



A Guide to Shooting Wirelessly with your D-SLR

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There are times when, much as you love your Nikon camera, you don't want to be anywhere near it... We are, of course, talking about situations where you want to fire the shutter or control your DSLR and even transfer images all from a healthy distance – perhaps when you are photographing wildlife, or if you're shooting an event where you need multiple cameras firing in tandem. Here are the solutions Nikon has to offer.

1. Via infrared signals with the Nikon ML-3 or ML-L3 remote controls

If you're shooting a subject in direct line of sight, you can use either the ML-L3 or ML-3 remotes (depending on your camera), which use a beam of infrared light to trigger the camera. The range on the ML-L3 is around 5m from remote to camera, while the ML-3's range is roughly 8m.

2. Via radio signal with the Nikon Wireless Remote Controller Set and WR-1 remote controller

The Wireless Remote Controller kit includes the WR-R10 transceiver (controller) which is attached to the DSLR and receives signals from the WR-T10 transmitter. Alternatively, you could use multiple WR-1 remote controllers, which are both transmitter and transceiver in one. Because these systems use radio frequencies instead of infrared, you aren't limited to line-of-sight operation. Their ranges are also much greater than infrared options – around 20m for the WR-T10 to the WR-R10, 50m for a transmitting WR-R10 to a transceiving WR-R10, and a whopping 120m for WR-1 to WR-1.

3. Via wi-fi

Your Nikon camera may come with wi-fi built-in, or you could create wi-fi via Nikon's WU-1a or WU-1b Wireless Mobile Adapter and your smartphone or tablet. Alternatively, to send images from the camera to a computer or FTP server, you can use the Nikon WT-4, WT-5, WT-6 or WT-7 wireless transmitters, depending on camera compatibility – the new D5, for example, uses the WT-5 and WT-6 models, while the D500 uses the WT-7.

4. And finally, using the self timer...

Yes, it's old-school and low-fi, rather than wi-fi it can be handy because it's built into your Nikon camera, so you're never without it. It's ideal for group shots where you want to be in the picture, or for long exposures where you want to avoid the risk of shake from pressing the shutter button.

Can my Nikon 1 or COOLPIX go wireless, too?

Wireless isn't just for DSLRs – your Nikon 1 or COOLPIX can join in with these three options:

1. Set the self-timer – Nikon 1 and most COOLPIX cameras have a self-timer built-in.
2. Use the ML-L3 wireless remote control – select Nikon 1 cameras and COOLPIX can utilise the ML-L3. Check your camera manual for details.
3. Use a smartphone or tablet to shoot – again, some Nikon 1 and COOLPIX models are compatible with the WU-1a/WU-1b wireless mobile adapters.

Nikon ML-L3 & ML-3 remote controllers

The ML-L3 is extremely easy to use. Select the remote control mode in the shooting menu, then choose an option, including quick-response remote (where the shutter is released immediately the ML-L3 button is pressed), and delayed response (where the shutter fires 2 seconds after pressing the ML-L3 button). Now you're ready to shoot. Remember that because the ML-L3 uses an infrared beam to make it fire, you need to keep it in line of sight of the camera.

The ML-3 is designed for cameras with a 10-pin terminal – these are mainly higher-end DSLRs, including the D810. Firstly, mount the receiver on the camera's accessory shoe, then insert the

end of the cable into the camera's 10-pin terminal (if you're using a Speedlight on the camera, attach the receiver with the supplied bracket instead). Remember to keep the transmitter in line with the receiver (the receiver will swivel on its mount, which helps) and to keep the receiver's reception sensor away from the sun.

With the ML-3 your options include single shot (denoted S) and continuous (C) shooting. In C shooting you can also use your camera's bulb feature; the shutter stays open for as long as you press the transmission button. Delay/test mode releases the shutter 3 seconds after you depress the transmission button, so you can include yourself in the picture, change positions, or recompose. In auto trigger (A-Trig) mode it can also fire the camera remotely when a subject moves between the transmitter and receiver – making it ideal for wildlife set-ups.

Nikon Wireless Remote Controller kit (WR-R10 + WR-T10 + WR-A10)

The Nikon Wireless Remote Controller system allows you to easily compose a photograph and then take it whenever you want, as well as to start and stop video recording. You can also pair multiple cameras in different locations for multiple angles of the same scene. The WR-R10 transceiver plugs straight into your Nikon DSLR's accessory terminal. If your camera has a 10-pin connector (these are found on higher-end DSLRs, such as the D5 and D500), you'll need to use the kit's WR-A10 adapter.

