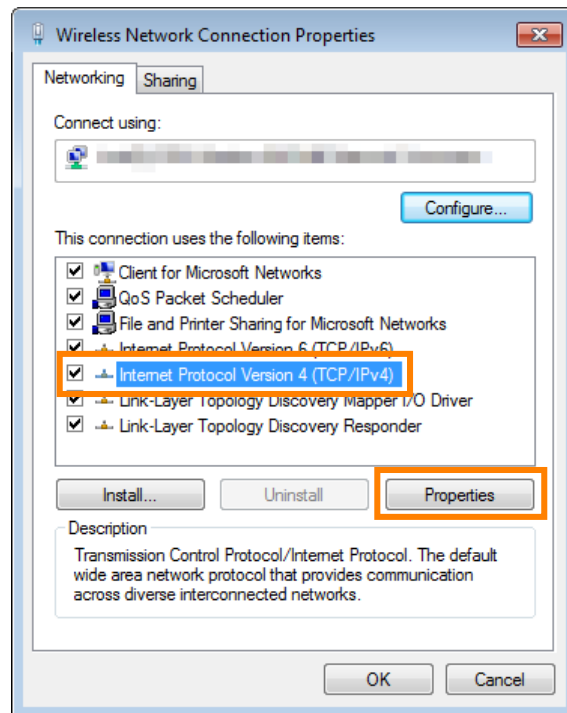
2-3

Right-click the network icon (**Wireless Network Connection** if the access point and computer are connected via a wireless network, **Local Area Connection** if the access point is connected by a LAN cable) and select **Properties** from the menu that appears.



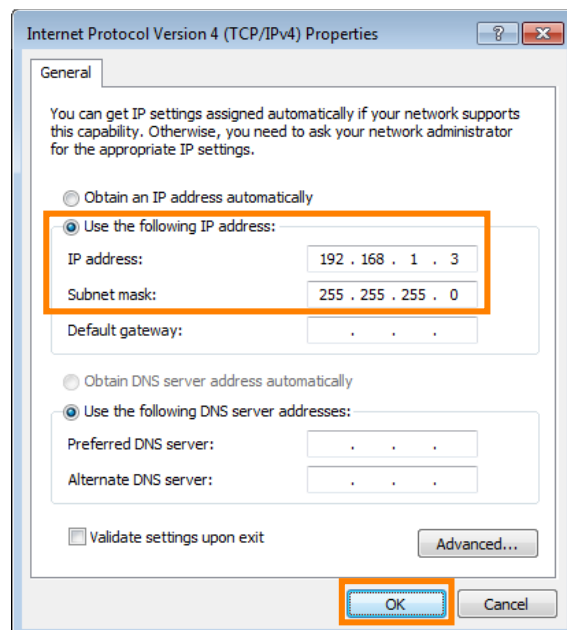
2-4

Select **Internet Protocol Version 4 (TCP/IPv4)** and click **Properties**.



2-5

Select **Use the following IP address** and enter the IP address and subnet mask for the computer. Click **OK** to exit and then click **Close** to close the properties dialog. This completes the process of assigning an IP address to the computer.



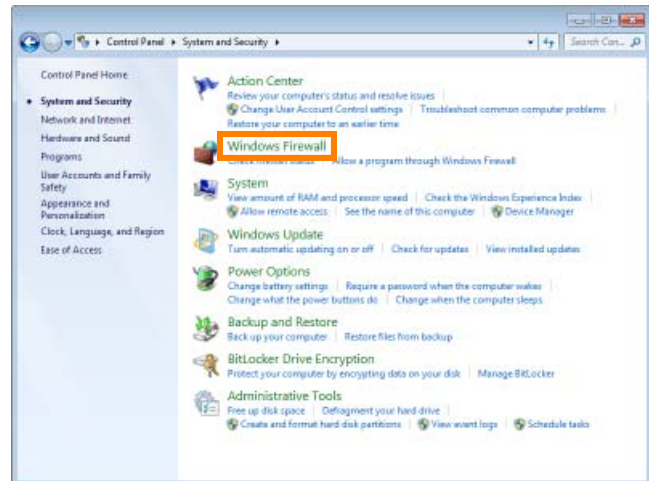
3: Using Windows Firewall

Windows Firewall is enabled by default in Windows 7. If you are using Windows Firewall, turn all other firewalls off and allow access to the following ports, which are used for wireless connections:

- **TCP:** port 15740
- **UDP:** port 5353

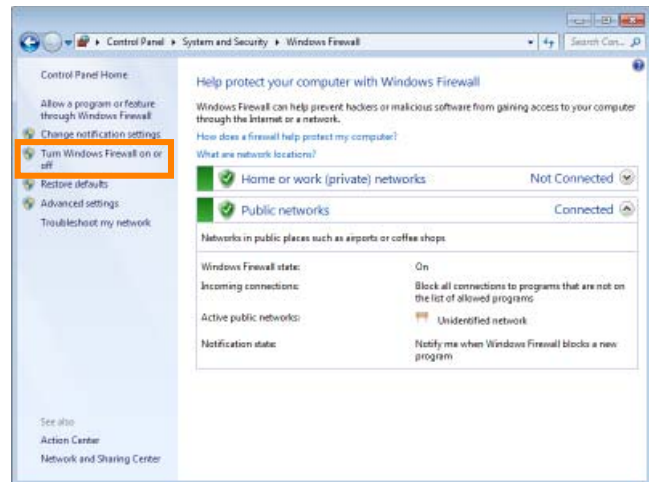
3-1

Go to the **System and Security > Windows Firewall** control panel.



