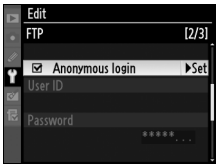
### *FTP Menu, Page 2/3*

**Anonymous login**: Highlight this option and press the multi selector right to toggle it on (☑) or off. Turn this option on for anonymous login, off to enter a user name and password as described below.



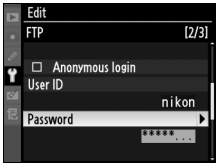

**1** Highlight [User ID].


**2** Display text entry dialog.


**3** Enter user name (pg.153).


**4** Return to ftp menu (2/3).

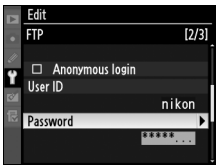

**5** Highlight [Password].




**6** Display text entry dialog.

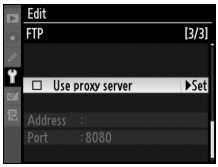

**7** Enter password (pg.153).


**8** Return to ftp menu (2/3). Password is disguised as a row of dots.

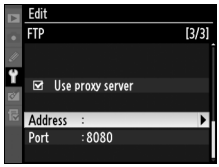



### *FTP Menu, Page 3/3*

**Use proxy server**: Highlight this option and press the multi selector right to toggle it on (☑) or off. If a proxy server is required for ftp, turn this option on and enter an address and port number as described below.



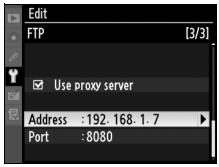

**1** Highlight [Address].



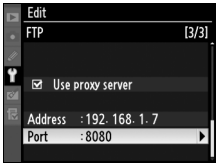

**2** Display text entry dialog.


**3** Enter proxy server address (pg.153).


**4** Return to ftp menu (3/3).

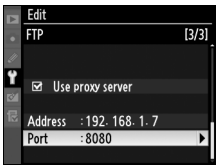
**5** Highlight [Port].




**6** Enter edit mode.


**7** Press multi selector left or right to select, up or down to change.


**8** Return to ftp menu (3/3).

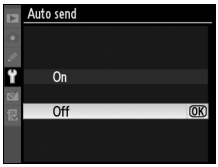
# Transfer settings (Transfer Mode Only)

The following settings are available in transfer mode:



## Auto Send

Choose whether to upload photographs to the server as they are taken.

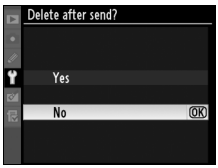



| Option | Description |
|---|---|
| **On** | Photos are uploaded immediately after being recorded to camera memory card.* Be sure memory card is inserted in camera before shooting. |
| **Off** (default) | Photos are not automatically uploaded as they are taken. Photos can be selected for transmission when camera is in playback mode. |

* Pictures will not be uploaded to the server when the WT-4 is turned off. Pictures will instead be marked with a "send" indicator as they are recorded to the memory card.

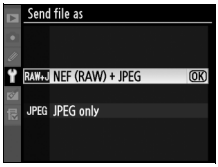
## Delete After Send?

Select [Yes] to delete photographs from the camera memory card automatically once upload is complete (the default option is [No]). Files uploaded before this option was selected are not affected. File deletion will be paused while the images are displayed in menus such as [Delete], [Hide image], [Copy image(s)] (D3 only), [Slide show], [Print set], [White balance] (preset manual), [Retouch], [Choose slot] (D3 only), [Choose folder] (D300 only), and during magnified display or live view shooting. Deletion will re-commence after quitting these menus.



# Send File As

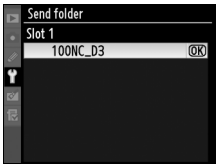
When uploading NEF + JPEG images to an ftp server, choose whether to send both NEF (RAW) and JPEG files or only the JPEG files.




| Option | Description |
|---|---|
| **NEF (RAW) + JPEG** (default) | Upload both NEF (RAW) and JPEG files. JPEG files are sent first. |
| **JPEG only** | Upload JPEG files only. |

# Send Folder

All files in the selected folder (including those already marked as "sent") will be uploaded, beginning when the folder is selected.

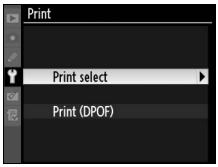



# Deselect All?

Select [Yes] to remove "send," "sending," and "sent" marking from all images on the memory card. Upload of any images marked with a "sending" icon will immediately be terminated.

# Print (Print Mode Only)

Choose a printer from the profile list. Once a connection has been established, photographs can be printed as described in the camera manual. This option is only available when the WT-4 and computer are connected with a USB cable and the WT-4 is on.






