

Exploring the world of Canon EOS photography

# EOS magazine

from July-September 2009



Wireless world  
Communication  
without cables

# Wireless world

**Canon's wireless file transmitters are clever accessories that can send photos straight from your camera to your computer. Andrew Gibson explains how they can be used and how to set them up.**



ANDREW GIBSON



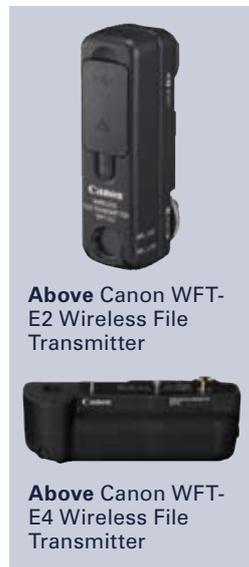
Over recent the years wireless technology has been cropping up throughout our lives with increasing frequency. From remote controls to Bluetooth, to laptop computers, it seems that wires are becoming a thing of the past.

Canon's Wireless File Transmitters bring wireless technology to EOS digital cameras. It's no longer necessary to connect your camera to your computer via a USB cable to download photos. Computers can even be bypassed altogether and photos uploaded directly to an FTP server from your camera.

The Wireless File Transmitter also works with Canon EOS Utility software, establishing two-way communication between the camera and computer. The camera's settings can be changed from the computer, and photos downloaded as they're taken. This is similar to tethered shooting, except that the Wireless File Transmitter does away with the need for a USB cable.

With wireless technology, studio photographers can take photos and send them to a computer in another room. Event

**Above** A Canon EOS 50D with the WFT-E3 Wireless File Transmitter and a Sony Vaio computer.



**Above** Canon WFT-E2 Wireless File Transmitter



**Above** Canon WFT-E4 Wireless File Transmitter

and sports photographers can send photos directly to their picture desk's FTP server. At home, a camera can be set up outside for night or time lapse photography, while the photographer controls the camera from the comfort of the home.

The Wireless File Transmitters for the EOS 40D, 50D and 5D Mark II screw into the bottom of the camera, and also function as vertical grips. Transmitters for the 1D Mark III and 1Ds Mark III are much smaller and attach neatly to the side of the camera.

Wireless is a developing technology, and looks set to become a bigger part of the photographer's life. Will the technology ever be built into a Canon camera? At the moment that looks unlikely, partly because the technology is expensive, but also because the current wireless standards (802.11b and 802.11g) are in the process of being superseded by the newer 802.11n standard. Future units will have to be compatible with whatever becomes the standard wireless protocol of the day.

# Wireless networks

To send photos using the Wireless File Transmitter, you first need a wireless network. There are two types of wireless network: an infrastructure network and an ad hoc network.

## Infrastructure network

This is where one or more computers (or other wireless devices) are connected to the internet – and each other – via a wireless router. This type of network is used at home or in an office or studio environment. Using a wireless router boosts the range of the network and the distance over which the transmitter can send files.

## Ad hoc network

This network is a single connection between two wireless devices, in this case, a computer and a Wireless File Transmitter. No wireless router is needed because the wireless network is created by the computer. This type of network is useful outside or in an environment where there's no available infrastructure network. If the computer is also connected to the internet, the transmitter can send photos to someone else's FTP server.

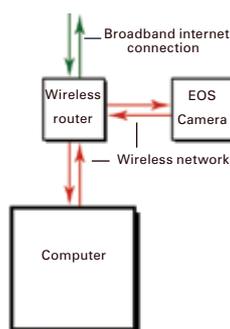
## More about networks

The range of the network depends on many factors, including whether it's located inside or outside, the strength of the computer's wireless card (if it's an ad hoc connection), and the layout of the building if it's inside. Canon states the transmitter's range as 150 metres. Transmission speed also depends on environmental factors, and increases when the Wireless File Transmitter is moved closer to the wireless router or computer that it's connected to.