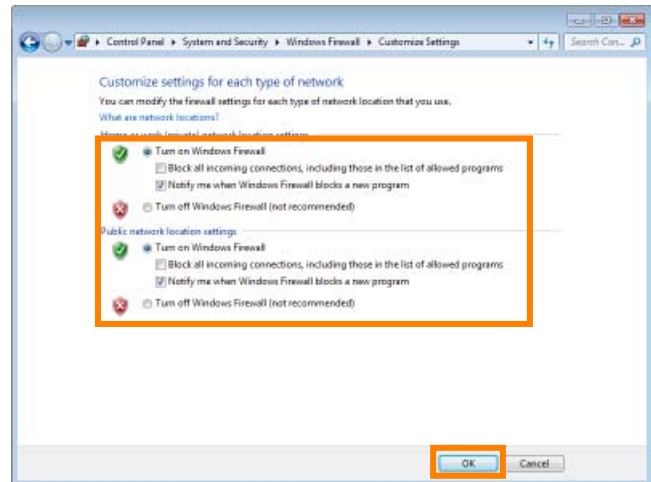
3-2

Click **Turn Windows Firewall on or off**.



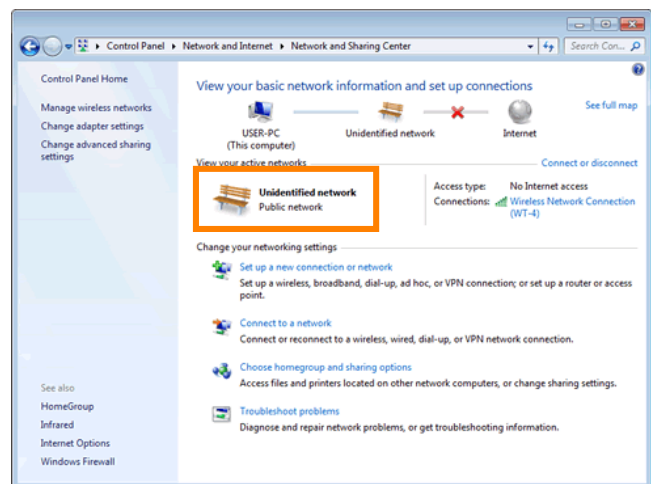
3-3

If Windows Firewall is on, deselect **Block all incoming connections, including those in the list of allowed programs**, and click **OK**.



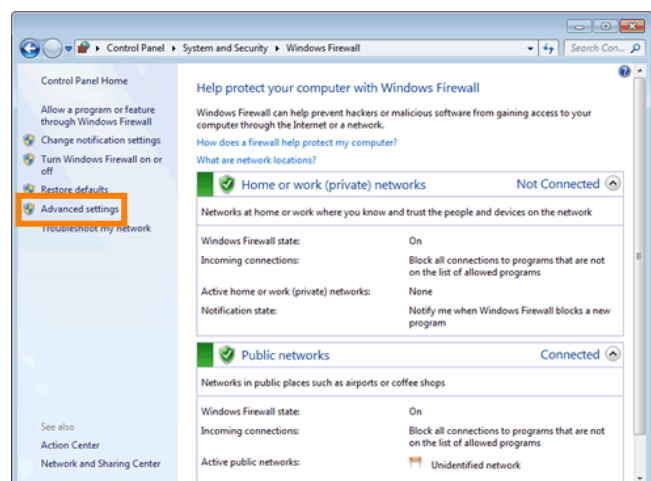
Network Type

The network type (private or public) can be viewed in the **Network and Internet > Network and Sharing Center** control panel.



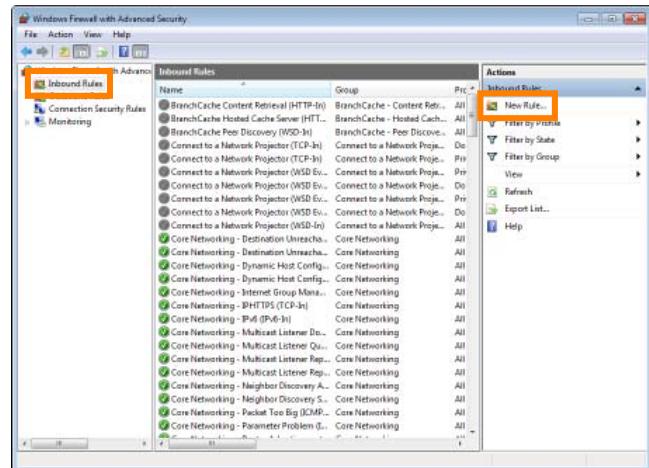
3-4

Select **Advanced settings**.



