SONY

FTP Help Guide

ILCE-9/ILCE-9M2/ILCE-7M3/ILCE-7RM3/ILCE-7RM3A/ILCE-7RM4/ILCE-7RM4A/ILCE-7C

This guide explains how to transfer images to an FTP server.

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About LAN connection

You can communicate with an FTP server by connecting the camera to a network via a commercially available LAN cable (only if the model supports wired LAN) or wireless LAN. You can then transfer images to the FTP server by operating the camera.

Note

- The wireless access point or wireless router that relays the LAN connection is referred to as the “access point” in this manual.
- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- For details on the camera’s operations, see the “Help Guide” for the camera.
- If your camera is lost or stolen, Sony bears no responsibility for the loss or damage caused by illegal access or use of the registered access point on the camera.
- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN. If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

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Setting up a wireless LAN: WPS Push

If your access point has a Wi-Fi Protected Setup™ (WPS) button, you can register the access point to the camera easily.

1. **MENU → (Network) → [Wi-Fi Settings] → [WPS Push].**
2. **Push the Wi-Fi Protected Setup (WPS) button on the access point to connect.**

Note

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be possible or the communication distance may be shorter depending on the surrounding conditions, such as the type of wall material and the presence of obstructions or radio waves between the camera and access point.
  In this case, change the location of the camera or move the camera closer to the access point.

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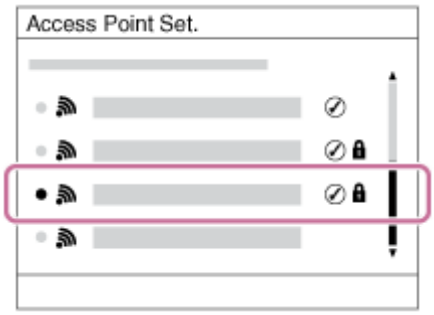
Setting up a wireless LAN: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

1. **MENU → (Network) → [Wi-Fi Settings] → [Access Point Set.].**

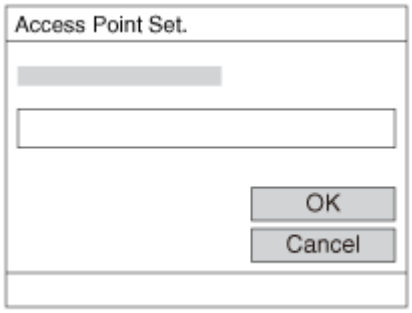
2. **Select the access point you want to register.**



When the desired access point is displayed on the screen: Select the desired access point.
When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.

3. **Input the password, and select [OK].**



- Access points without the mark do not require a password.

4. **Select [OK].**

Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.
WPS PIN:
Displays the PIN code you enter into the connected device.
Priority Connection:
Select [On] or [Off].
IP Address Setting:
Select [Auto] or [Manual].

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.
Subnet Mask/Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- To give the registered access point priority in the future, set [Priority Connection] to [On].

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Setting up a wireless LAN: Frequency Band (models supporting 5 GHz)

Sets the frequency band for Wi-Fi communications. [5GHz] has faster communication speeds and more stable data transfers than [2.4GHz]. The [Frequency Band] setting only applies to [Send to Smartphone], [Ctrl w/ Smartphone], and [PC Remote] (Wi-Fi Direct).

1. **MENU → (Network) → [Wi-Fi Settings] → [Frequency Band] → desired setting.**

Menu item details

2.4GHz/5GHz

Note

- If there are both 2.4 GHz and 5 GHz access points with the same SSID and encryption format, the access point with the stronger radio field will be displayed.

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Registering an FTP server

You can register FTP servers for FTP transfers to the camera. Up to nine FTP servers can be registered. As an example, the method for registering [Server 1] is described here.

1. **MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → [Server 1].**
2. **Select each setting item and then input the setting value for Server 1.**
   - Input each item using the software keyboard and then select [OK]. For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Menu item details

Display Name:
Input a name for the FTP server to be registered.

