

Nikon

Wireless Transmitter

WT-5

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.



Do not use in the presence of flammable gas

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



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 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.



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.



CD-ROMs

The CD-ROMs on which the software and manuals are distributed should not be played back on audio CD equipment. Playing CD-ROMs on an audio CD player could cause hearing loss or damage the equipment.



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.

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).

This product, which contains encryption software developed in the United States, is controlled by the United States Export Administration Regulations and may not be exported or re-exported to any country to which the United States embargoes goods. As of August 2007 the following countries were subject to embargo: Cuba, Iran, North Korea, Sudan, and Syria.

Notice for Customers in the U.S.A

This device complies with Part 15 of the FCC Rules. Operation 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.

FCC WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radio Frequency Interference Statement

Note: 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/TV technician for help.

Use of 5.15-5.25GHz band

5.15-5.25GHz band is restricted to indoor operations only.

Compliance with FCC requirement 15.407(c)

Data transmission is always initiated by software, which is then passed down through the MAC, through the digital and analog baseband, and finally to the RF chip. Several special packets are initiated by the MAC. These are the only ways the digital baseband portion will turn on the RF transmitter, which it then turns off at the end of the packet. Therefore, the transmitter will be on only while one of the aforementioned packets is being transmitted. In other words, this device automatically discontinues transmission in case of either absence of information to transmit or operational failure.

Co-location

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

FCC/IC RF 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 of 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. WT-5A has been tested and found to comply with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. Please refer to the SAR test report that was uploaded to FCC website.

California proposition 65 under investigation

Notice for Customers in Canada

IC RSS-Gen Statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Use of 5.15-5.25GHz band

5.15-5.25GHz band is restricted to indoor operations only.

FCC/IC RF 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 of 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. WT-5A has been tested and found to comply with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. Please refer to the SAR test report that was uploaded to FCC website.

Compliance with IC requirement RSS-210 Annex9.4(4)

The device shall automatically discontinue transmission in case of absence of information to transmit, or operational failure. A description on how this is done shall accompany the application for equipment certification. Note that this is not intended to prohibit transmission of control or signalling information or the use of repetitive codes where required by the technology.

Notice for Customers in Europe

R&TTE Directive



We, the manufacturer (Nikon Corporation) hereby declare that this Wireless Transmitter (WT-5) is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

AT	BE	BG	CY	CZ	DK
EE	FI	FR	DE	GR	HU
IE	IT	LV	LT	LU	MT
NL	PL	PT	RO	SK	SI
ES	SE	GB	IS	LI	NO
CH					

Outdoor use limited to 10mW eirp within the band 2454-2483.5MHz

Notice for Customers in France

Outdoor use of wireless transceivers is prohibited within the band 2454-2483.5MHz

Symbol for Separate Collection in European Countries

The following apply only to users in European countries:

This symbol indicates that this product is to be collected separately.

- This product is designated for separate collection at an appropriate collection point. Do not dispose of as household waste.
- For more information, contact the retailer or the local authorities in charge of waste management.



Declaration of Conformity

If you want to get a copy of the original DoC of our products which relates to the R&TTE, please contact our web address:

<http://>

We need to decide how to describe DoC.

Notice for Customers in Korea

Contact

Nikon Corporation Korean Branch ;Tentative

Telephone

Website

☐ Caution in use of wireless LAN products

해당 무선설비는 전파혼신 가능성이 있으므로 인명안전과 관련된 서비스는 할 수 없습니다

☐ Information in use of wireless LAN products

B 급 기기 (가정용 방송통신기자재)

이 기기는 가정용(B 급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다.

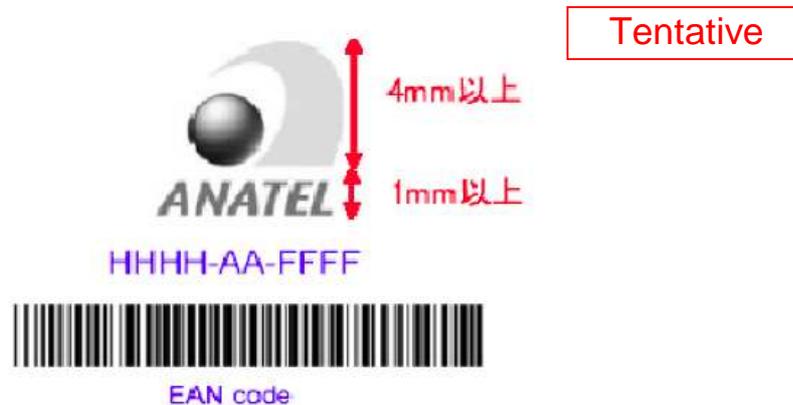
Notice for Customers in Thailand

This telecommunication equipment conforms to NTC technical requirement.

