

En

Wireless Transmitter

# WT-2



User's Manual

### For Your Safety

To prevent damage to your Nikon product or injury to yourself or to others, read the following safety precautions in their entirety before using this equipment. Keep these safety instructions where all those who use the product will read them.

The consequences that could result from failure to observe the precautions listed in this section are indicated by the following symbol:

 This icon marks warnings, information that should be read before using this Nikon product to prevent possible injury.

### WARNINGS

#### Do not disassemble

Failure to observe this precaution could result in fire, electric shock, or other injury. Should the product break open as the result of a fall or other accident, disconnect the camera power source and take the product to a Nikon-authorized service representative for inspection.

#### Turn camera off immediately in the event of malfunction

Should you notice smoke or an unusual smell coming from the equipment, immediately remove the battery from the camera, taking care to avoid burns. Continued operation could result in injury. After removing the battery, take the equipment to a Nikon-authorized service representative for inspection.

#### Keep dry

Do not immerse in or expose to water or rain. Failure to observe this precaution could result in fire or electric shock.

#### Do not use in the presence of flammable gas

Failure to observe this precaution could result in explosion or fire.

#### Do not handle with wet hands

Failure to observe this precaution could result in electric shock.

#### Keep out of reach of children

Failure to observe this precaution could result in injury.

#### Follow the instructions of hospital and airline personnel

This device emits radio frequency radiation that could interfere with medical or navigational equipment. Do not use this device in a hospital or on board an airplane without first obtaining the permission of hospital or airline staff.

#### Do not expose to high temperatures

Do not leave the device in a closed vehicle under the sun or in other areas subject to extremely high temperatures. Failure to observe this precaution could result in fire or in damage to the casing or internal parts.

#### Observe caution when using the WA-E1

When using the WA-E1 extended range antenna (available separately), be careful not to put the tip of the antenna in your eye accidentally. Failure to observe this precaution could result in blindness or other visual impairment.

### Trademark Information

Macintosh and Mac OS are trademarks of Apple Computer, Inc. Microsoft and Windows are registered trademarks of Microsoft Corporation. All other trade names mentioned in this manual or the other documentation provided with this Nikon product are trademarks or registered trademarks of their respective holders.

## Notices

- No part of the manuals included with this product may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form, by any means, without Nikon's prior written permission.
- Nikon reserves the right to change the specifications of the hardware and software described in these manuals at any time and without prior notice.
- Nikon will not be held liable for any damages resulting from the use of this product.
- While every effort has been made to ensure that the information in these manuals is accurate and complete, we would appreciate it were you to bring any errors or omissions to the attention of the Nikon representative in your area (address provided separately).

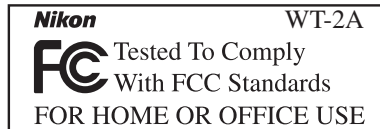
## Notice for Customers in the U.S.A.

*U.S.A. Federal Communications Commission (FCC)*

### Declaration of Conformity

This device complies with Part 15 of the FCC rules. Operation of the device is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Products that contain a radio transmitter are labeled with FCC ID and may also carry the FCC logo.



## FCC Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

## FCC Radiation Exposure Statement

The available scientific evidence does not show that any health problems are associated with using low power wireless devices. There is no proof, however, that these low power wireless devices are absolutely safe. Low power Wireless devices emit low levels of radio frequency energy (RF) in the microwave range while being used. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects might occur, but such findings have not been confirmed by additional research. The Wireless Transmitter (WT-2A) has been tested and found to comply with the Federal Communications Commission (FCC) guidelines on radio frequency energy (RF) exposures. The maximum SAR levels tested for the Wireless Transmitter (WT-2A) has been shown to be 0.267 W/kg at Head. This device should not be co-located or operated with any other antenna or transmitter.

## CAUTION

### Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Nikon Corporation may void the user's authority to operate the equipment.

## Notice for customers in the State of California, U.S.A.

**WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. *Wash hands after handling.*

Nikon Inc.,  
1300 Walt Whitman Road, Melville, New York  
11747-3064, U.S.A.  
Tel.: 631-547-4200

## Notice for customers in Canada


### CAUTION

This class B digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

### ATTENTION

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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## Introduction


Thank you for purchasing a WT-2 or WT-2A wireless transmitter for compatible Nikon digital cameras. The WT-2 is for use only in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Japan, the Netherlands, Portugal, Spain, Sweden, Switzerland, and the United Kingdom. The WT-2A is for use only in Canada and the United States of America. The principal difference between the WT-2 and WT-2A is in the number of channels supported (see pg. 54); unless otherwise stated, all references to the WT-2 also apply to the WT-2A.