Setting up and pairing a WR-R10 and WR-T10

Set-up is as simple as 1, 2, 3...

1. Connect the WR-R10 to your DSLR, either via the camera's accessory terminal, or with the WR-A10 adapter.
2. Choose which channel you want to use – 5, 10 or 15.
3. Pair the WR-R10 and WR-T10 by turning on the camera, placing the two remote devices next to each other and pressing their grey pairing buttons simultaneously, until the red and green LEDs on the WR-T10 receiver flash on and off in sequence. The devices are now connected up to a distance of about 20m, and you're ready to shoot. The button on the WR-R10 controller acts just like the shutter release on your Nikon camera; press it halfway for autofocus and all the way to take the picture.

NB You can pair one WR-T10 transmitter with an unlimited number of cameras, provided they

each have a WR-R10 transceiver attached.

Pairing multiple cameras to one master camera

Cameras with a 10-pin connector can be set up to be a 'master' camera, so when you press the shutter button on that camera body, the remote cameras paired to it will all fire simultaneously (up to around 50m away).

Here's how to get pairing:

1. Attach the WR-R10 to the 10-pin connector of the master camera, using the WR-A10 adapter.
2. Set the master camera and remotes to the same channel.
3. Turn on the cameras and press the pairing buttons on the master camera and one of the remote cameras simultaneously, until the red and green LEDs flash in sequence. Repeat this until the master camera is paired with all the remote cameras.

Nikon WR-1 Wireless Remote Controller

The WR-1 wireless remote controller can help you get the best shots, video and time-lapse sequences using one or multiple cameras, when you can't physically be where you want to be – whether that's because you're shooting wildlife in the field or you're in a situation where you aren't allowed to get too close, such as a press conference or sporting event, or even the school play.

The WR-1 easily mounts on the camera's hot shoe and can be angled as required. Once it's in place, attach the appropriate cable to connect the WR-1 to the camera (either the 10-pin connector cable or the accessory terminal cable, depending on which camera you are using – check the camera manual for details).

NB If the flash on your camera can pop up automatically, remember to disable this when you attach the WR-1.

The WR-1 can control other WR-1 units, and it's also compatible with the Wireless Remote Controller kit (the WR-R10 remote control transceiver plus WR-T10 remote control transmitter). It can itself be used either as a transmitter or a receiver, with a range up to 120m; using an additional WR-1 unit in the middle as a relay controller can double this distance. To use the unit as a transmitter, slide the switch to Tx. To set the unit as a receiver, slide the switch to Rx.

When you select Tx or Rx, the display shows the corresponding functions for either receiving or transmitting. Transmitters and receivers must be tuned to the same channel for pairing.

Pairing two WR-1 units

This is a simple, three-step process:

1. To pair units, press the menu button to display the menus, then highlight pairing in the link mode menu and press OK.
2. Repeat for the second unit.
3. Now, placing the units close together, highlight execute on both menus and press OK. The pairing complete message will be in the display and the LED will flash red and green alternately to let you know the units are paired.

Once the units are paired, you can check and adjust camera settings remotely. The shutter-release button on the transmitter performs the same functions as the shutter-release button on the camera: press it halfway to focus and all the way down to take the picture.

With the WR-1, you can simultaneously operate and control up to four camera groups. This could come in handy if you need to keep each group focused on a different subject, such as at a football match where you might want to have one camera's point of view from the goal and another from the halfway line.

Using groups

To create groups, choose A, B, C or D from the display and then pair the cameras in that group. When the transmitter and receivers are paired on the same channel and in the same group, pressing the shutter-release button on the transmitter will simultaneously release the shutters on all the paired cameras. There is also an option to create an ID for each group if you want to name them.

Setting up one WR-1 as a master with multiple remotes

To synchronise the shutters of one or more remote cameras with the shutter on a master camera, attach the WR-1 to the master camera. In master mode, a WR-1 can control up to 20 other cameras, each with WR-1 units attached, or 64 cameras each with an WR-R10 attached.

NB As before, the master camera must have a 10-pin connection. Then pair all WR-1 units to the same channel and/or group (as above) and set the transmitter to sync mode by selecting sync on the multi selector and pressing OK. Now the shutters on all cameras will be released simultaneously.