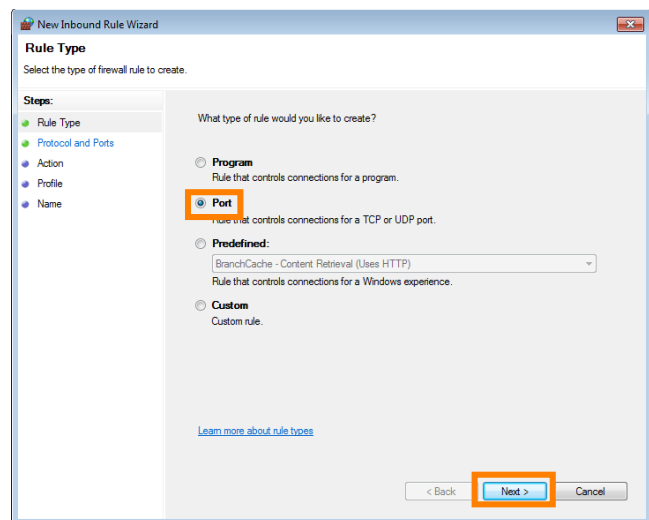
3-5

In the “Windows Firewall with Advanced Security” window, select **Inbound Rules** and click **New Rule...** in the **Actions** panel.



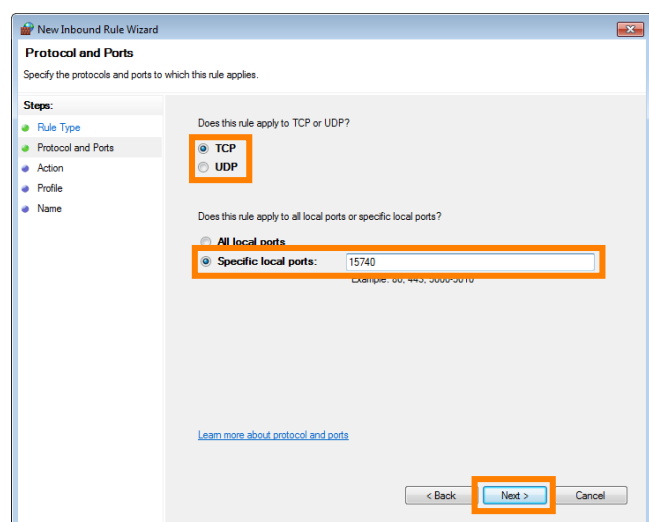
3-6

The “New Inbound Rule Wizard” will be displayed. Select **Port** and click **Next**.



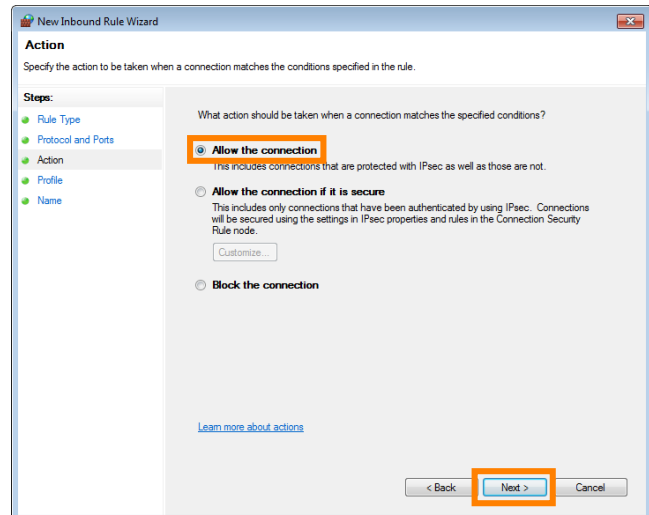
3-7

Select **TCP**, and then select **Specific local ports** and enter **15740**. Confirm that the port numbers are correct and click **Next**.



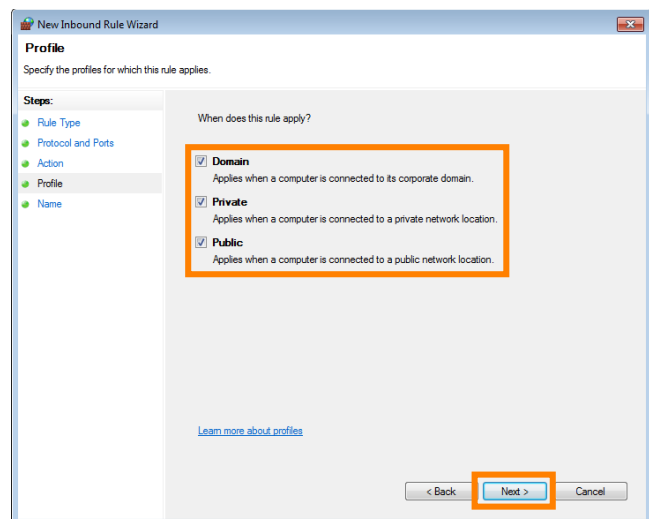
3-8

Confirm that **Allow the connection** is selected and click **Next**.



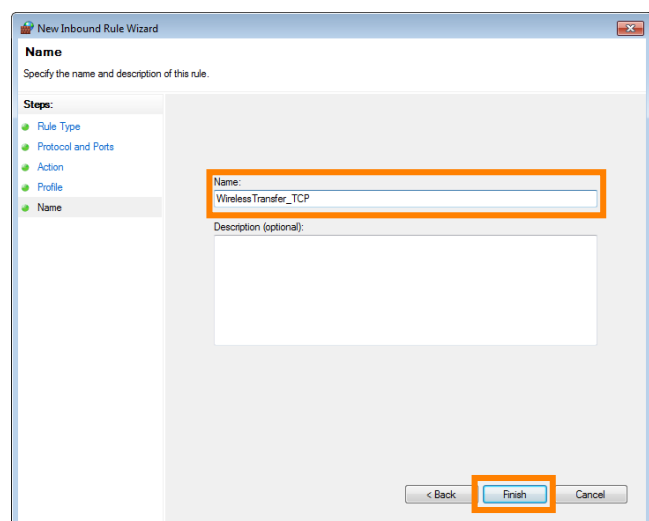
3-9

Choose the type of network to which the rule applies and click **Next**. The network type can be viewed in the **Network and Internet > Network and Sharing Center** control panel; if you are unsure, select all three types.