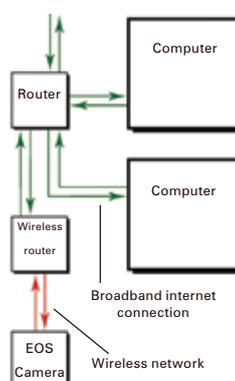
A PC running Vista or XP using the PTP communication mode can connect with either an infrastructure or ad hoc network. However, if you are using a Mac computer, the only way to connect using the PTP communication mode is with an ad hoc network (see page 4 for a full explanation of communication modes).

## Before networking...

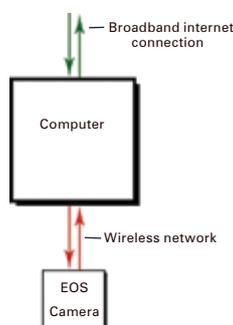
Before you attempt to set up either an infrastructure network or an ad hoc network, don't forget to check if your computer is able to connect to wireless networks. Most new laptops and Apple Mac computers can. Most PCs can't. If your computer isn't wireless enabled you'll need to buy a wireless modem or card.



**Above** A simple infrastructure wireless network. The EOS camera and Wireless File Transmitter communicate with a computer through a wireless router.



**Above** A more complex infrastructure network. Several computers and a wireless router are connected to a router. The EOS camera and Wireless File Transmitter connect to the network via the wireless router.



**Above** An ad hoc wireless network. The camera and Wireless File Transmitter communicate with the computer via a network created using the computer's wireless card.

## Setting up an infrastructure network

The internet is brought to your home, office or studio through a cable and distributed to where it's needed. At home this is typically to either one or two computers, or to a wireless router. In an office or studio it's usual to see a more complex network that uses routers to distribute the internet to anything up to hundreds of computers.

- **If you already have a wireless network**

If you already have wireless internet at home or at work, there's no need to do anything more as an infrastructure network is already present. All that remains is to connect to it with the Wireless File Transmitter and computer.

- **Not sure if you've got a wireless network**

If you're not sure whether you have wireless internet, the easiest way to check is to use a wireless enabled laptop to search for wireless networks. If the laptop detects a network, see if you can make a connection. Some wireless networks will ask for a password, which you will need to know before you can gain access.

- **Setting up a wireless router**

Setting up a wireless router is normally quite easy. If you have just one cable that comes into your home or workplace and connects directly to a computer, unplug this wire from the computer and insert it into the wireless router instead (refer to the router's instruction manual for details). Switch the router on and it will start broadcasting a wireless network.

If the network is more complex, you'll need a spare Ethernet cable, one end of which connects to the wireless router and the other into a spare outlet on one of the network's routers (usually these are blue boxes with outlets for Ethernet cables). We recommend setting up the network without security to begin with (which is the default setting on most wireless routers), as it's one less thing to troubleshoot if you can't connect with the Wireless File Transmitter.

# Users' guide – Ad hoc networks

## Ad hoc networks

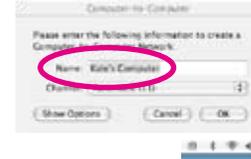
Setting up an ad hoc network is a little more complex. The advantage is that it cuts out the need for a wireless router and a broadband internet connection.

The instructions for setting up an Ad Hoc network with Windows XP, Windows Vista and the Mac OS C appear on page 11 of this guide.

## Create an ad hoc network with a Mac

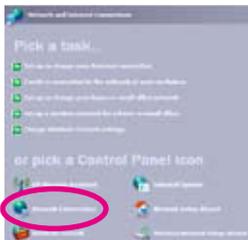


1. Make sure the Airport is on and go to Create Network...



2. Type in a name for the network and press OK. The network will start broadcasting, and the icon on the menu bar will change.

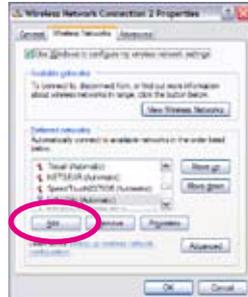
## Create an ad hoc network with XP



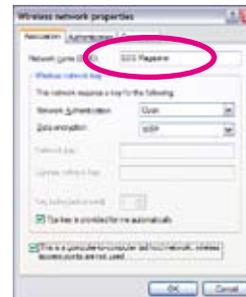
1. Go to the Control panel and click on Network Connections.