This manual describes how to connect the WT-2 and control the camera from a computer running Nikon Capture 4 version 4.2 or later (available separately) or transmit images to a server over a wireless LAN. Before using the WT-2, be sure to read the notices and warnings on pages i–iii.

The following symbols and conventions are used throughout this manual:

 This icon marks cautions, information that should be read before use to prevent damage to the WT-2.

 This icon marks notes, information that should be read before using the device.

 This icon marks tips, additional information that may be helpful when using the WT-2.

 This icon indicates that more information is available elsewhere in this manual.

### Background Knowledge

This manual assumes basic knowledge of ftp servers and wireless local area networks (LAN). For more information on installing, configuring, and using devices in a wireless network, contact the manufacturer or network administrator.

### Life-Long Learning

As part of Nikon's "Life-Long Learning" commitment to ongoing product support and education, continually-updated information is available on-line at the following sites:

- **For users in the U.S.A.:** <http://www.nikonusa.com/>
- **For users in Europe:** <http://www.europe-nikon.com/support>
- **For users in Asia, Oceania, the Middle East, and Africa:** <http://www.nikon-asia.com/>

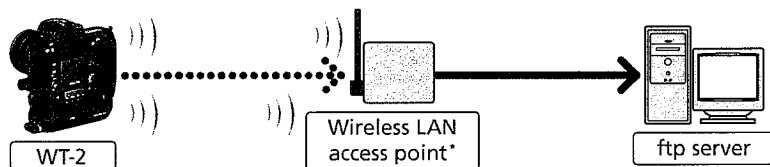
Visit these sites to keep up-to-date with the latest product information, tips, answers to frequently-asked questions (FAQs), and general advice on digital imaging and photography. Additional information may be available from the Nikon representative in your area. See the URL below for contact information:  
<http://nikonimaging.com/>

### Supported Protocols

The WT-2 wireless transmitter is a wireless LAN adapter that allows the camera to be controlled remotely from a computer running Nikon Capture 4 version 4.2 or later (available separately) or photographs to be upload to an ftp server over a wireless LAN. The WT-2 supports the following protocols:

#### ftp (P. 5)

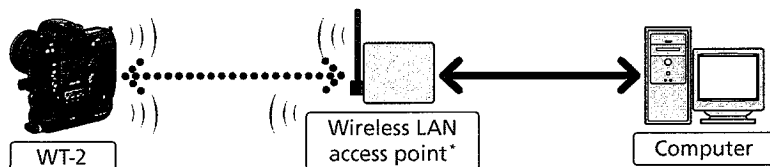
New photographs and photographs stored on the camera memory card can be uploaded to an ftp server via a wireless LAN.



\* Infrastructure mode only; not required in ad-hoc mode (P. 27).

#### PTP/IP (P. 14)

The camera can be controlled from a computer over a wireless network and photographs saved directly to the computer hard disk using Nikon Capture 4 version 4.2 or later (available separately).



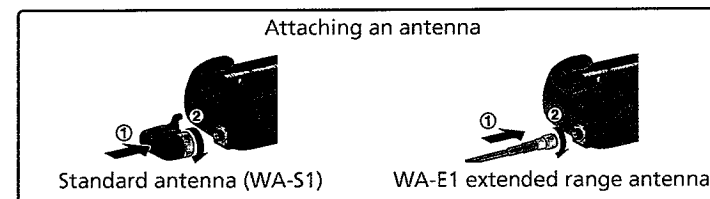
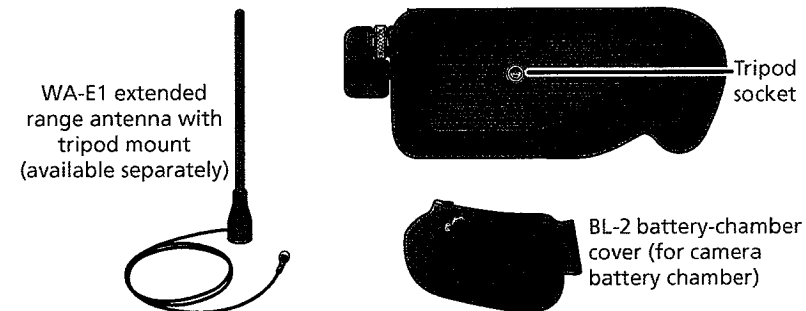
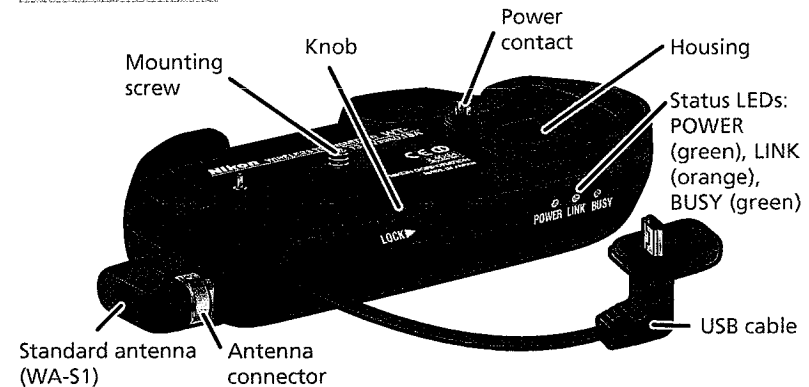
\* Infrastructure mode only; not required in ad-hoc mode (P. 27).