3-10

Enter a name for the new rule and click **Finish** to close the "New Inbound Rule Wizard" dialog.

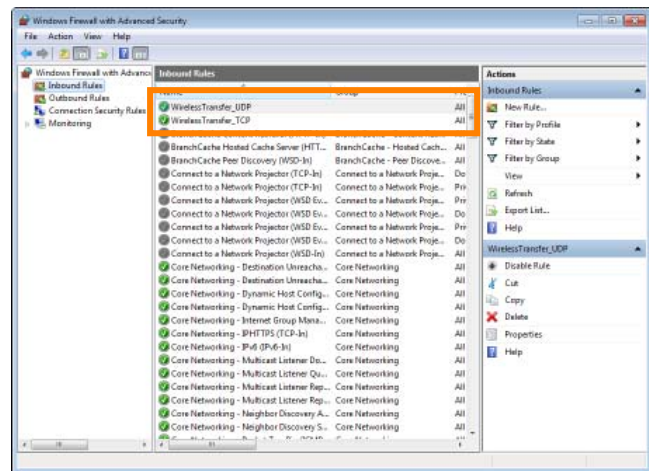


3-11

Repeat steps **3-5** (pg. 7) to **3-10** (pg. 8) for UDP port 5353. Instead of selecting TCP port 15740 in Step **3-7** (pg. 7) as described above, select **UDP > Specific local ports > 5353**.

3-12

In the “Windows Firewall with Advanced Security” window, confirm that the new rules have been added to the list of **Inbound Rules**. This completes the process of configuring Windows Firewall.



Third-Party Security Software

Third-party security software with firewall support may block the ftp server port, preventing access to the computer. This can be avoided by setting the software to allow protocols send and receive access to TCP ports 15740 and UDP ports 5353. For more information, see the documentation for the software or firewall.

4: Configure the Wireless LAN Access Point

Configure the wireless LAN access point as described below. For more information, see the documentation provided by the manufacturer.

- **Network name (SSID):** Enter the network identifier (network name or SSID), which may be up to 36 characters long. The network in this example uses the identifier WT-4.
- **Wireless mode:** Choose 802.11g or 802.11b.
- **Channel:** Automatic.
- **Wireless security**
 - **Authentication:** Choose from **open system**, **shared key**, **WPA-PSK**, or **WPA2-PSK**. The network in this example uses **WPA-PSK**.
 - **Encryption:** If you selected open system or shared key authentication, choose **64-bit WEP** or **128-bit WEP**. If you selected **WPA-PSK** or **WPA2-PSK** authentication, choose **TKIP** or **AES**. The network in this example uses **TKIP**.
 - **Encryption key:** If you selected **64-bit WEP** encryption, enter a 5-character ASCII or 10-digit hexadecimal key. If you selected **128-bit WEP** encryption, enter a 13-character ASCII or 26-digit hexadecimal key. If you selected **TKIP** or **AES**, enter an ASCII key of from 8 to 63 characters or a 64-digit hexadecimal key. The network in this example uses **abcde123**.
 - **ANY connection:** Enable this option to make the network SSID public. This makes it easier to connect to the network, but also makes the network less secure. This option may not be available on some access points. In this example, we will enable ANY connection.
- **IP address:** Turn any “obtain automatically” options off and enter the IP address manually. Be sure that the address is different from the addresses used for the computer and WT-4. The addresses for the access point, computer, and WT-4 must however belong to the same class. In this example, we will use the following address for the access point, while the computer and WT-4 are assigned 192.168.1.3 and 192.168.1.4, respectively:
- **IP address:** 192.168.1.2
- **Subnet mask:** 255.255.255.0
- **Default gateway:** ---.---.---.---
- **DNS server:** ---.---.---.---
- **MAC address:** If the network uses MAC address filtering, the filter must be supplied with the MAC address of the WT-4. After attaching the WT-4 to the camera, turn the WT-4 on, select **Wireless transmitter > Device info > MAC address** from the camera setup menu, and note the MAC address.

5: Configure the Computer for Wireless Access

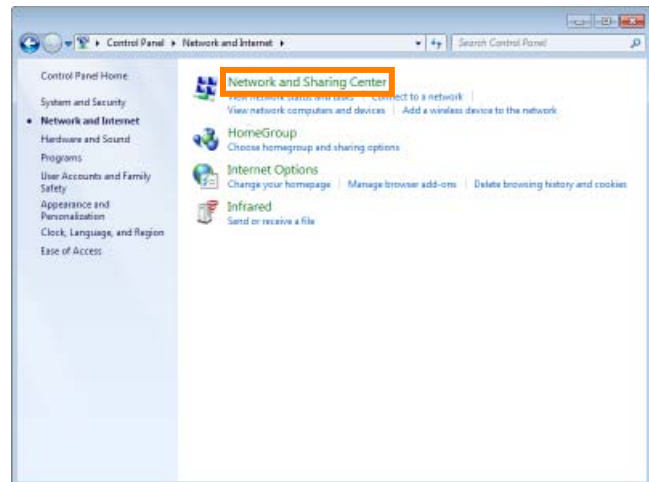
This step is only required if the computer connects to the access point via a wireless LAN.

