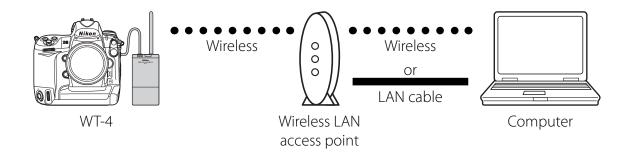
Windows XP

# Nikon

# 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 XP Professional SP2 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.

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2: Assign the Computer an IP Address	pg. 3
3: Configure the Wireless LAN Access Point	pg. 5
4: Configure the Computer for Wireless Access	pg. 6
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6: Connect to the Computerp	g. 15

# **1: Get Ready**

### Equipment

Ready the following:

- A WT-4 wireless transmitter
- A fully-charged EN-EL3e battery for the WT-4
- A Nikon D3 or D300 digital SLR camera
- A fully-charged battery for the camera (an EN-EL4a for the D3, a EN-EL3e for the D300)
- A computer with Windows XP Professional SP2, 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

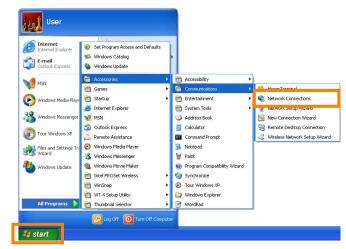
# **2: Assign the Computer an IP Address**

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

Click Start and select All Programs > Accessories > Communications > Network Connections.



#### 2-2

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.

💹 🗶 Not co	ess Network Connection 2 Innected, Firewalled	l Area Connection hected, Firewalled
🦰 (ဖုံ) <u>Intel(</u> (	Disable	Disable 📭
-	View Available Wireless Networks	Status
	Status	Repair
	Repair	
	Bridge Connections	Bridge Connections
	Bhage Connections	Create Shortcut
	Create Shortcut	Delete
	Delete	Rename
	Rename	
		Properties
	Properties	

Wireless network connection

Local area connection

Select Internet Protocol (TCP/IP) and click Properties.

🗕 Local Area Connection Properties 🛛 🔹 💽				
General Authentication Advanced				
Connect using:				
B Configure				
This connection uses the following items:				
🗹 📮 QoS Packet Scheduler				
Reference (IEEE 902.1m) + 3.1.0.1      Reference Protocol (TCP/IP)				
Install Uninstall Properties				
Description				
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.				
Show icon in notification area when connected Notify me when this connection has limited or no connectivity				
OK Cancel				

### 2 - 4

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

Internet Protocol (TCP/IP) Properties 🛛 🛛 🛛 💽				
General				
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.				
Obtain an IP address automatically	,			
Ouse the following IP address: ──				
IP address:	192.168.1.3			
Subnet mask:	255 . 255 . 255 . 0			
Default gateway:	· · ·			
O Obtain DNS server address autom	atically			
• Use the following DNS server add	resses:			
Preferred DNS server:				
Alternate DNS server:	· · ·			
Advanced				
OK Cancel				

# **3: 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 801.11g or 801.11b.
- 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- 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.

# **4: Configure the Computer for Wireless Access**

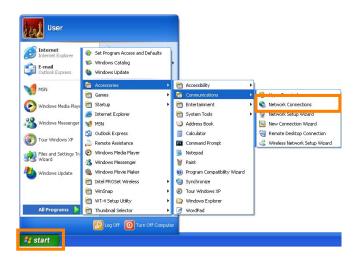
#### This step is only required if the computer connects to the access point via a wireless LAN. If

the computer is connected to the wireless access point via a LAN cable, proceed to Step 5. The settings you choose in Step 4 should conform to the network settings selected in Step 3.

- Network name: WT-4
- Security type: WPA-PSK
- Encryption type: TKIP
- Security key/Passphrase: abcde123

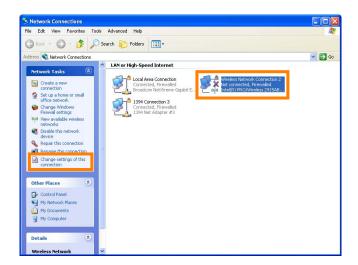
#### 4 - 1

Click Start and select All Programs > Accessories > Communications > Network Connections.