**Restrictions to Print Mode**

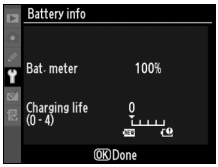
- The WT-4 print mode is not compliant with the printing of RAW and TIFF images. To print RAW and TIFF images, first send them to your computer, then print them using the ViewNX software supplied with your camera, or other separately-sold software such as Capture NX.
- The Index print function cannot be used.
- Pressing the camera's ▶ button will not display the playback screen.

# Device Info

This menu displays the following information about the WT-4. This option is only available when the WT-4 and computer are connected with a USB cable and the WT-4 is on.

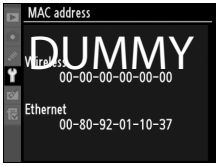
## Battery Info

Displays information on the battery inserted in the WT-4. The [Charging life] display shows battery age; replace [Charging life] reaches [4].




## MAC Address

Shows the MAC address of the WT-4.




## Firmware Version

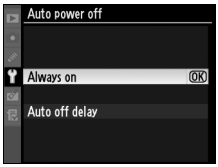
Displays the WT-4 firmware version.

# Device Settings

Format the transmitter's internal memory and choose the delay before the WT-4 turns off automatically. This option is only available when the WT-4 and computer are connected with a USB cable and the WT-4 is on.

## Auto Power Off

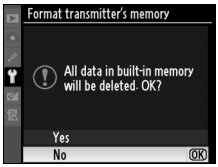
Set the time delay until the WT-4 power automatically turns off after the USB connection between the camera and WT-4 is terminated.




| Option | Description |
|---|---|
| **Off** (default) | The WT-4 does not turn off automatically. |
| **On** | Choose the delay before the WT-4 turns off automatically from 30 seconds, 1 minute, 10 minutes, and 30 minutes. |

## Format Transmitter's Memory

Format transmitter's memory. All images and voice memos stored in internal memory will be deleted.

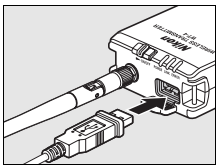


# Appendices

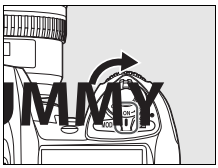
## Creating ftp Profiles Using Camera Menus

In transfer mode, the camera menus can be used in place of the WT-4 Setup Utility to create ftp profiles. Before creating an ftp profile with the camera menus, set the camera [USB] option to [MTP/PTP] and connect the WT-4. To prevent unexpected loss of power, be sure the battery is fully charged or use an optional AC adapter.

**1** Open the WT-4 USB connector cover and connect the USB cable from the WT-4 to the camera USB connector.



**2** Turn the camera on.



**Using the Menus**

If the shutter-release button on the camera is pressed while menus are displayed, the monitor will turn off and any changes to the current profile will be lost.

**Firewalls**

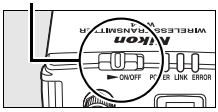
The WT-4 uses TCP ports 20 and 21 for ftp. It may be necessary to adjust firewall settings before connecting to a server behind a firewall.

**Editing Existing ftp Profiles**

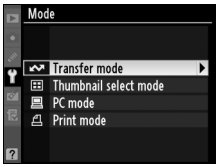
See the Menu Guide for information on using camera menus to edit existing ftp profiles.

**3** Turn on the WT-4.

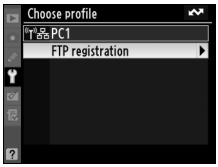
**Power switch**



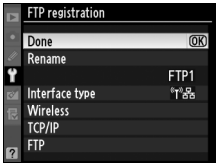

**4** Select [Transfer mode] for [Wireless transmitter] > [Mode] (pg.152).




**5** A profile list will be displayed showing the connections available in transfer mode. Highlight [FTP registration] and press the multi selector to the right. Note a new ftp profile can not be created if the camera already contains nine profiles; if necessary, delete a profile using the 🗑 button.

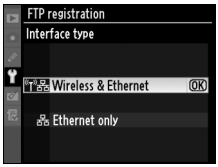



**6** The registration dialog shown at right will be displayed. Press ▲ or ▼ to highlight an option, then press to the right to select. Select [Done] to proceed to Step 5 when settings are complete.



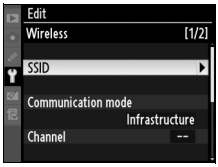

**Rename**: The dialog shown at right will be displayed. Enter a profile name of up to 16 characters as described in "Text Entry" (pg.153) and press the OK button to return to the registration dialog.