If the computer is connected to the wireless access point via a LAN cable, proceed to **6** (pg. 14). The settings you choose in **5** (pg. 11) should conform to the network settings selected in **4** (pg. 10).

- **Network name (SSID):** WT-4
- **Security type:** WPA-PSK
- **Encryption type:** TKIP
- **Security key:** abcde123

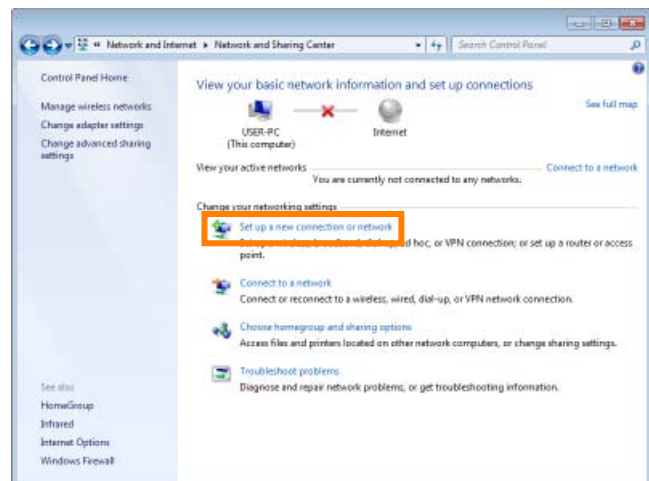
5-1

Go to the **Network and Internet > Network and Sharing Center** control panel.



5-2

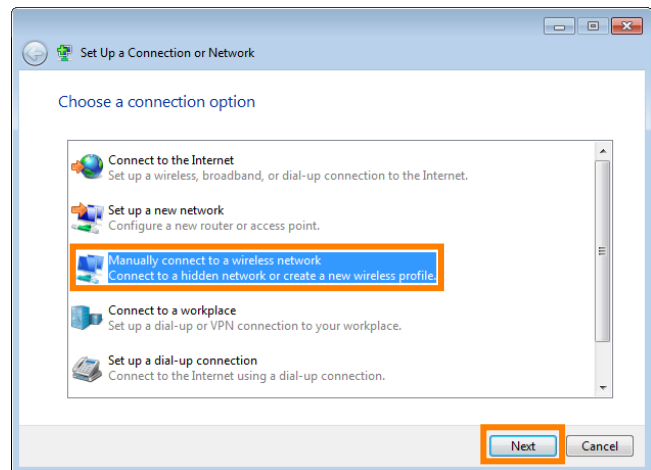
Click **Set up a new connection or network**.



5-3

Select **Manually connect to a wireless network** and click **Next**.

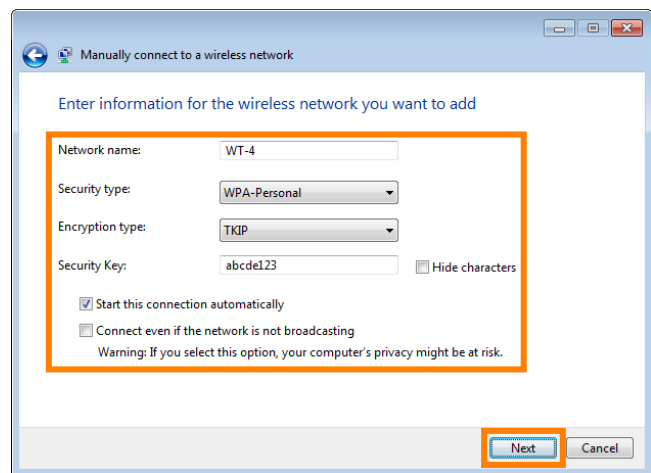
If **Manually connect to a wireless network** is not displayed, install the necessary driver software as described in the documentation for the wireless LAN adapter.



5-4

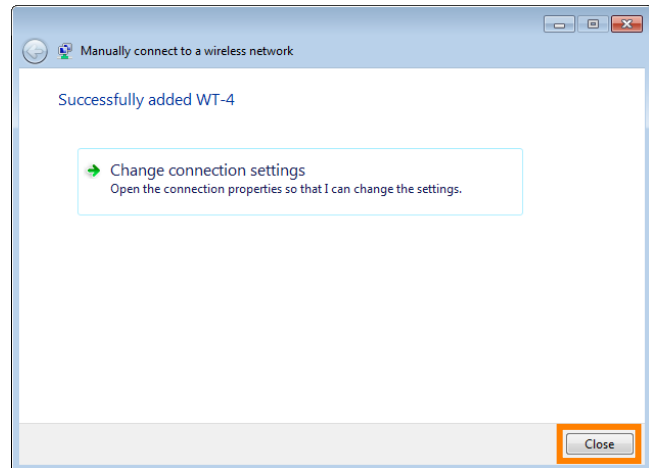
After entering a network name and choosing security options to match those selected for the wireless LAN access point, click **Next**.