Notice for Customers in Brazil

ANATEL Website

Para consultas, visite: www.anatel.gov.br



● ANATEL Resolution 506 記載要件

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

● ANATEL Resolution 242/2000 記載要件

Este equipamento está homologado pela ANATEL de acordo com os procedimentos regulamentados pela Resolução 242/2000 e atende aos requisitos técnicos aplicados.

Notice for Customers in Taiwan

□ Caution in use of wireless LAN products

第十二條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Notice for Customers in Mexico

☐ Caution in use of wireless LAN products

Este equipo opera a título secundario, consecuentemente, debe aceptar interferencias perjudiciales incluyendo equipos de la misma clase y puede no causar interferencias a sistemas operando a título primario.

Notice for Customers in China

□ Caution in use of wireless LAN products

<2.4GHz>

第十三条

1.

使用频率：2.4 - 2.4835 GHz

等效全向辐射功率(EIRP)：

天线增益 < 10dBi 时：≤100 mW 或≤20 dBm

最大功率谱密度：

天线增益 < 10dBi 时：≤20 dBm / MHz(EIRP)

载频容限：20 ppm

带外发射功率(在 2.4-2.4835GHz 频段以外)

≤-80 dBm / Hz (EIRP)

杂散发射(辐射)功率(对应载波 ± 2.5 倍信道带宽以外)：

≤-36 dBm / 100 kHz (30 - 1000 MHz)

≤-33 dBm / 100 kHz (2.4 - 2.4835 GHz)

≤-40 dBm / 1 MHz (3.4 - 3.53 GHz)

≤-40 dBm / 1 MHz (5.725 - 5.85 GHz)

≤-30 dBm / 1 MHz (其它 1 - 12.75 GHz)

2.不得擅自更改发射频率、加大发射功率(包括额外加装射频功率放大器)，不得擅自外接天线或改用其它发射天线；

3.使用时不得对各种合法的无线电通信业务产生有害干扰；一旦发现有干扰现象时，应立即停止使用，并采取措施消除干扰后方可继续使用；

4.使用微功率无线电设备，必须忍受各种无线电业务的干扰或工业、科学及医疗应用设备的辐射干扰；

5.不得在飞机和机场附近使用。

<5GHz>

第十三条 进口和生产厂商在其产品的说明书或使用手册中，应刊印下述有关内容：

1.标明附件中所规定的技术指标和使用范围，说明所有控制、调整及开关等使用方法；

工作频率范围：5725 - 5850 MHz

发射功率：≤500 mW 和 ≤27 dBm

等效全向辐射功率(EIRP)：≤2 W 和 ≤33 dBm

最大功率谱密度： ≤ 13 dBm / MHz 和 ≤ 19 dBm / MHz (EIRP)
载频容限：20 ppm
带外发射功率(EIRP)： ≤ -80 dBm / Hz (≤ 5725 MHz 或 ≥ 5850 MHz)
杂散发射(辐射)功率： ≤ -36 dBm / 100 kHz (30 ~ 1000 MHz)
 ≤ -40 dBm / 1 MHz (2400 ~ 2483.5 MHz)
 ≤ -40 dBm / 1 MHz (3400 ~ 3530 MHz)
 ≤ -33 dBm / 100 kHz (5725 ~ 5850 MHz)
(注：对应载波 2.5 倍信道带宽以外)
 ≤ -30 dBm / 1 MHz (其它 1 ~ 40 GHz)

2. 不得擅自更改发射频率、加大发射功率(包括额外加装射频功率放大器)，不得擅自外接天线或改用其它发射天线；
3. 使用时不得对各种合法的无线电通信业务产生有害干扰；一旦发现有干扰现象时，应立即停止使用，并采取措施消除干扰后方可继续使用；
4. 使用微功率无线电设备，必须忍受各种无线电业务的干扰或工业、科学及医疗应用设备的辐射干扰；
5. 不得在飞机和机场附近使用。

Warning on use of wireless functions

- ❑ **Any users with implantable cardiac pacemakers should make this product apart from the pacemakers by 30 cm or longer.**

The pacemakers may be influenced by radio waves radiated from this product.

- ❑ **In places where people may be close to one another such as crowded trains, turn off the power of the WT-5 or disable the wireless LAN feature.**

This is because WT-5 may be close to people using medical devices including cardiac pacemakers or hearing aids and have bad influences on the medical devices.

- ❑ **Turn off this product or turn off all wireless communication functions, such as wireless LAN, where medical institutions prohibit use of this product.**

Turn off this product or turn off all wireless communication functions, such as wireless LAN, if a medical device is used nearby, even if use of this product is permitted by a relevant medical institution.

Failure to follow this instruction may have some influences on medical equipment to cause accidents by malfunctions.