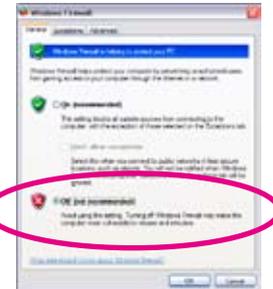
2. Right click your active Wireless Network Connection and choose Properties.



3. Click the Add button.

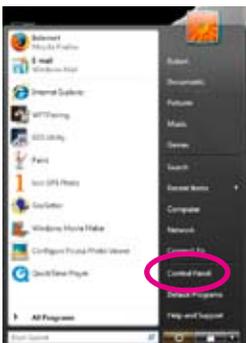


4. Type a name for your network, tick the bottom box and click OK.

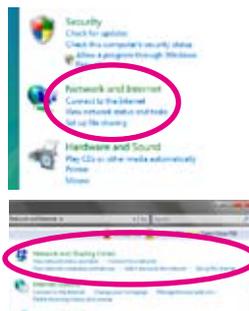


5. Turn the Windows firewall off. The firewall is also accessed from the Control panel. The Ad Hoc network can now be seen by the Wireless File Transmitter.

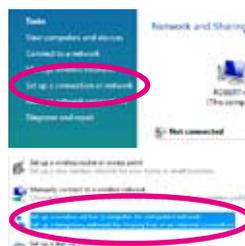
## Create an ad hoc network with Vista



1. Open the Control Panel.



2. Click on Network and internet, then on Network and Sharing Center.



3. Click Set up a connection or network and select Set up a wireless ad hoc (computer-to-computer) network and click Next, then Next again on the next screen.



4. Type in a network name and select Security type (we chose no security for simplicity). A confirmation screen appears when the network's created. Click Close. The ad hoc network is ready.

# Setting up a wireless connection

## Communication modes

Wireless networks use three protocols to communicate. Canon Wireless File Transmitters give the user a choice of three communication modes for transferring files – each one utilising a different protocol. The table below explains which communication modes you should use for specific tasks.

### FTP (pages 6-9)

File Transfer Protocol (FTP) is for uploading photos directly to an FTP server, either one that you've created on your own computer or one that belongs to a picture desk or magazine. The upload is handled automatically by the Wireless File Transmitter, which queues the photos, resuming the upload upon reconnection if the connection is broken. FTP is the fastest and most reliable file transfer method.

### HTTP (page 10)

Hypertext Transfer Protocol (HTTP) mode gives the camera a unique Internet Protocol (IP) address on a local area network (LAN). This means that up to three users can browse the camera's memory card by typing the camera's IP address into the address bar of an internet browser such as Safari or Firefox. The users have to be connected to the same local area network as the camera.

### PTP (pages 10-11)

The Picture Transfer Protocol (PTP) was developed to allow cameras and computers to communicate wirelessly. It establishes a

two-way connection between the camera and computer. The camera can be controlled remotely from the computer using EOS Utility. Photos are uploaded to the computer as they are taken and stored in a folder of the photographer's choice. Using PTP is like tethering the camera to the computer with a USB cable, but without wires.

## Connection guide

On the next few pages we'll show you how to connect wirelessly using the FTP, HTTP and PTP modes (the article published in July-September 2009 issue of EOS magazine only had instructions for connecting with the PTP mode due to space restrictions).

## When things go wrong

It's impossible for us to cover every eventuality in our instructions, as wireless networks and computers can be configured in a multitude of different ways. Many factors can effect the set up of a wireless network, including the computer model, operating system, the internal configuration of wireless routers and the number of computers on a particular network.

For these reasons, setting it up can be problematic. If you do hit a snag, for computer or operating system related problems we recommend that you contact the manufacturer's support service. For problems specific to the camera or Wireless File Transmitter, contact the Canon Support Centre on 00 800 22666 767 (toll-free) or 0844 369 0100 (chargeable at standard rates).