- **Network name (SSID):** Enter a name of up to 32 characters. Use the same name as the access point and WT-4 ("WT-4" in this example).
- **Security type:** Choose from **No authentication (Open)**, **WEP**, **WPA-Personal**, and **WPA2-Personal**. **WPA-Enterprise**, **WPA2-Enterprise**, and **802.1x** can not be used with the WT-4.
- **Encryption type:** The type of encryption available depends on the options selected for **Security type**:
 - None (open system): **None**
 - WEP: **WEP**
 - WPA-Personal: **TKIP, AES**
 - WPA2-Personal: **AES**
- **Security key:** If **WEP** is selected for **Security type**, enter a 5- or 13-character ASCII key or 10- or 26-digit hexadecimal key. Entering a five-character ASCII or ten-digit hexadecimal key enables 64-bit encryption, a 13-character ASCII or 26-digit hexadecimal key 128-bit encryption. ASCII keys may contain letters, punctuation, and the numbers 0-9, hexadecimal keys the numbers 0-9 and the letters a, b, c, d, e, and f. If **TKIP** or **AES** is selected for **Security type**, enter an ASCII key of 8 to 63 characters or a 64-digit hexadecimal key.



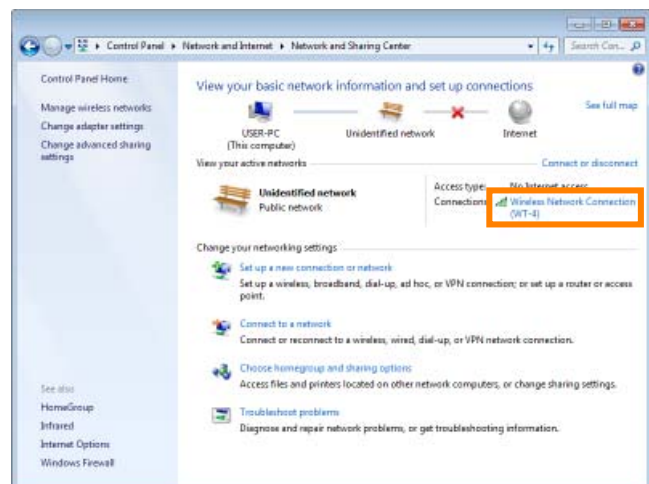
5-5

Click **Close**.



5-6

Confirm that the network name appears as a **Wireless Network Connection (WT-4)** in **View your active networks > Connections**. Network setup is now complete.

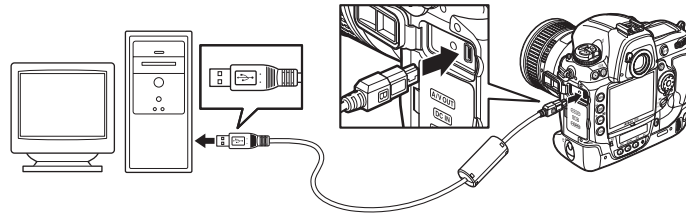


6: Copy the Network Profile to the Camera

Use the WT-4 setup utility to copy the network profile to the camera. If you are using a D3, D3X, or D300 camera, make sure that **MTP/PTP** is selected for the **USB** option in the camera setup menu before proceeding.

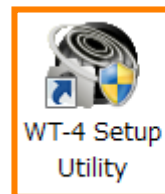
6-1

After starting the computer, use the supplied USB cable to connect the camera and turn the camera on.



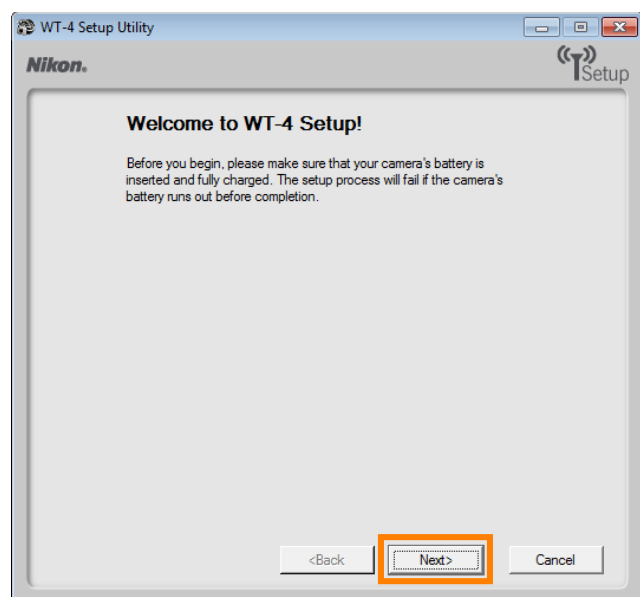
6-2

Double-click the **WT-4 Setup Utility** icon on the desktop.