For details, contact the medical institutions where this product may be used.

- ❑ **Turn off this product or turn off the wireless communication functions, such as wireless LAN, when use of wireless or electronic devices in aircraft is prohibited.**

This product may have bad influences on electronic devices to cause accidents.

For details, contact airline companies operating aircraft where this product may be used.

- ❑ **If this product induces radio disturbance to other devices during use of some wireless feature, disable the wireless feature or stop using this product.**

Failure to follow this instruction may have some influences on other devices to cause accidents by malfunctions.

Introduction

Thank you for your purchase of the WT-5 Wireless Transmitter for compatible Nikon digital cameras. The WT-5 is for use exclusively in the country of sales; operation in other jurisdictions is not guaranteed. Users who are unsure as to the country of purchase are requested to contact a Nikon-authorized service representative for more information. Please read this manual thoroughly and keep it where all those who use the product can read it.

The principal difference between the WT-5 and WT-5A/B/C/D is in the number of channels supported; unless otherwise stated, all references to the WT-5 also apply to the WT-5A/B/C/D.

The following symbols and conventions are used throughout this manual:

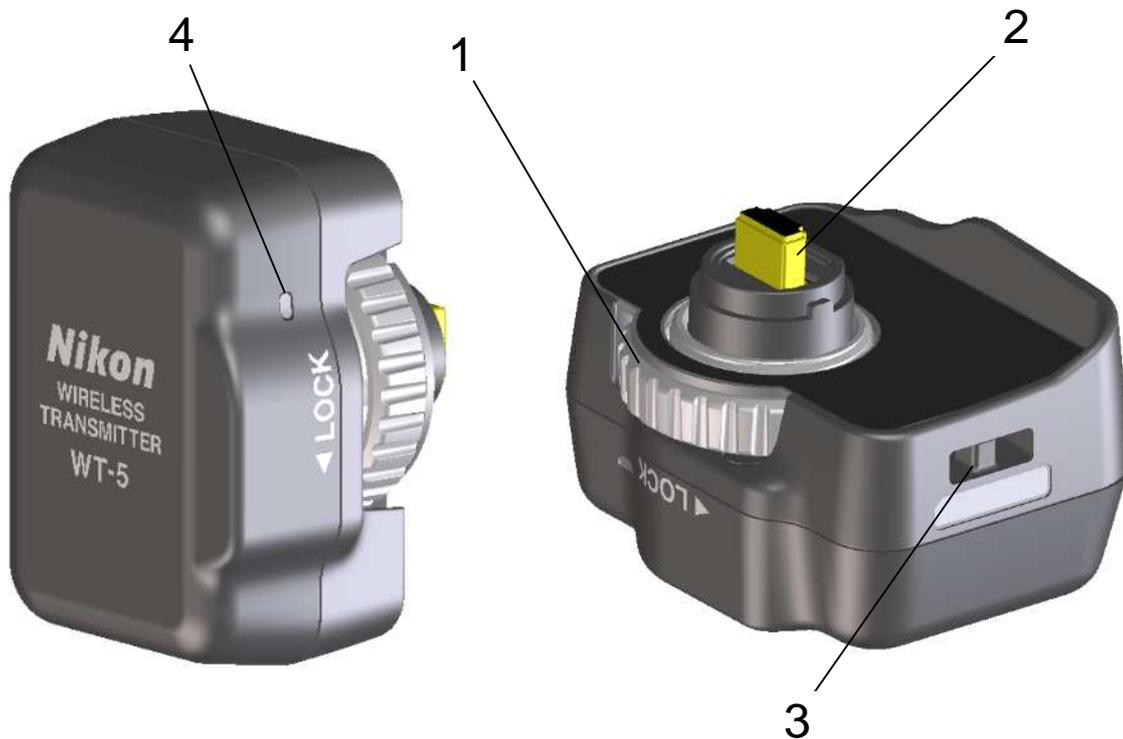


This icon marks cautions, information that should be read before use to prevent damage to the product.



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

Parts of the WT-5



1. Attachment knob
Turn the attachment knob to attach to the camera.
2. Connector for Camera connection
Connect the WT-5 to the camera.
3. Eyelet for strap
You can use the strap through the eyelet for strap in the WT-5.
4. Status LED
Status LED glows green when the WT-5 is connected to the network by infrastructure mode or adhoc mode and ready.
Status LED blinks with green when the WT-5 is accessing PC or FTP server.
Status LED glows orange when the network error has occurred.