I want to...			
Control my camera remotely using EOS Utility.	Upload photos to my computer as I'm taking them.	Upload photos to someone else's FTP server.	Let several users on a local network see the photos on my camera's memory card and download them.
You need connection mode...			
PTP	PTP or FTP	FTP	HTTP

## Virtual keyboard

There are times when you will be asked to enter information into the camera using the virtual keyboard. To type something in, switch to the keyboard (the appropriate button for this is shown on the screen). Use the Quick Mode dial to select a character, the Set button to enter it, and the Erase button to delete characters. Press the Menu button when you've finished to save the changes.



# Users' guide - Create an FTP server on a Mac

File Transfer Protocol (FTP) is used to upload photos or other files to an FTP server. The FTP server can be either one that has been created on the photographer's computer, or one that belongs to someone else, such as the picture desk of a newspaper or agency.

Transmitting photos to someone else's server can be done without involving the photographer's

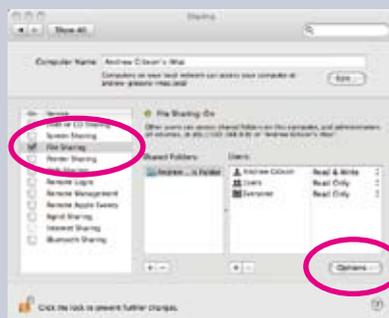
computer at all. All that's required is an infrastructure wireless network that the Wireless File Transmitter can connect to.

Setting up an FTP server on a personal computer is a little complex and is only possible if the operating system allows it. It can be done on a Mac with OS X 10.4 or later, or on a PC with Windows XP Professional, Windows 2000 or Windows Vista

## Create an FTP server on a Mac



1. Open System Preferences and click on Sharing.



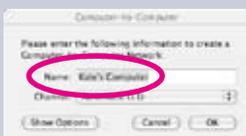
2. Check the File Sharing box and click Options.



3. Check the Share files and folders using FTP option and the Account name box and click Done.



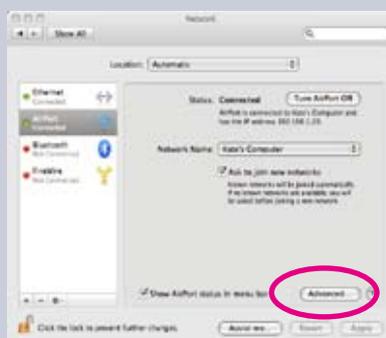
4. Now, create an ad hoc network. Make sure the Airport is on and go to Create Network...



5. Type in a name for the network and press OK. The network will start broadcasting, and the icon on the menu bar will change.



6. Go back to System Preferences and click Network.



7. Click the Advanced button.

(Business, Enterprise and Ultimate Editions).

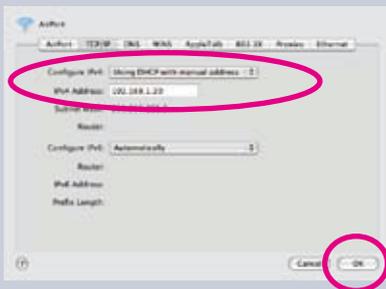
Windows users with XP Home Edition or Windows Vista Home Basic Edition or Home Premium Edition can't create FTP servers on their computer.

We've provided instructions below on how to create an FTP server on a Mac.

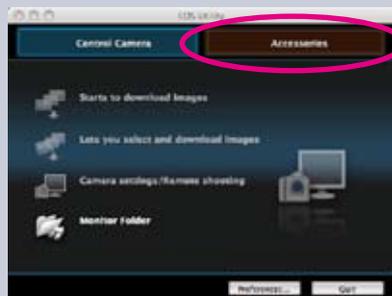
Once established, the connection is very stable. If it drops for any reason, the files to be transferred

will be queued, and upload will continue when reconnected.

You can set the camera to transmit images as they're taken, and continue to shoot while the images are being transmitted. It's also possible to choose the size and type of photos to be transferred, transfer images individually, batch transfer and add captions to transferred images.