An environment with a wireless LAN is required to use the WT-2. An ftp server is required for ftp. Operation has been confirmed on the following systems:

- **ftp:** Windows Server 2003, Windows 2000 Server, Windows XP Professional, Windows 2000 Professional, Mac OS X Server, Mac OS X. Internet ftp connections and ftp servers running third-party software are not supported.
- **PTP/IP:** Windows XP Professional, Windows XP Home Edition, Mac OS X (version 10.3 or later).

For the latest information on supported operating systems, see the Nikon website for your area (P. 1).

### Parts of the WT-2



#### Reorienting the Antenna

Before reorienting the WA-S1, unscrew it from the antenna connector. When using the WA-E1 (available separately), be careful not to kink or tug the cable.

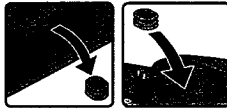
## Setup

### Step 1—Connect the WT-2

1 Turn the camera off.



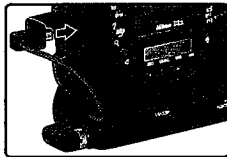
2 Remove the cover protecting the camera power contact. The cover can be stored in the housing on the WT-2.



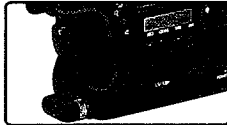
3 Place the camera on the WT-2 and rotate the knob in the direction shown to fasten the WT-2 to the camera tripod mount.



4 Open the camera USB connector cover and connect the USB cable to the USB connector.



5 Pass the cable over the guide on the BL-2 battery-chamber cover.



### Disconnecting the WT-2

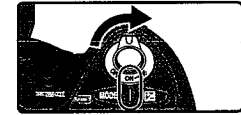
To disconnect the WT-2:

- 1 Turn the camera off.
- 2 Disconnect the USB cable.
- 3 Rotate the knob clockwise to unscrew the WT-2 from the camera tripod mount.
- 4 Replace the cover on the camera power contact.

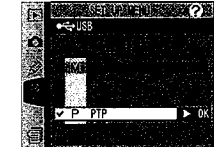
### Step 2—Select PTP

The camera must be in PTP mode to communicate with the WT-2.

1 Turn the camera on.



2 Set the **USB** option in the camera setup menu to **PTP**.



The **Wireless LAN** option in the camera setup menu will now be available. See "Menu Guide" (☞ 24) for details.



## Uploading Images: ftp Mode

In ftp mode, photographs can be uploaded to an ftp server over a wireless network. The principal steps involved in connecting to an ftp server for the first time are as follows:

- 1—Adjusting Settings ..... ☞ 6–8
- 2—Connecting to the Server ..... ☞ 9
- 3—Uploading Images ..... ☞ 10–11

Step 1 can be omitted once the WT-2 has been set up for connection to a particular server.

### Firewalls

ftp mode uses TCP ports 20 and 21. It may be necessary to adjust firewall settings before connecting to a server behind a firewall.

### Setup Using the Connection Wizard

First-time setup can be completed with the help of the Connection Wizard. Before starting the Connection Wizard, make sure that network is active and the destination ftp server is running. To prevent changes to settings from being lost should the camera monitor turn off automatically, use the optional AC adapter or choose the maximum camera monitor off delay.