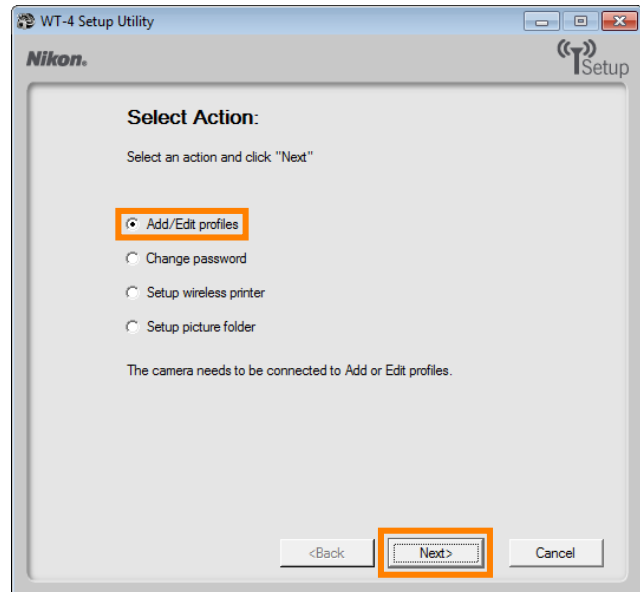
6-3

The dialog shown below will be displayed; click **Next**.

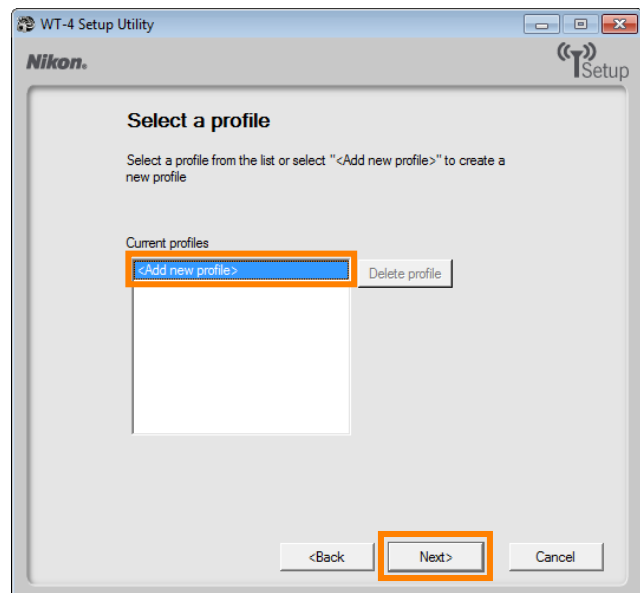


6-4

Select **Add/Edit** profiles and click **Next**.

**6-5**

Select **Add new profile** and click **Next**.



6-6

Enter the following information and click **Next**:

- **Profile name:** Enter a name of up to 16 characters (in this example, **PC1**).
- **Profile type:** Choose **Computer**.
- **Interface type:** Choose **Wireless & Ethernet** for networks that include wireless.

WT-4 Setup Utility

Nikon. Setup

Enter profile name

Enter a name for the new profile and select the type of profile and interface

Profile name

Profile type

Interface type

Help <Back **Next >** Cancel

6-7

Select **Manual setup** and click **Next**.

WT-4 Setup Utility

Nikon. Setup

Select setup method

Select whether to use manual or automatic setup to configure the IP and Wireless settings.

Automatic setup (recommended)

Select network adaptor

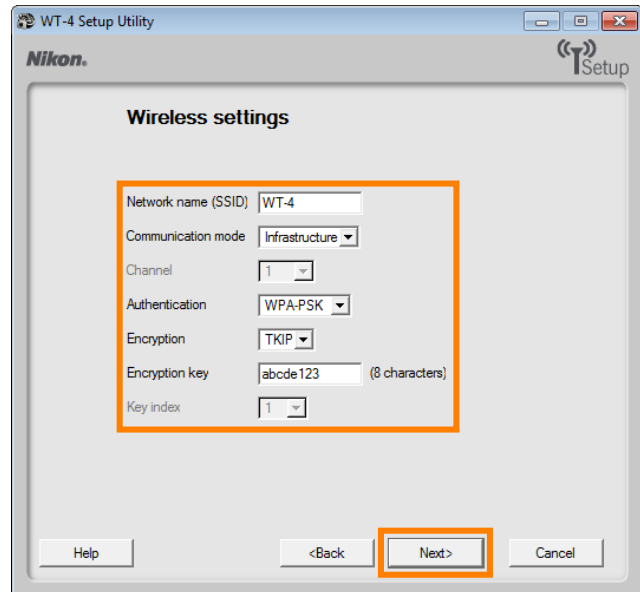
Manual setup (for advanced users)

<Back **Next >** Cancel

6-8

Enter the following information and click **Next**.

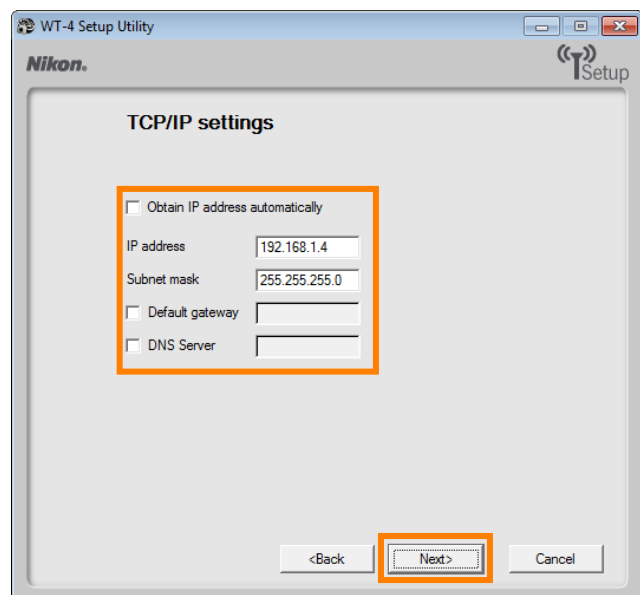
- **Network name (SSID):** WT-4
- **Communication mode:** Infrastructure
- **Authentication:** WPA-PSK
- **Encryption:** TKIP
- **Encryption key:** abcde123.