NB If you want to shoot time-lapse videos with your Nikon DSLR, the WR-1 can also serve as an intervalometer.

Wi-fi with Nikon WU-1a & WU-2a wireless mobile adapters

Whether you use the WU-1a wireless mobile adapter or the WU-1b model depends on which model of camera you're using. Both allow you to take photos then upload them, via the free Wireless Mobile Adapter Utility app on your smartphone or tablet, to your computer, to the web or into an email. The app also lets you access the photos on your camera's media card using your smart device.

You can even use your smartphone or tablet as a remote to shoot photos with – allowing you to get into the shot along with your other subjects, or even to place the camera in a location to capture wildlife while you trigger the shutter from a remote spot far from the animals. And because you are seeing on your smartphone or tablet's LCD screen the same image the camera sees, you can shoot at precisely the right moment.

Step-by-step wireless adapter set-up

Start off by downloading and installing the app (available in both the Apple and Android app stores), then follow these steps:

1. Insert the WU-1a or WU-1b into the camera's accessory terminal port and turn the camera on.
2. Press the button on the WU-1a/WU-1b, holding it down for about 5 seconds, until the LED on the adapter flashes.
3. On your smartphone or tablet, open the wi-fi settings and select the Nikon camera's network from the list of networks available. It will begin with Nikon, followed by a string of letters and numbers. (With Android smartphones, once you initially make this network

connection, your device will automatically connect when you enable the camera's wi-fi in future. For Apple devices, you'll need to perform this step each time you want to use your camera's wireless feature with your smartphone.)

4. Once the connection is established, the LED on the adapter will glow green.
5. Launch the app and select the take pictures remotely option in the app. Live View will start automatically, allowing you to now see what the camera sees. Select view pictures to see the photos stored on the camera's memory card and choose the ones you want to download to your smartphone.
6. When you've finished shooting, turn off the camera and disconnect the WU-1a/WU-1b adapter. If, while shooting, you turn the camera off to conserve battery power, the adapter will also be powered off, but when you turn the camera back on the adapter will turn itself on and automatically re-establish the wi-fi connection. (If it doesn't, simply reselect the Wu-1a/WU-1b device from the device menu in your smart device.)

Using wi-fi enabled Nikon cameras

Select Nikon DSLRs, along with many COOLPIX compact digital cameras and some Nikon 1 models, have wi-fi built-in. This means you can seamlessly transfer images from your camera to a compatible smart device for easy sharing via email, text or uploading to an image-sharing site. And the great thing is that you don't need to be at a wi-fi hotspot: your camera and smart device create the connection themselves.

Here's how to get started:

1. Download and install the free Nikon Wireless Mobile Adapter Utility app.
2. Ensure there is a media card in the camera, and if you're using a COOLPIX, check the battery is charged to at least 50%.
3. Enable the camera's built-in wi-fi. Newer models have an external wi-fi button, while on older cameras you'll need to select wi-fi in the set-up menu.
4. Go to your smart device's wi-fi settings and select the camera's wi-fi network or SSID in the list of networks displayed. (With Android smartphones, once you initially make this network connection, your device will automatically connect when you enable the camera's wi-fi. With Apple devices, you'll have to perform this step each time you want to use the wireless feature of your Nikon camera with your smart device.)
5. Launch the app on your smart device.

NB If you're using a Nikon camera with NFC (near field communication), you can also connect to a compatible Android smart device simply by placing the camera's N mark next to the device: they will automatically connect, launching the app at the same time. If you're an Android user, you also have the option of connecting via push-button WPS (wi-fi protected set-up) or by PIN-entry WPS.

File size & type

Think about the file size/type when you shoot images that are going to be transferred from your camera to a smart device via wi-fi – the bigger the file size, the longer it will take to travel from camera to device. As a rule of thumb, go for JPG rather than NEF (RAW), and if you're shooting images that will only be displayed digitally, JPG Basic/medium or small will probably be a better option than JPG Fine. If you do want to shoot at higher resolution, set up the app (using its settings menu) so it only downloads the recommended size or even smaller VGA size image, while still recording the high-res image to the camera's media card.