1 Turn the camera on.



2 Check that **Off** is selected for the **Wireless LAN > Transceiver** option in the camera setup menu (24).



3 Select **FTP** for **Wireless LAN > Mode** (24).



#### Wireless Network Settings

For information on adjusting wireless network settings without using the Connection Wizard, see “Menu Guide” (26–35). See page 25 for information on loading settings files created with a computer.

#### ftp Mode Settings

In addition to the settings made with the Connection Wizard, the following options are available in ftp mode:

Option	Description	
Auto send	Upload photos to server as they are taken.	37
Delete after send?	Delete photos from camera memory card after upload.	37
Send file as:	Send NEF + JPEG images as JPEG only or as NEF and JPEG.	38
Send folder	Upload all photos in selected folder.	38
Deselect all?	Deselect all images selected for upload.	38

6

4 In the top level of the wireless LAN menu, press the **OK** button to start the Connection Wizard. A list of available connections will be displayed. Press the multi selector up or down to highlight the desired connection and press the multi selector to the right to select it.



- 1 Selected connection is marked with **OK** icon.
- 2 Infrastructure connections are marked with **▲** icon, ad-hoc connections with **▼** icon (27).
- 3 SS-ID (not displayed if SS-ID is unavailable).

#### Connection Not Available

If the desired connection is not listed, press the **OK** button to search again. If the connection still can not be found, check settings on the network.

5 Press the **OK** button.



#### SS-ID

If prompted for an SS-ID, press the multi selector to the right and enter the connection SS-ID as described on page 26.



#### Encryption Key

If prompted for an encryption key, press the multi selector to the right and enter a key as described on page 27.

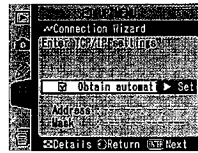


#### Errors

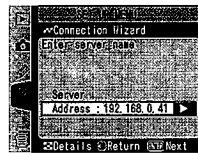
If an error is displayed, press the multi selector to the left to return to the previous dialog and enter a valid value for the affected setting.

7

**6** If the network is configured to supply an IP address automatically by DHCP server or Auto IP (Ⓜ 51), press the multi selector to the right to select **Obtain automatically**. If the network requires a fixed IP address or subnet mask, enter the information supplied by the network administrator (Ⓜ 28). Press the **ENTER** button to proceed to Step 7.



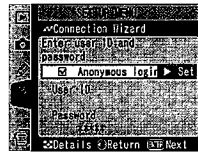
**7** Press the multi selector to the right and enter the server name as described on page 32. Press the **ENTER** button to proceed to Step 8.



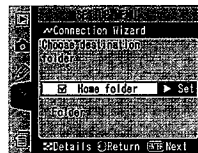
**“UNABLE TO LOCATE SERVER”**

If this error is displayed, press the multi selector to the left to return to Step 6 or 7 and enter a valid IP address and server name.

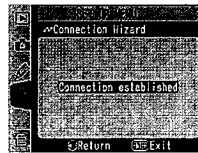
**8** If anonymous login is permitted, press the multi selector to the right to select **Anonymous login**. Otherwise enter a user ID and password as described on page 33. Press the **ENTER** button to proceed to Step 9.



**9** To upload images to the server's home directory (Ⓜ 34), press the multi selector to the right to select **Home folder**. To choose a different folder, enter the folder name as described on page 34. Press the **ENTER** button to proceed to Step 10.



**10** The dialog shown at right is displayed when setup is complete. Press the **ENTER** button to exit the wizard and return to the wireless LAN menu.

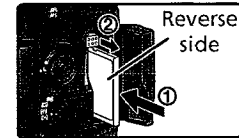


**“WIRELESS ERROR,” “TCP/IP ERROR,” “FTP ERROR”**

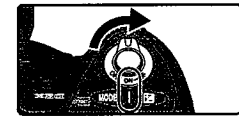
The above errors indicate that the associated wireless network options are set incorrectly. After checking settings for the host or access point, press the **RESET** button to restart the Connection Wizard and adjust camera settings to match. For more information, see “Sample ftp Settings” (Ⓜ 42).

**Connecting to the Server**

**1** Turn the camera off and insert the memory card containing the pictures to be sent.



**2** Turn the camera on.



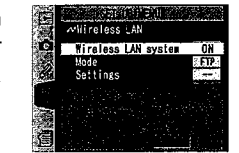
**3** Select **FTP** for the **Wireless LAN > Mode** option in the camera setup menu (Ⓜ 24).