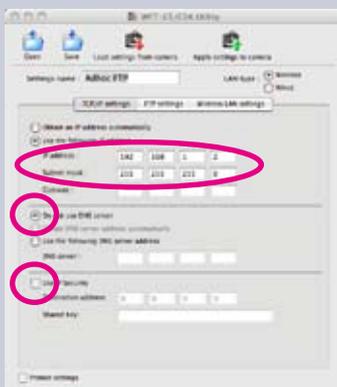
8. Select Using DHCP with manual address from the Configure IPv4 drop down menu and enter the IP address 192.168.1.20 into the IPv4 Address box. Then click OK and Apply.



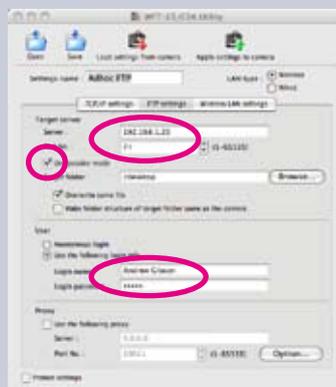
9. Open EOS Utility and click the Accessories button.



10. Click WFT Utility and select your unit from the list that appears.



11. Enter the following under the TCP/IP settings tab: IP address: 192.168.1.2, Subnet mask: 255.255.255.0, check Do not use DNS server and make sure Use IP Security is unchecked.



12. Under FTP settings enter 192.168.1.20 for the server, 21 for the Port No and check Use passive mode. Then check Use the following login info and enter your computer's Login name and password (to find your computer's Login name go to System Preferences and select Accounts, the User Name is the Login name and your password is the admin password you use when doing things like installing new software). To test the FTP server, click the Browse button and if it's working, it will let you choose a folder for uploading files to.



13. Go to the Wireless LAN settings tab and enter the name of the ad hoc network created in step 5, check ad hoc 11g and choose your wireless file transmitter model and channel 11 from the drop down menus. Check None under encryption. Then click Apply settings to camera and save the settings as Set 1.

# Users' Guide – Connect to an FTP server

## FTP transfer

Canon's wireless file transmitter can be used to transmit files through a wireless network to an FTP server. A broadband internet connection is required, as well as the username, password and server name or IP address of the FTP server.



1. Start the Connection wizard and select FTP on the first screen.



2. Select wireless.



3. Select your wireless network (either ad hoc or infrastructure).



4. Select Auto setting.



5. The FTP server settings come up. Choose Address setting, then change the IP address that comes up on the next screen to the IP address of the FTP account (see our box on how to use the virtual keyboard for instructions).



6. The port number can be left at 00021 in most cases.



7. Select Disable.



8. Select Login password and enter the login name and password with the virtual keyboard.



9. Choose Root folder to upload photos directly to the server or Select folder to choose another folder.



10. A message will appear confirming the connection. Press OK and assign a set to the connection on the following screen.

## Setting captions

Create captions for photos using the the following steps. To start, attach the wireless transmitter to the camera, then attach the camera to a computer with EOS Utility installed using the camera's USB cable.



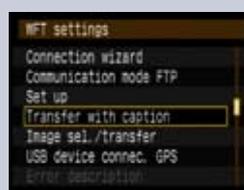
1. Select Camera settings/Remote shooting.



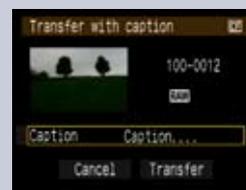
2. Select the [xx] tab then WFT captions.



3. Type captions and press Apply to camera to upload them to the camera. Press Load settings to download captions already stored in the camera. Make a note of the captions entered because you won't be able to see them in the camera.



4. Select an image using the play button, then select Transfer with caption from the WFT settings menu.



5. The last image you looked at appears. Click caption to assign a caption number to the photo, then press Transfer to transmit it to the FTP account that the camera's connected to.

## File Types/Sizes



1. Go to the WFT settings > Set up menu and select Transfer type/size.



2. Choose the file sizes and or types that you want to transfer. (will this transfer all files on the card or just new ones?)