**Interface type**: The dialog shown at right will be displayed. Highlight one of the following options and press the ⊛ button to return to the registration dialog.

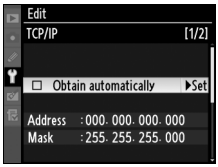



| Option | Description |
|---|---|
| **Wireless & Ethernet** (default) | Connect via wireless and/or Ethernet. |
| **Ethernet only** | Connect via Ethernet only. |

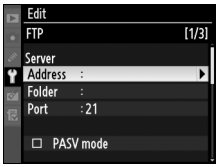
**Wireless**: If [Wireless & Ethernet] is selected for [Interface type], select this option to adjust wireless settings as described in the Menu Guide (pp.154–157). Press ◀ to return to the registration dialog when settings are complete.




**TCP/IP**: Adjust TCP/IP settings as described in the Menu Guide (pp.158–161). Press ◀ to return to the registration dialog when settings are complete.




**FTP**: Adjust ftp settings as described in the Menu Guide (pp.162–168). Press ◀ to return to the registration dialog when settings are complete.




## 7

A confirmation dialog will be displayed. Choose from the following options:

- **Yes**: Open a connection to the new server and return to the top level of the wireless transmitter menu.
- **No**: Return to Step 3 without connecting to the server.

### Errors

An error will be displayed if the new profile does not match server settings. Edit wireless, TCP/IP, and ftp settings as described in the Menu Guide (pg.153).

# Troubleshooting



| Problem | Solution | Page |
|---|---|---|
| "POWER" LED does not light. | • Turn the WT-4 on.<br>• Confirm that the battery is inserted and fully charged. | pg.71, 82, 91, 103, 141<br>pg.8, 172 |
| [Wireless transmitter] option not available. | • Select [MTP/PTP] for [USB] option in camera setup menu.<br>• Confirm that the connection between the WT-4 and camera and turn the WT-4 on. | pg.7<br>pg.70, 81, 90, 102, 140 |
| The [Print], [Device info], and [Device settings] menus cannot be selected. | • Confirm that the connection between the WT-4 and camera and turn the WT-4 on. | pg.70, 81, 90, 102, 140 |
| Excessive radio interference. | Change orientation of antenna. | — |
| All LEDs blink at once. | WT-4 hardware or battery malfunction. Contact a Nikon-authorized service representative. | — |
| Camera displays TCP/IP or FTP error. | • Check settings for host and/or wireless LAN adapter and adjust camera settings appropriately.<br>• Check firewall settings. | pg.54, 65, 123, 134, 153<br>pg.5 |
| Camera displays wireless error. | • Confirm that host and wireless LAN adapter are on.<br>• Ensure that there are no obstacles between WT-4 and wireless LAN adapter.<br>• Check settings for host and/or wireless LAN adapter and adjust camera settings appropriately. | —<br>—<br>pg.54, 65, 123, 134, 153 |
| Camera displays "Ethernet cable is not connected". | Connect Ethernet cable or change interface setting to [Wireless & Ethernet]. | pg.51, 62, 121, 131, 177 |

| Problem | Solution | Page |
|---|---|---|
| Memory card error displayed. | Confirm that memory card is properly inserted. | pg.70, 81, 140 |
| Error displayed stating that no images are available for printing. | Only JPEG images can be printed from the camera. Transfer RAW (NEF) and TIFF images to computer and print them using Capture NX (available separately) or View NX. | — |
| Transfer interrupted before all photographs are sent. | Transfer will resume if camera is turned off and then on again, exposure meters are reactivated, or WT-4 is turned off and then on again. | pg.71, 82, 91, 103, 141 |
| The USB cable was detached during transmission. | Re-insert the USB cable while the camera is on. | — |

# Glossary



**Ad-hoc**: Devices in an ad-hoc wireless network communicate directly ("peer to peer"), without a wireless access point.

**AES (Advanced Encryption Standard)**: An encryption standard developed for use by the American government. AES has been praised for combining strong encryption with rapid processing.

**Auto IP (APIPA—Automatic Private IP Addressing)**: Allows devices in a network to automatically assign themselves unique IP addresses if no DHCP server is found on the network. Auto IP uses addresses from 169.254.1.0 to 169.254.254.255 and a sub-net mask of 255.255.0.0. These addresses are neither global nor private but are reserved for Auto IP.

**BSS-ID (Basic Service Set ID)**: All wireless devices on an ad-hoc wireless network share the same BSS-ID. The BSS-ID may be up to thirty-two characters long and is case sensitive. See also Ad-hoc.