**4** Select **On** for **Wireless LAN > Transceiver** (Ⓜ 24).




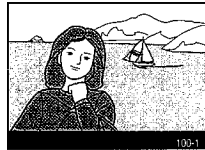
**5** Confirm that “Now in FTP mode” is shown in the top level of the wireless LAN menu. For information on what to do if an error is displayed, see “Troubleshooting” (Ⓜ 50).




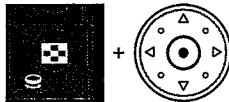


## Uploading Images

1 Press the  button to view pictures on the memory card. Display the first picture to be sent in single-image playback or highlight it in the thumbnail list.



2 Press the center of the multi selector while pressing the  button. The image will be marked with a white "send" icon and transmission will begin immediately. During upload, images are marked with a green "sending" icon. Repeat this process to send additional images (pictures will be sent in the order selected).



Images that have been successfully uploaded are marked with a blue "sent" icon.




### During Upload

Do not remove the memory card from the camera during upload.

### File Names

If the destination folder on the ftp server contains files with the same names as images selected for upload, the files on the server will be replaced by the images uploaded from the camera.


### Loss of Signal

Transmission may be interrupted if the signal is lost ( 13). Transmission can be resumed by turning the camera off and then on again, activating the camera exposure meters, or selecting **On** for **Wireless LAN > Transceiver** once the signal is restored.

### Voice Memos


Voice memos can not be uploaded separately, but will be included when the associated pictures are transmitted.

## Interrupting Transmission

To cancel transmission of images marked with a white "send" icon or green "sending" icon, select the images during playback and press the center of the multi selector while pressing the  button. The icon will be removed. Any of the following actions will also interrupt transmission:

- Turning the camera off
- Choosing **Off** in the **Wireless LAN > Transceiver** menu
- Selecting **Yes** for **Wireless LAN > Settings > Deselect all?**

### The Icon

The status of images selected for upload is indicated during playback by the color of the  icon.

#### White: "Send"

Images that have been selected for upload are marked with a white "send" icon ().




#### Green: "Sending"

During upload, the  icon is displayed in green.



#### Blue: "Sent"

Images that have been uploaded successfully are marked with a blue  icon.




### Turning the Camera Off

"Send" marking will be saved if the camera is turned off or **Off** is selected for **Wireless LAN > Transceiver** while transmission is in progress. Transmission of images marked with a "send" icon will resume when the camera is turned on, the shutter-release button is pressed halfway, or **On** is selected for **Wireless LAN > Transceiver**.

### Resuming Transmission

When transmission resumes, the file that was being transmitted when the interruption occurred will be uploaded under a new name created by adding a number between 1 and 9 in front of the extension (e.g., "DSC\_0001-1.jpg").

### Removing the Icon

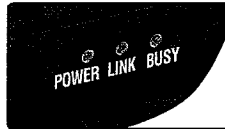
"Send," "sending," and "sent" icons can be removed from all images by selecting **Yes** for **Wireless LAN > Settings > Deselect all?** ( 38).

## Network Status

The status of the link between the server and the WT-2 is shown by the status LEDs and by the display in the top level of the wireless LAN menu.

### The Status LEDs

The **POWER** LED lights when the WT-2 is receiving power from the camera. Signal quality is shown by the **LINK** LED: the faster the LED blinks, the better the signal and the faster data can be transmitted. The **BUSY** LED lights while data are being sent.



Status	POWER	LINK	BUSY
Camera or exposure meters off, or <b>Off</b> selected for <b>Wireless LAN &gt; Transceiver</b>	● (off)	● (off)	● (off)
Connecting to ftp server	○ (on)	○ (on)	● (off)
Waiting to send data	○ (on)	⦿ (blinks)	● (off)
Sending data	○ (on)	⦿ (blinks)	○ (on)
Connection error	⦿ (blinks)	● (off)	● (off)
WT-2 hardware malfunction	⦿ (blinks)	⦿ (blinks)	⦿ (blinks)

## The Status Display

Network status can also be viewed in the top level of the wireless LAN menu.



<b>Status</b>	
The status of the connection between the server and the camera. "Now in FTP mode" is displayed when the camera is connected.	
<b>Now sending</b>	
The name of the file currently being sent.	
<b>Remaining</b>	
The estimated time required to send the remaining images (frames).	
<b>Signal</b>	
A five-level indicator of signal quality.	
<b>Error</b>	
Any errors that prevent the camera from connecting to the server.	