Destination Settings:
Configure the following items for the FTP server:

- Host Name: The host name or IP address of the server
- Secure Protocol: Set whether or not to execute secure FTP transfers
- Root Certificate Error: Normally it is recommended to set [Does Not Connect]. If a certificate error is displayed, update the root certificate and connect with the correct authentication.
- Port: The port number of the FTP server

Directory Settings:
Set the destination folder on the FTP server.

- Specify Directory: Set the destination folder.
  For example, when “aaa” is specified as the destination folder name, jpeg files are transferred in the manner of C:\interpub\ftproot\aaa\DSC00001.jpg.
  When the folder is not specified, jpeg files are transferred to directly below the user folder in the manner of C:\interpub\ftproot\DSC00001.jpg.
- Directory Hierarchy:
  - [Standard]: Files are transferred to the folder set by [Specify Directory].
  - [Same as in Camera]: The folder configuration is the same as that of the memory card inserted into the camera. If the camera has two memory slots, destination folder name is “A” for Slot 1 and “B” for Slot 2.
    Example: C:\interpub\ftproot\A\DCIM\100MSDCF\DSC00001.jpg
- Same File Name: When there is a file with the same name at the destination, set whether to overwrite the file. When [Does Not Overwrite] is set and there is a file with the same name at the destination, an underscore and a number are added to the end of the file name. (Example: DSC00001_1.jpg)

User Info Settings:
Input a [User] and [Password] to log on to the FTP server.

To select the server to be used for transfer

MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → desired server.

Note

- It is recommended that you set [Secure Protocol] to [On]. When it is set to [Off], communications between the camera and the FTP server may be intercepted. Also, user names, passwords, and file data may be leaked if the camera connects to an unintended FTP server.
- When [Connect] is selected by [Root Certificate Error], [Connected (Root Certificate Error)] will be displayed in the [FTP Transfer Func.] screen. In addition, a connection is established forcibly even when a valid root certificate is not imported to the camera, so the camera may be connected to an unintended FTP server.
- The camera is not compatible with active mode FTP transfers.

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Inputting FTP server settings with a smartphone

You can use the smartphone application “Transfer & Tagging add-on” to input items under [Server Setting], and apply them to the camera by sending the settings via Bluetooth communications. Be sure to pair the camera and the smartphone using the Bluetooth function beforehand.

For details, refer to the website for “Transfer & Tagging add-on” below.
https://www.sony.net/ttad/

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Connecting to an FTP server

Make the following settings to connect to the selected FTP server.

Selecting the method of connecting to the FTP server (only on models supporting wired LAN)

MENU → (Network) → [FTP Transfer Func.] → [FTP Connect Method] → desired setting.

Wired LAN :
Connect to the FTP server using a wired LAN.

Wi-Fi :
Connect to the FTP server using a wireless LAN.

Enabling the FTP transfer function

MENU → (Network) → [FTP Transfer Func.] → [FTP Function] → [On].

- If FTP server registration and the network connection setup are complete, a connection is established with the FTP server.

About the connection status

- Once the connection has been established, the FTP (FTP connection) icon will appear in the recording standby screen or the playback screen.
- If connection fails, the above icon appears orange. Select MENU→ (Network) → [FTP Transfer Func.] and check the displayed error details.

Hint

- When trying to establish an FTP connection via a wireless LAN, if the camera is not emitting radio waves after entering the FTP power save mode, etc., the Wi-Fi (wireless LAN) icon on the screen will disappear.
- If connecting via a wired LAN, see the “Help Guide” for the camera for the location of the terminal (only with models supporting wired LAN).
- If connecting via a wireless LAN, make sure that you are near the registered access point.
- You can also establish an FTP connection via a wired LAN even if [Airplane Mode] is set to [On] (only with models supporting wired LAN).