**Channel**: When multiple wireless LANs with different ESS-IDs are operating on a single frequency within a given area, transmission speeds will drop. Specifying a separate channel (frequency) for each network can prevent interference and increase transmission speeds (note that all devices in the same network must be set to the same channel). In the IEEE 802.11a standard, the 5 GHz band is divided into 19 channels, each separated by 20 MHz. In the IEEE 802.11b/g standard, the 2.4 GHz band is divided into 14 channels, each separated by 4 MHz.

**DHCP (Dynamic Host Configuration Protocol) Server**: Each device in a TCP/IP network requires an IP address. If a DHCP server is present on the network, IP addresses will be assigned automatically.

**DNS (Domain Name Server)**: A server that contains a database of IP addresses and host names for the machines it administers and that converts host names to IP addresses in response to queries from clients. Each DNS can also query other Domain Name Servers for addresses not listed in its database.

**ESS-ID (Extended Service Set ID)**: Multiple BSSs can be configured to form an ESS, allowing users to roam between wireless access points. Only devices with the same ESS-ID as a given access point can communicate with that access point. The ESS-ID may be up to thirty-two characters long and is case sensitive.

**Ethernet**: The name given to the IEEE 802.3 LAN standard. Devices in an Ethernet network are connected via UTP cables for transmission speeds of up to 10 Mbps (10 base-T) or 100 Mbps (100 base-TX).

**Gateway**: A network node that acts as an entrance to another network, for example between a company network and the Internet.

**IEEE 802.11a/b/g**: A wireless LAN standard determined by the 802 committee which plans LAN technology standards at the IEEE.

**IIS (Internet Information Services)**: Microsoft's name for its Web server software. Notable for its close connection to Windows-based systems through Active Server Pages (ASPs). When installed as part of the operating system, IIS makes it relatively easy to build web a server.

**Infrastructure**: Devices in an infrastructure network communicate via wireless access points that may be connected to an Ethernet network, allowing wireless and Ethernet devices to coexist on a single network.

**IP address**: The address given to each node in a TCP/IP network. All nodes in a TCP/IP network must have a unique IP address. Private IP addresses are recommended for nodes that are part of a local network.

**Key index**: A number identifying which WEP key is to be used for encryption when communicating via an access point with more than one WEP key. All devices on the network must use the same key index.

**LAN (Local Area Network)**: A network of computers located in relatively close proximity to one another. LANs generally support data transfer speeds of 10–100 Mbps.

**MAC (Media Access Control) Address**: A unique hardware address for each device on a network, required when sending and receiving packets.

**Open system**: The name given to a wireless network using no authentication (open authentication). Open systems are relatively insecure, as a password is not required to gain access to the server.

**PASV mode**: PASV mode is used by clients behind firewalls, when it allows the ftp server to supply the port number.

**Private IP address**: An IP address that is only visible within a local network. Because packets using a private IP address can not be transmitted to another network, they are usually sent between networks via a proxy server or NAT. Private IP addresses in the range 10.0.0.0–10.255.255.255 are termed "class A." Class B addresses are in the range 172.16.0.0–172.31.255.255, class C addresses in the range 192.168.0.0–192.168.255.255. The class of address used depends on the size of the network. Class C addresses are often used for small networks.

**Protocol**: A set of rules for passing information back and forth between devices in a network. By defining such elements of communication as how links are established, how receipt of a signal is acknowledged, how data are encoded, and how to handle errors, a protocol ensures that data are transmitted without loss of information.

**Proxy**: A server that stands between large networks and local networks or computers, typically to ensure security. One element of a firewall.

**PTP-IP (Picture Transfer Protocol over Internet Protocol)**: A commonly used name for the CIPA DC-005-2005 image transfer protocol for transmitting images over LANs. It represents an extension to the Picture Transfer Protocol (PTP) used to transfer images between cameras and computers connected via USB cable. The WT-4 uses PTP-IP to communicate with host computers.

**Shared key**: An authentication system in which WEP keys are used to establish whether a client has access to the network. Communication is restricted to devices with the same WEP key.

**SS-ID (Service Set ID)**: An SS-ID prevents interference between devices in different networks by allowing communication only between devices that share an SS-ID. See *BSS-ID*, *ESS-ID*.

**Sub-net mask**: A mask that divides a network into sub-nets.

**TCP/IP (Transmission Control Protocol/Internet Protocol)**: A dual protocol consisting of a transport-layer protocol (TCP) that divides data into packets which it later reassembles, and a network protocol (IP) that handles transmission of the packets between points in the network. It can be implemented on different platforms, allowing data to be transmitted between machines with different operating systems.