Wi-fi with Nikon WT wireless transmitters & UT-1 communication unit

Nikon's WT wireless transmitters enable fast transmission of images – either automatically or by manual selection – direct from your camera to an FTP server or computer, and they also allow you to import IPTC photo metadata into the camera's memory before shooting, so the data is automatically attached to images as they're shot. This saves critical time for editors as well as photographers. They also enable a number of other useful functions, including camera operation from a computer via Camera Control Pro 2, and simultaneous release of multiple remote cameras from one master camera, depending on which WT transmitter you use.

The WT-4 offers wireless LAN for the D4 series. The WT-5 provides wireless LAN for the D4 series and the D5, as well as an optional HTTP server mode, enabling remote shooting and viewing of pictures. The WT-6 and WT-7 enable image-data transfer via high-speed wireless LAN for the D5 and D500 respectively, and both also offer HTTP server mode and FTP upload/camera control.

For photographers using the D4 series, D810/A, D750, D7200 or D7100 cameras, the UT-1 communication unit will provide an ethernet connection going from the camera to a computer or FTP server. In PC mode, you can even shoot from the laptop, providing it's running Camera Control Pro 2 software. For those same cameras, the UT-1 used with the WT-5A will also

enable high-speed image transfer over wireless LAN to a computer or FTP server.

NB The letters A, B, C, D or E after the WT number indicates the number of channels available to the photographer, which varies across the world due to different regulations governing the use of wireless frequencies. The WT-5 and the WT-5A/B/C utilise IEEE 802.11 a/b/g/n while the WT-5D utilises IEEE 802.11 b/g/n.

Connecting the camera and your WT device

1. To set up the WT-5 wireless transmitter for image transfer, in the set-up menu, select network, then highlight choose hardware and navigate to the hardware list.
2. Select WT-5 and press the OK to select the highlighted option and return to the network menu.
3. Navigate to the network connection and select enable.
4. Use the connection wizard to create a network profile: under network settings, select create profile, then highlight the connection wizard and press the right side of the multi-selector pad. Select PC image transfer method, enter a profile name and press OK when done.
5. Use the menu to search for the wireless network and then select it from the menu. If asked, enter the encryption key or password. The green LED will light up as the camera attempts to connect to your wi-fi network. If you enter the password incorrectly, the LED will blink red. Once a wi-fi connection has been made, the LED will blink green.
6. Once connected, the camera will ask if you want the connection wizard to copy the profile to the computer. By choosing yes, it will do this and pair the camera with the computer.
7. Finally, connect the camera to the computer via USB. The camera will prompt you to start the wireless transmitter utility on your computer: do so. When complete, remove the USB cable.

You're now set up to transfer images to your computer wirelessly. To upload new photographs automatically as they are taken, select on for network > options > auto send in the setup menu. You can choose to send both RAW or JPEGs or send JPEG only, and you can also start and stop video wirelessly. More options can be found in the camera's options menu under network.

NB The image transfer method creates a folder on your computer inside your pictures folder – don't rename it.

Connecting the camera to your network via HTTP mode

In HTTP mode, you can use a web browser on your computer or mobile device to view and download images and movies remotely, and you can also control your camera to take pictures or start/stop movies.

Here's how to get started:

1. In network settings select create profile, use the connection wizard, then select HTTP Server.
2. On the camera, select network and note the icons on the camera's back screen.
3. A green box will surround the network profile name indicating a good network connection (it will be red if there is a problem connecting). Also note the small network icon; it will be a wi-fi antenna bar or a small computer network icon.
4. Note the camera's web address or IP address. Type this into your computer or mobile device.
5. Enter the username and password (the default setting is nikon as the username, with no password).

Connecting the camera to an FTP server

This type of connection allows you to upload existing photos and movies to a computer set up as a FTP server. You can also use it to control the camera using Nikon's Camera Control Pro 2 software.

To set up:

1. To create an FTP profile, select the connection wizard, select FTP upload, and enter the name you choose for this network profile.
2. Then search for the wireless network, select the SSID or network name, and enter the encryption key or password. Choose obtain IP Address automatically and click OK.
3. Fill in the menu items for the server type, either FTP or SFTP.
4. Enter the FTP server address.
5. Choose your login method for the FTP server – either anonymous or user ID.
6. Enter the FTP username and password provided by your network administrator.
7. Enter the folder name and port number provided by your network administrator.
8. Choose the destination folder, which is usually the home folder, and you can start shooting. Images will download to the FTP server automatically.

If you want to boost your wireless photography knowledge and skills, why not book a bespoke Nikon One To One workshop, tailor-made to your requirements? Find out more [here](#).

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