## Automatic Image Transfer



1. Go to the WFT settings > Set up menu and select Automatic transfer.



2. Select enable. Now, whenever you take a photo it will be automatically transmitted to the FTP account that the camera's connected to.



3. To transfer individual images, go to the WFT settings > Set up menu and set Transfer with SET to enable. Use the Play button to view images on the camera's LCD screen. Press the Set button to transmit the image you're looking at to the FTP account that the camera's connected to.

## Image Transfer History



1. Go to the WFT settings menu and select Image sel./transfer. This screen gives you the transfer history so far. Select Sel. Image to see the status of a specific image.



2. The icon in the top left corner of the image indicates the transfer status:  
No icon - image not selected for transfer.  
Tick - image selected for transfer.  
Cross - image couldn't be transferred.  
Circle - image successfully transferred.

## Batch Transfer - Method One



1. Go to the WFT settings menu and select Image sel./transfer. Select Sel. Image.



2. You will now see your photos on the LCD screen. Use the Quick dial wheel to navigate and press Set to mark an image for transfer, again using the Quick dial to tick the box.

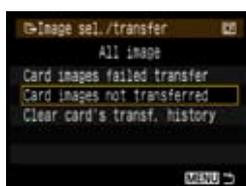


3. Press the Menu button when you're done selecting images and then Transfer to transmit the chosen images to the FTP account that the camera's connected to. Press OK on the next screen and a progress report will come up.

## Batch Transfer - Method Two



1. Go to the WFT settings menu and select Image sel./transfer. Select All image.



2. Select the option you need.



3. Select Transfer to start the file transmission process.

# Users' guide - Connect with HTTP

Using HTTP communication mode lets up to three users connect to the camera at any one time and download images to their computer. The computers all need to be connected to

the same wireless network as the camera for this to work. The camera is accessed by typing the its IP address into a browser such as Internet Explorer, Firefox or Safari.



1. Go to Communication mode on the WFT settings menu and select HTTP.



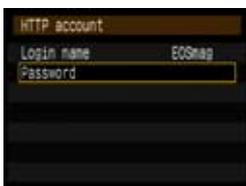
2. Select Set up from the WFT settings menu.



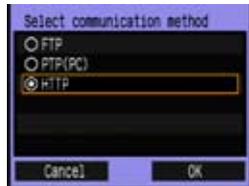
3. Select HTTP account.



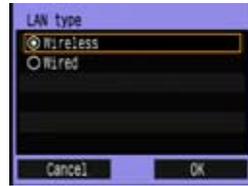
4. Select a User number.



5. Create a Login name and Password using the virtual keyboard.



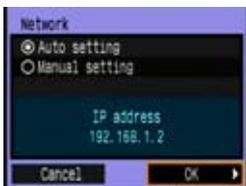
6. Go to the WTF settings menu and choose HTTP for the communication method.



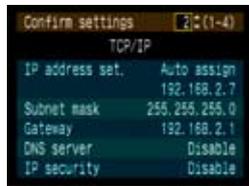
7. Select wireless.



8. Select your network. Connect to an infrastructure network so that all the computers using that network can access the camera.



9. Select Auto setting, then press OK on the following screen to accept the Set.



10. Find your camera's IP address by going to WTF settings > Set up > Confirm settings and scrolling down until you see it. Make a note of it.



11. Type the IP address into your browser in the following format: http://192.168.2.7. Enter the Login name and password that you created earlier. You have access to the camera when you see the above screen.



12. Click on the 'Viewer' button to see the memory card's contents. Click on the folder icons to see the photos inside. Photos can be downloaded to your computer by clicking on them to see the full size version and then saving them in the normal way.

## PC/Mac



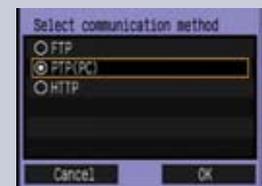
1 Set Auto power off to Off.