**TKIP (Temporal Key Integrity Protocol)**: An encryption standard using dynamic WPA-PSK keys that change periodically or after a specified amount of data have been transmitted, making it more secure that WEP, which uses fixed keys.

**UDP (User Datagram Protocol)**: A fast but unreliable transport layer transmission protocol using the OSI model.

**USB (Universal Serial Bus)**: A standard for connecting peripheral devices. USB supports data transfer rates of up to 480 Mbps (USB 2.0). Devices connected via USB can be connected and disconnected with the power on ("hot plug") and do not require separate IRQ (interrupt request) numbers, preventing conflicts with other devices.

**WAN (Wide Area Network)**: A network connecting computers or LANs in widely separated locations. The Internet is an example of a WAN.

**WEP (Wired Equivalent Privacy)**: A type of encryption in which the data transmitted between devices is encoded using a shared encryption key (WEP key).

**Wireless LAN access point**: A wireless transceiver that acts as the connection between wireless devices and a wireless network.

**WPA-PSK (WiFi Protected Access with Pre-Shared Key)**: A type of authentication for wireless networks using previously-established (pre-shared) TKIP or AES keys. Wireless devices using this form of authentication can only communicate with devices with the same pre-shared key.

# Specifications



| | | |
|---|---|---|
| **Wireless** | | |
| | **Standards** | IEEE 802.11a (J52/W52/W53)/b/g (standard wireless LAN protocol), ARIB STD-T66, ARIB STD-T71 (standard for low power data communications systems) |
| | **Communications protocols** | IEEE 802.11a/g: OFDM<br>IEEE 802.11b: DBPSK, DQPSK, CCK |
| | **Operating frequency** | 5170–5320 MHz (J52: 4 channels, W52/W53: 8 channels)<br>2412–2472 MHz (13 channels) |
| | **Range (line of sight)** | IEEE802.11a: Approximately 260 m (853 ft.) with large antenna at wireless LAN access point<br>IEEE802.11b/g: Approximately 180 m (590 ft.) with large antenna at wireless LAN access point |
| | **Data rates *** | IEEE 802.11a/g: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps<br>IEEE 802.11b: 1, 2, 5.5, and 11 Mbps |
| | **Security** | TKIP, AES, 128/64-bit (104/40-bit) WEP |
| | **Access protocols** | Infrastructure/ad-hoc |
| **Ethernet** | | |
| | **Standards** | IEEE 802.3u (100 base-TX)/IEEE 802.3 (10 base-T) |
| | **Data rates** | 10/100 Mbps with auto detect |
| | **Port** | 100 base-TX/10 base-T (AUTO-MDIX) |
| **Data transfer protocols** | | PTP-IP, ftp |
| **Power consumption** | | 4.5 W maximum |
| **Power source** | | Rechargeable EN-EL3e Li-ion battery ×1 (available separately), EH-6 AC adapter (available separately) |
| **Operating environment** | | Temperature: 0–40 °C (32–131 °F)<br>Humidity: less than 85% (no condensation) |
| **Weight** | | WT-4: 150 g/5.3 oz. (body only) |
| **Dimensions (W × H × D)** | | 67 mm × 125 mm × 35 mm<br>(2.6 in. × 4.9 in. × 1.4 in.) |

* Maximum logical data rates according to IEEE standard. Actual rates may differ.

### Number of Shots Which Can Be Transferred and Operating Time (Battery Life)

Reference value: The estimated number of shots which can be transferred and estimated operating time (battery life) using a Li-ion rechargeable battery EN-EL3e (1500mAh).

Battery life will differ depending on the charge and usage environment.

- Measurements are conducted in accordance with our company's measurement conditions (normal temperature 23°C (73.4 °F)).
- Indicated values are derived on the basis of our company's test conditions. These values will vary according to shooting conditions, signal condition, and WT-4 settings.

| | Number of shots during continuous uploading | Operating time |
|---|---|---|
| **Wireless LAN (802.11a) uploading** | 4,500 shots | 150 minutes (2.5 hour) |
| **Wireless LAN (802.11g) uploading** | 4,500 shots | 150 minutes (2.5 hour) |
| **Ethernet (100BASETx) uploading** | 10,000 shots | 150 minutes (3.2 hour) |

- When image files at an average size of 3 Mbytes per shot are continuously transmitted.
- The WT-4 should be configured to transfer mode with the network computer (Windows Vista Ultimate).
- The wireless LAN connection method should be set to infrastructure mode.

To ensure maximum battery performance:

- Keep the battery contacts clean. Soiled contacts can reduce battery performance.
- Use batteries immediately after charging. Batteries will lose their charge if left unused.

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