Note

- When a connection error occurs, check the following.
  - Check whether the wired LAN cable is disconnected, and insert the terminal correctly (only with models supporting wired LAN).
  - If connecting via a wireless LAN but the registered access point cannot be found, move closer to the registered access point.

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About image transfer

You can select and transfer the necessary images shot using the camera to a registered FTP server, and automatically transfer images to a registered FTP server while recording. The [FTP Connect Method] setting (only on models supporting wired LAN) and the destination server can be specified separately, so that settings can be quickly changed according to the network environment and other factors during recording and transfer.

Types of transfer that can be executed by this camera

Batch Transfer:
You can narrow down the transfer target, such as protected images or non-transferred images, and transfer the applicable images together as a batch.

Auto Transfer:
You can transfer all images automatically while recording.

One Image Transfer:
You can transfer only the image being played back.

- On models equipped with two memory card slots, the slot set with [Select PB Media] is used for Batch Transfer and One-Image Transfer. Auto Transfer targets the slot set by [Prioritize Rec. Media].

What you can do during transfer operations

- You can record and play back still images even during transfer operations.
- If you press the shutter button halfway while the transfer underway screen is displayed, the display will change to the recording screen.
- If you select [OK] on the transfer underway screen, the playback screen will appear.
- You can select [FTP Transfer Func.] from the MENU or press the custom key to which the [FTP Transfer] function is assigned during the transfer to return from the recording or playback screen to the transfer underway screen.

To cancel FTP transfer

Select [Cancel Transfer] on the transfer underway screen.

Note

- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- You can only transfer still images recorded by the camera using FTP.
- Do not remove the memory card from the camera during transfer operations.
- Images cannot be transferred if the write protect switch or erase protect switch of the media is set to “LOCK.”
- If the memory card containing the images to be transferred is removed from the camera, the scheduled image transfer will be canceled.
- If the power is turned off during image transfer, transfer of the image currently being transferred (and images scheduled for transfer in case of Batch Transfer) will fail.
- If you start to record or play back a movie during image transfer, the transfer will be paused. The transfer will resume when movie recording or playback ends.
- When the [Connection Error] screen appears, the network connection has been lost. Check the connection status with the access point.

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Transferring images in a batch

You can specify the target transfer range, such as protected images or non-transferred images, and transfer only the necessary images together as a batch. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Network) → [FTP Transfer Func.] → [FTP Transfer].**

2. **Specify the FTP transfer target.**
   - Target range: Select from [This Media] or [This Date] (in case of Date View)/[This Folder] (in case of Folder View).
   - Target images: Select from [All] or [Only Protected Img.].
   - Transfer status: Select from [All] or [Only Non-transfer]* or [Only Failed Transfer].
     * [Only Non-transfer] also includes images for which transfer failed.

3. **Select [OK] and press the center of the control wheel.**

4. **Select [OK] and press the center.**

   Image transfer starts.

Image transfer status

You can check the image transfer status on the playback screen.

FTP : FTP transfer underway

FTP : FTP transfer complete

FTP : FTP transfer failed

Note

- You cannot select the next image to be transferred while image transfer is underway.
- When [Recover Image DB] is executed, all transfer statuses are cleared.

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Transferring images automatically while recording

You can automatically transfer all recorded images to an FTP server. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Network) → [FTP Transfer Func.] → [Auto Trans When Shot] (or [Auto Transfer]) → desired setting.**
2. **Record images.**

Menu item details

On:
Recorded images are automatically transferred using FTP.

Off:
The [Auto Trans When Shot] (or [Auto Transfer]) function is not used.

Note

- When images are recorded with [Auto Trans When Shot] (or [Auto Transfer]) set to [On] but the connection with the FTP server could not be established for some reason, the recorded images are automatically transferred when the connection with the FTP server recovers.