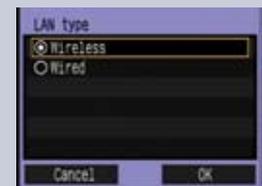
2 Select WFT settings from the menu.



3 Select Connection wizard.

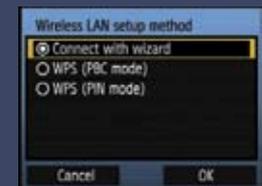


4 Select PTP(PC)



5 Select Wireless.

Now follow the appropriate PC or Mac instructions on the opposite page.



**EOS 50D/5D Mk II**  
The menu system on the EOS 50D and 5D Mark II has an extra step. When you arrive at the screen shown above right, choose Connect with wizard.

# How to connect with PTP

Follow these steps to connect an EOS camera fitted with a Wireless File Transmitter to a computer. The first five steps are the same for both PC and Mac. PC instructions continue below left (and are the same for both XP and Vista). Mac OS X instructions continue below right. You'll need the latest versions of EOS Utility and the WFT Utility, which can be downloaded from <http://software.canon-europe.com>.

## PC



**6** Select your wireless network (use the Quick mode dial to select the wireless network box and Set to select the network) and press OK.



**7** Select Auto setting.



**8** Press OK on the next screen. A message will appear to say that the device is pairing.



**9** Start the WFT Pairing on your PC or laptop. It can be found in the EOS Utility folder, which is in the Canon Utilities folder. Allow Windows to change the firewall settings if asked.



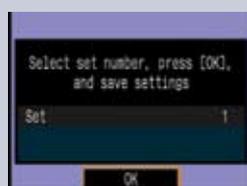
**10** The message, 'Start pairing devices' will appear on the camera menu. Press OK.



**11** Wait until the message, 'EOS cameras detected on network' appears, then click the WFT pairing icon. Select your camera and click Connect.

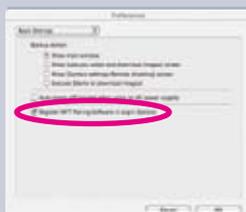


**12** A message will appear on the camera menu to say that the PC has been found. Press OK.



**13** For now, go with the default Set 1 and press OK. The camera is now connected. EOS Utility starts on the PC and the Direct Transfer menu appears on the camera. The transmitter's green light stops flashing to indicate connectivity.

## Mac

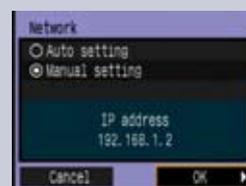


Connecting to a Mac using PTP mode is a little more complex. It will only work with an ad hoc network and the IP address has to be entered manually. Also, due to a conflict between EOS Utility and the Mac OS X, a wireless PTP connection is not possible on a Mac installed with the Leopard operating system 10.5.6 or 10.5.7 (although it is possible to connect using an Ethernet cable between the Wireless File Transmitter and computer. Alternatively, you will have connect via FTP or HTTP modes as detailed on our website.)

Before you start, open EOS Utility, go to the preferences and tick the box that says 'Register WFT Pairing Software in Login Options'. This ensures that the connection icons appear in the menu bar.



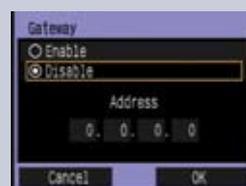
**6** Select Connect to an Ad hoc (computer to computer network).



**7** Choose manual setting.



**8** Enter the IP address and Subnet mask using the figures above.



**9** Choose Disable on the next screen.



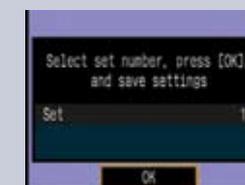
**10** Look for the above message on the toolbar. Click on the window or the connection icon when you see it, then click Select Camera.



**11** Choose your camera and click Connect.



**12** Wait until a message like this message appears on the camera menu (it will have the name of your computer) and click OK.



**13** For now, go with the default Set 1 and press OK. The camera is now connected. EOS Utility starts on the computer and the Direct Transfer menu appears on the camera. The transmitter's green light stops flashing when connection has been made.