6-9

Enter the following information and click **Next**.

- **IP address:** 192.168.1.4
- **Subnet mask:** 255.255.255.0
- **Default gateway:** Remove the check from this option.
- **DNS Server:** Remove the check from this option.

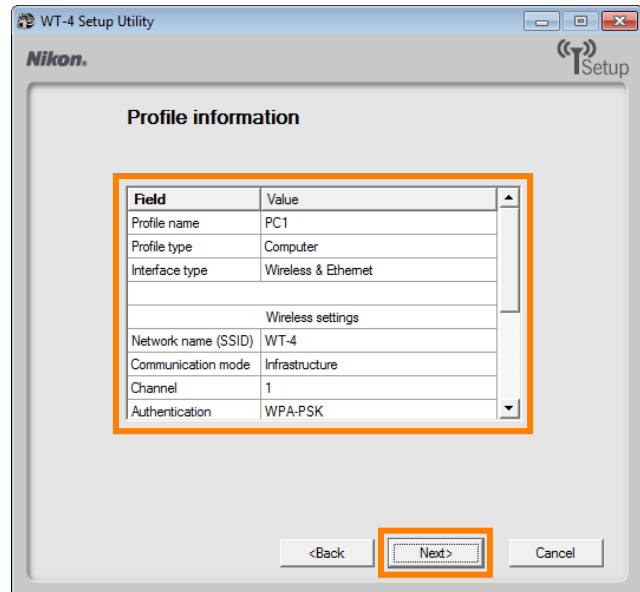


Choosing an IP Address

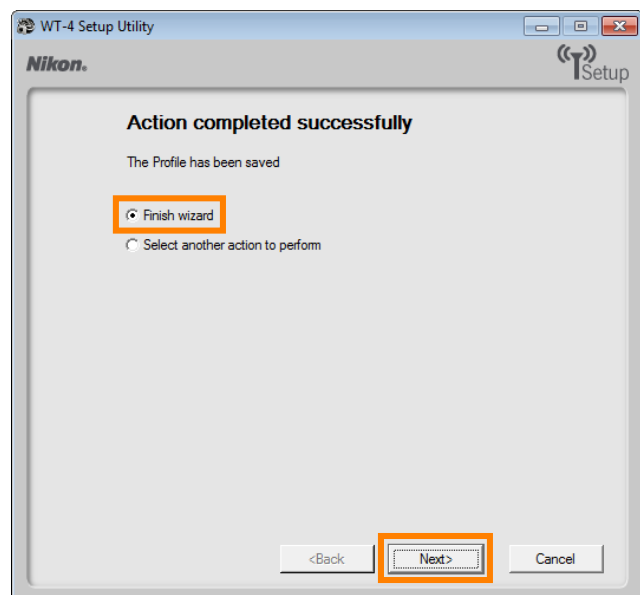
Be sure that the address for the WT-4 is different from the addresses used for the computer and access point. The addresses for the access point, computer, and WT-4 must however belong to the same class. In this example, we will use 192.168.1.2 for the access point, 192.168.1.3 for the computer, and 192.168.1.4 for the WT-4.

6-10

Confirm that settings are correct and click **Next**.

**6-11**

Select **Finish wizard** and click **Next**.

**6-12**

Turn the camera off and disconnect the USB cable. The network profile has now been copied to the camera.

7: Connect to the Computer

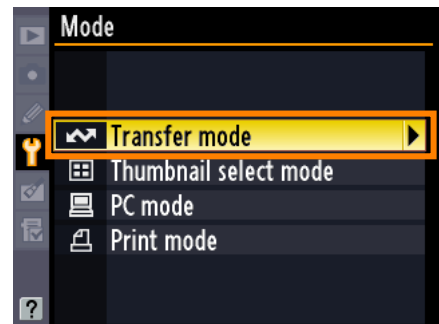
In this step, you will establish a wireless connection between the WT-4 and the computer. Before connecting the WT-4, select **MTP/PTP** for the **USB** option in the camera setup menu (D3, D3X, and D300 cameras only) and confirm that the computer is running and the user is logged in.

7-1

Insert a memory card in the camera, connect the WT-4, and turn the camera on.

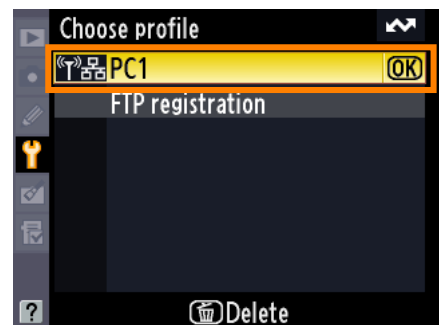
7-2

Choose an option for the **Wireless transmitter > Mode** option in the camera setup menu. In this example, we have selected **Transfer mode**.



7-3

A list of available connection profiles will be displayed. Highlight the desired profile and press **OK**.



7-4

Return to the wireless transmitter menu and turn the WT-4 on. The profile name will be highlighted in green when a connection is established.

This completes the process of connecting to the computer.