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Transferring the image currently being played back

By assigning the [FTP Transfer (1 img.)] function to the desired custom key, you can transfer the image currently being played back to the FTP server simply by pressing that key at the playback screen. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Camera Settings2) → [Custom Key] → Set the [FTP Transfer (1 img.)] function to the desired key.**
2. **Display the image to be transferred and press the key to which the [FTP Transfer (1 img.)] function was assigned.**

Hint

- When image transfer is currently underway, image transfer by the [FTP Transfer (1 img.)] function starts after that transfer is complete.

Note

- You cannot transfer the following images.
  - Group view images
  - Images not registered in the image database.
  - Movie files

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Checking the transfer results

You can check the transfer results of the images transferred using FTP. It is recommended that you check whether or not the transfer failed before turning off the power.

1. **MENU → (Network) → [FTP Transfer Func.] → [Display FTP Result].**

   The transfer results will be displayed.

Items displayed

Success. Trans. Img.:
Number of FTP transfer successful files

Failed Transfer Img.:
Number of FTP transfer failed files

To delete the transfer results information

Select [Reset] on the [Display FTP Result] screen.

- The entire transfer history will be deleted.

Note

- When [Recover Image DB] is executed, all transfer statuses are cleared.

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Setting the RAW+JPEG image transfer target

You can select the transfer target file formats when transferring images recorded in RAW+JPEG format to an FTP server.

1. **MENU → (Network) → [FTP Transfer Func.] → [RAW+J Trans. Trgt.] → desired setting.**

Menu item details

JPEG Only:
Transfers only JPEG images using FTP.

RAW Only:
Transfers only RAW images using FTP.

RAW & JPEG:
Transfers both RAW and JPEG images using FTP.

Hint

- When FTP transfer is executed with [RAW & JPEG] set, the RAW image and the JPEG image are each counted as one image on the [Display FTP Result] screen.

Note

- The [RAW+J Trans. Trgt.] setting is applied only to images recorded with [File Format] set to [RAW & JPEG].

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Using the FTP Power Save function

You can cut off the network connection when not executing FTP transfer to avoid running down the battery.

1. **MENU → (Network) → [FTP Transfer Func.] → [FTP Power Save] → desired setting.**

Menu item details

Off:
Always connects to the network.

On:
Connects to the network only during FTP transfer. When FTP transfer is not executed for a certain time, the network connection is automatically cut off.

Hint

- When the following operations are performed in FTP Power Save mode, the network connection is reestablished and FTP Power Save mode is canceled.
  - When the FTP server to be used setting is changed.
  - When the connection is switched between wired LAN and wireless LAN (only on models supporting wired LAN).
  - When the LAN connection setting is changed.
  - When image transfer is executed using [FTP Transfer] or [FTP Transfer (1 img.)].
  - When an image is recorded with [Auto Trans When Shot] set to [On].
  - When [FTP Function] is set to [Off].

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Security(IPsec)

Encrypts data when the camera and a computer communicate via a wired LAN (only on models supporting wired LAN) or Wi-Fi connection.
This function is not available for some versions of the camera's system software. Update the camera's system software to the latest version before use.

1. **MENU → (Network) → [Security(IPsec)] → desired setting.**

Menu item details

IPsec([On]/[Off]):
Sets whether or not the [Security(IPsec)] function is used.

Dest. IP Address:
Sets the IP address of the device to connect using the [Security(IPsec)] function.

Shared Key:
Sets the shared key used by the [Security(IPsec)] function.

Note

- Use at least eight and no more than 20 alphanumeric characters or symbols for [Shared Key].
- For IPsec communications, the device to connect must be compatible with IPsec.
  Depending on the device, communications may not be possible or the communication speed may be slow.
- On this camera, IPsec operates in transport mode only and uses IKEv2.
  The algorithm is AES with 128-bit keys in CBC mode/Diffie-Hellman 3072-bit modp group/PRF-HMAC-SHA-256/HMAC-SHA-384-192.
  The authentication expires after 24 hours.
- Encrypted communications can only be made with devices that are configured correctly. Communications with other devices are not encrypted.
- For details on the IPsec configuration, consult the administrator of the network for your device.