### **4 - 2**

Select Wireless Network Connection and click Change settings of this connection.



#### Click the Wireless Networks tab.

If a third-party wireless connection program is installed, the **Wireless Networks** tab will not be displayed. Choose authentication, encryption, and a security key as described in the documentation for the wireless LAN adapter. The Wireless Networks tab may also not be displayed if Wireless Network Connection is disabled, or if **Wireless Zero Configuration** is active in the **Performance and Maintenance** > **Administrative Tools** > **Services** Control Panel.

– Wireless Network Connection 2 Properties 👘 🕐 🔀					
General Wireless Networks Advanced					
Connect using:					
Configure					
This connection uses the following items:					
<ul> <li>✓ Elient for Microsoft Networks</li> <li>✓ Elintel Wireless Connection Agent</li> <li>✓ File and Printer Sharing for Microsoft Networks</li> <li>✓ GoS Packet Scheduler</li> </ul>					
Install Uninstall Properties					
Description Allows your computer to access resources on a Microsoft network.					
<ul> <li>✓ Show icon in notification area when connected</li> <li>✓ Notify me when this connection has limited or no connectivity</li> </ul>					
OK Cancel					

#### 4 - 4

Select Use Windows to configure my wireless network settings.

🕹 Wireless Network Connection 2 Properties 💦 🛛 🚬				
General Wireless Networks Advanced				
Use Windows to configure my wireless network settings				
Available networks: To connect to, disconnect from, or find out more information about wireless networks in range, click the button below.				
View Wireless Networks				
Preferred networks: Automatically connect to available networks in the order listed below: Move up Move down				
Add     Remove     Properties       Learn about setting up wireless network     Advanced       configuration.     Advanced				
OK Cancel				

Click Add.

#### 4 - 6

After entering a network name and choosing security options to match those selected for the wireless LAN access point, remove the check from **This is a computer-to-computer (ad hoc) network; wireless access points are not used** and click **OK**.

**Network name**: Enter a name of up to 32 characters. The network in this example uses the identifier **WT-4**.

**Security type**: Choose from **Open**, **Shared**, and **WPA-PSK**. The WT-4 does not support WPA.

**Encryption type**: The type of encryption available depends on the options selected for **Network Authentication**:

- Open, Shared: WEP, Disabled

- WPA, WPA2: TKIP, AES

🕹 Wireless Network Connection 2 Properties 👘 ? 🔀					
General Wireless Networks Advanced					
✓ Use Windows to configure my wireless network settings					
Available networks:					
To connect to, disconnect from, or find out more information about wireless networks in range, click the button below.					
View Wireless Networks					
Preferred networks: Automatically connect to available networks in the order listed below:					
Move up					
Move down					
Add Remove Properties Learn about <u>setting up wireless network</u> <u>configuration</u> .					
OK Cancel					

W	/ireless ne	twork proper	ties		?	×
[	Association	Authentication	Conn	ection		
	Network name (SSID): WT-4 Wireless network key					
	This network requires a key for the following: Network Authentication: VPA-PSK  Data encryption: TKIP					
	Network Confirm n	key: ietwork key:	••••			
	Key index (advanced): 1					
This is a computer-to-computer (ad hoc) network; wireless access points are not used						
OK Cancel						

**Security key/Passphrase**: If **WEP** is selected for **Data encryption**, 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 **Data encryption**, enter an ASCII key of 8 to 63 characters or a 64-digit hexadecimal key.

Click **OK**. Network setup is now complete.

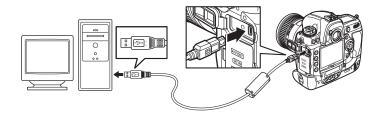
🕹 Wireless Network Connection 2 Properties 👘 [ ? 🔀				
General Wireless Networks Advanced				
✓ Use Windows to configure my wireless network settings				
Available networks:				
To connect to, disconnect from, or find out more information about wireless networks in range, click the button below.				
View Wireless Networks				
Preferred networks: Automatically connect to available networks in the order listed below:				
Move up				
Move down				
Add Remove Properties				
Learn about <u>setting up wireless network</u> Advanced				
OK Cancel				

# **5: Copy the Network Profile to the Camera**

Use the WT-4 setup utility to copy the network profile to the camera. Before proceeding, make sure that **MTP/PTP** is selected for the **USB** option in the camera setup menu.