Supported Modes

Tentative

The WT-5 connects the camera to wireless and Ethernet networks. Photographs on the camera can then be previewed on the computer or transmitted to an ftp server or printer and the camera controlled remotely from a computer. The WT-5 supports the following modes:

Mode	Host	Description	See
Transfer mode	Computer or FTP server	Upload new or existing photographs to host.	xx
PC mode	Computer	Control camera from computer using optional Camera Control Pro* software.	xx
HTTP mode	Computer	Download new or existing photographs by Web server from camera.	xx
Linked shooting mode	Master camera	With linked shooting, up to 10 slave cameras can be linked in a wireless network to the master camera on which you will release the shutter.	xx

Before data can be transferred over a wireless or Ethernet network, the camera must be supplied with a network profile providing information on the host computer or ftp server.

Workflow Tentative

When using the WT-5 for the first time, follow the steps below to set up the WT-5, install the required software, create a wireless network, and upload pictures to the computer.

1 Set up the WT-5 and install software (pp. xx–xx)..

- 1-1 Preparing the Camera
- 1-2 Preparing the WT-5
- 1-3 Installing Software

2 Configuring the Network (pp. xx–xx).

- See pages pp. xx–xx for information on Windows 7.
- See pages pp. xx–xx for information on Windows Vista.
- See pages pp. xx–xx for information on Windows XP.
- See pages pp. xx–xx for information on Mac OS X.

3 Upload pictures.

Upload pictures to a host computer/ PC Mode/HTTP Mode(pp. xx–xx).

- 3-1 Copying Network Profiles to the Camera
- 3-2 Connecting the WT-5
- 3-3 Uploading Images

Uploading Images to an ftp Server (pp. xx–xx).

- 3-1 Creating an ftp Server
- 3-2 Copying Network Profiles to the Camera
- 3-3 Connecting to the ftp Server
- 3-4 Uploading Images

Connecting the WT-5

Before connecting the WT-5, and confirm that the host computer is running.

- 1** Turn the camera off and insert the memory card containing the pictures to be sent (if the camera is equipped with multiple memory card slots, the card can be inserted into any slot).
- 2** Connect the WT-5 to the Camera and turn the attachment knob to attach to the camera.
- 3** Turn the camera on.

Specifications

Wireless Transmitter WT-5/WT-5A/WT-5B/WT-5C/WT-5D	
Standards	WT-5 / WT-5A / WT-5B / WT-5C: 802.11a/b/g/n, ARIB STD-T66, ARIB STD-T71 WT-5D: 802.11b/g/n, ARIB STD-T66
Communications protocols	IEEE 802.11a/g: OFDM-BPSK, QPSK, 16QAM, 64QAM IEEE 802.11b: DBPSK, DQPSK, CCK IEEE 802.11n-HT20: QPSK, 16QAM IEEE 802.11n-HT40: OFDM-BPSK, QPSK, 16QAM
Operating frequency	WT-5: 5180-5320 MHz (36/40/44/48/52/56/60/64 ch) 5500-5700 MHz(100/104/108/112/116/120/124/ 128/132/136/140 ch) 2412-2472 MHz (1–13 ch) WT-5A: 5180-5240 MHz (36/40/44/48 ch) 5745-5825 MHz (149/153/157/161/165 ch) 2412-2462 MHz (1–11 ch) WT-5B: 5180-5320 MHz (36/40/44/48/52/56/60/64 ch) 2412-2472 MHz (1–13 ch) WT-5C: 5745-5825 MHz (149/153/157/161/165 ch) 2412-2472 MHz (1–13 ch) WT-5D: 2412-2462 MHz (1–11 ch)
Range (line of sight) *	IEEE802.11a: Approximately 200 m (656.2ft.) IEEE802.11b/g: Approximately 250m (820.2 ft.)
Data rates †	IEEE 802.11a/g: 6, 9, 12, 18, 24, 36, 48 and 54 Mbps IEEE 802.11b: 1, 2, 5.5 and 11 Mbps IEEE 802.11n-HT20:6.5, 13, 19.5, 26, 39, 52, 58.5, 72 Mbps IEEE 802.11n-HT40:15, 30, 45, 60, 90, 120, 135, 150 Mbps
Security	TKIP, AES, 128/64-bit (104/40-bit) WEP
WiFi	WPA, WPA2, WPS
Access protocols	Infrastructure/ad-hoc
Power consumption	1.2W Maximum
Operating environment	Temperature: -10–40 °C (14–104 °F) Humidity: less than 85% (no condensation)
Weight	26.5g / 0.93oz.
Dimensions (W × H × D)	41.4mm × 32.0 mm× 29.6 mm (1.66 in. × 1.28 in. × 1.18 in.) (excluding projections)

* With large antenna at wireless LAN access point. Range may vary with signal strength and presence or absence of obstacles.

† Maximum logical data rates according to IEEE standard. Actual rates

may differ.

User's Manual

Wireless Transmitter

WT-5

Ver. 0.13

Feb. 2012

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