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Updating the root certificate on the camera

When executing FTP transfers with [Secure Protocol] set to [On], a root certificate is needed to verify the server. The root certificate is saved to the camera and can be updated. To update the root certificate, save the certificate to a memory card and import it to the camera.

1. **Save a root certificate to a memory card.**
   - Save the certificate to the root directory of the memory card in the PEM format, and name it “cacert.pem.”
2. **Insert the memory card to which the root certificate has been saved into the camera’s memory card slot.**
   - If the camera has two memory card slots, insert the memory card into Slot 1.
3. **MENU → (Network) → [Imp Root Certificate] → [OK].**
   - The root certificate saved to the memory card is read by the camera, and then the root certificate on the camera is updated.

Note

- Do not remove the memory card from the camera during read operations.
- When the network settings are reset, the root certificate on the camera is reset as well.

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Reset Network Set.

Resets all the network settings to default settings.

1 **MENU → (Network) → [Reset Network Set.] → [Enter].**

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Save/Load FTP Settings

You can save settings for the FTP transfer function to a memory card and load the saved settings to a camera. This function is useful when connecting multiple cameras of the same model to an FTP server.

1 **MENU → (Network) → [FTP Transfer Func.] → [Save/Load FTP Settings] → desired item.**

Menu item details

Save:
Saves the current settings for the FTP transfer function to a memory card.

Load:
Loads the settings for the FTP transfer function from a memory card to the camera.

Delete:
Deletes the settings for the FTP transfer function saved on a memory card.

Hint

- All setting parameters under [FTP Transfer Func.] can be saved using the [Save/Load FTP Settings] function.

Note

- You can save up to 10 settings per memory card. When 10 settings have been already saved, you cannot perform [Save New]. Delete the existing settings using [Delete], or overwrite them.
- On models equipped with two memory card slots, only Slot 1 is used for saving or loading data. You cannot change the saving/loading destination slot.
- You cannot load settings from a camera of a different model.

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Troubleshooting

When an error message appears, check the following causes and remedies. If the problem persists even after you have tried the following procedures, temporarily disable the FTP function and then turn it back on again.

Failed to acquire an IP address.

- The DHCP server has frozen or is down. Restart the DHCP server.
  When using a wired LAN: Restart the DHCP server on the network. (Contact the network administrator.)
  When using Wi-Fi: Check that the DHCP server of the wireless LAN access point used is enabled, or restart the access point. (Contact the network administrator.)

Could not create a directory on the FTP server.

- Write permission is not granted by the FTP server permissions settings. Change the FTP server settings. (Contact the FTP server administrator.)
- The specified folder name contains one or more characters that cannot be used by the OS which the FTP server is running. Check the FTP server settings registered in the camera, and change the characters entered to [Specify Directory] of [Directory Settings].

Failed to connect to an FTP server.

- Confirm the details of the FTP server settings.
- The FTP server has frozen or is down. Restart the FTP server. (Contact the FTP server administrator.)

Cannot transfer to the FTP server.

- The FTP server disk is full. Delete the data stored in the FTP server. (Contact the FTP server administrator.)
- Write permission is not granted for some reason such as that the FTP server permissions settings were changed during transfer operations. Change the FTP server settings. (Contact the FTP server administrator.)

Failed to acquire an IP address. Check the DNS server setting or the DESTINATION SET.

- The FTP server name (host name) registration contains an error. Correct [Host Name] of [Destination Settings] in the FTP server settings of the camera.
- When the IP address was set manually in the LAN connection settings of the camera, the DNS server IP address contained an error. Re-enter the DNS server IP address to [Wired LAN Settings] or [Wi-Fi Settings] of the camera.
- When [IP Address Setting] is set to [Auto] in the LAN connection settings of the camera, the DNS server information is not notified. Find the DHCP server on the network and correct the DNS server notification setting. (Contact the network administrator.)
- The DNS server has frozen or is down. Restart the DNS server on the network. (Contact the network administrator.)