#### 5 - 1

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



#### 5 - 2

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



### <u>5 - 3</u>

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



Select Add/Edit profiles and click Next.

😵 WT-4 Setup Utility	
Nikon.	(T) Setup
Select Action:	
Select an action and click "Next"	
Add/Edit profiles	
C Change password	
C Setup wireless printer	
C Setup picture folder	
The camera needs to be connected to Add or Edit profiles.	
(Back Next)	Cancel

#### 5 - 5

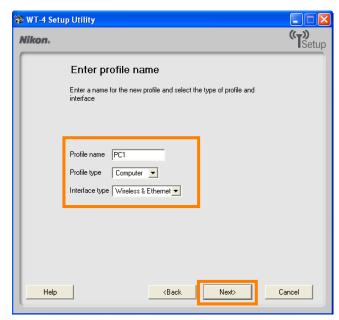
Select Add new profile and click Next.



#### 5 - 6

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

- **Profile name**: Enter a name of up to 16 characters.
- Profile type: Choose Computer.
- Interface type: Choose Wireless & Ethernet for networks that include wireless, or Ethernet only for Ethernet-only networks.



Select Manual setup and click Next.

🍄 WT-4 Setup Utility	
Nikon.	(T) Setup
Select setup method	
Select whether to use manual or automatic setup to configure the IP and Wireless settings.	
C Automatic setup (recommended)	
Select network adaptor	
Intel(R) PR0/w	
<ul> <li>Manual setup (for advanced users)</li> </ul>	
<back next=""></back>	Cancel

### 5 - 8

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

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

WT-4 Set	up Utility			Contraction Contra
	Wireless setti	ings		
	Network name (SSID) Communication mode Channel Authentication Encryption Encryption key Key index	WT-4 Infrastructure WPA-PSK TKIP abcde123	(8 characters)	
Help		<back< th=""><th>Next&gt;</th><th>Cancel</th></back<>	Next>	Cancel

#### <u>5 - 9</u>

- 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.

WT-4 Setu Nikon.	p Utility 💽 💽 🔀
	TCP/IP settings
	Obtain IP address automatically IP address I 192.168.1.4 Subnet mask 255.255.255.0 Default gateway DNS Server
	<back cancel<="" th=""></back>

#### 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.

#### 5 - 10

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

WT-4 Setu	p Utility			
Nikon.				(T) Setup
	Profile informa	ation		
	Field	Value		
	Profile name	PC1		
	Profile type	Computer		
	Interface type	Wireless & Ethernet		
		Wireless settings		
	Network name (SSID)	WT-4		
	Communication mode	Infrastructure		
	Channel	1		
	Authentication	WPA-PSK	<b>_</b>	
		<back next=""></back>	C	Cancel

Select Finish wizard and click Next.

🕸 WT-4 Setup Utility	
Nikon.	(T) Setup
Action completed successfully	
The Profile has been saved	
© Finish wizard	
C Select another action to perform	
KBack Next	Cancel

### 5 - 12

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

# **6: Connect to the Computer**

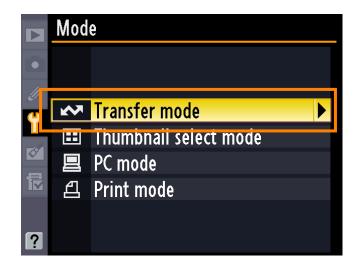
In this step, you will establish a wireless connection between the WT-4 and the computer. Before connecting the WT-4, select **MTP/PTP** for the **USB** option in the camera setup menu and confirm that the host computer is running and the user is logged in.

### 6 - 1

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

#### **6-2**

Choose an option for the **Wireless transmitter** > **Mode** option in the camera setup menu.



### 6 - 3

A list of available connection profiles will be displayed. Highlight the desired profile and press  $\circledast$ .



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.

	Wireless transmitter	
	Mode	
11	Transfer settings	
0	Device info	
	Device settings	
Ø 12	PC1	
?	№ 0000 ⊕00:00′00" ч	

#### 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.