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About LAN connection

You can communicate with an FTP server by connecting the camera to a network via a commercially available LAN cable (only if the model supports wired LAN) or wireless LAN. You can then transfer images to the FTP server by operating the camera.

Note

- The wireless access point or wireless router that relays the LAN connection is referred to as the “access point” in this manual.
- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- For details on the camera’s operations, see the “Help Guide” for the camera.
- If your camera is lost or stolen, Sony bears no responsibility for the loss or damage caused by illegal access or use of the registered access point on the camera.
- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN. If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

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Setting up a wired LAN

Configure the settings to connect the camera to the network using a wired LAN.

1 **MENU → (Network) → [Wired LAN Settings] → desired setting.**

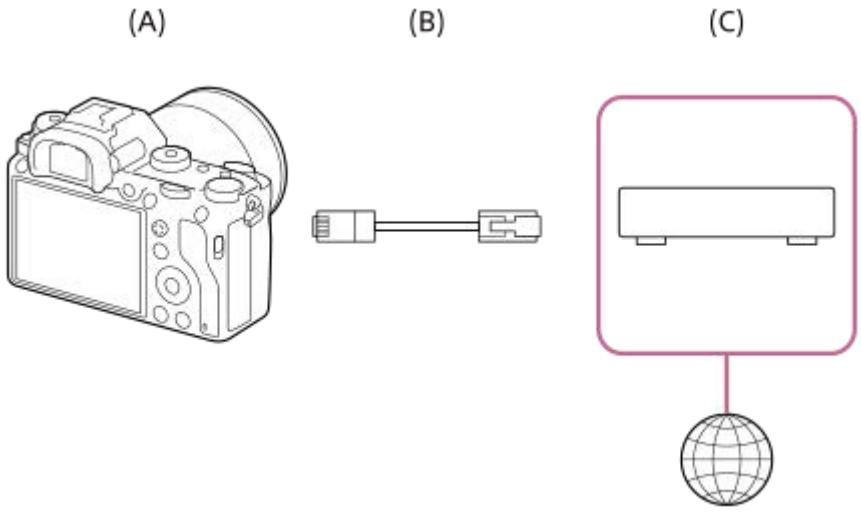
Menu item details

IP Address Setting:
Select [Auto] or [Manual].

Display Wired LAN Info.:
Displays wired LAN information for this product such as the MAC address or IP address.

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.

Subnet Mask /Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.



(A) Camera

- For the location of the LAN terminal, see the “Help Guide” for the camera.

(B) LAN cable (sold separately)

- Use a Category 5e or higher Shielded Twisted Pair (STP) cable with high shielding performance.

(C) Router (sold separately)

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

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Setting up a wireless LAN: WPS Push

If your access point has a Wi-Fi Protected Setup™ (WPS) button, you can register the access point to the camera easily.

1. **MENU → (Network) → [Wi-Fi Settings] → [WPS Push].**
2. **Push the Wi-Fi Protected Setup (WPS) button on the access point to connect.**

Note

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be possible or the communication distance may be shorter depending on the surrounding conditions, such as the type of wall material and the presence of obstructions or radio waves between the camera and access point.
  In this case, change the location of the camera or move the camera closer to the access point.

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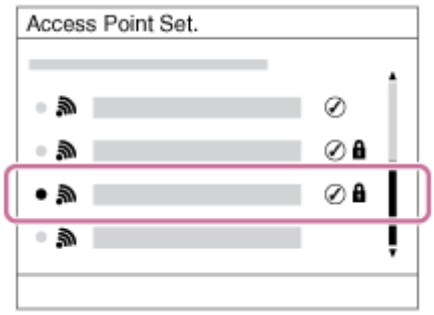
Setting up a wireless LAN: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

1. **MENU → (Network) → [Wi-Fi Settings] → [Access Point Set.].**

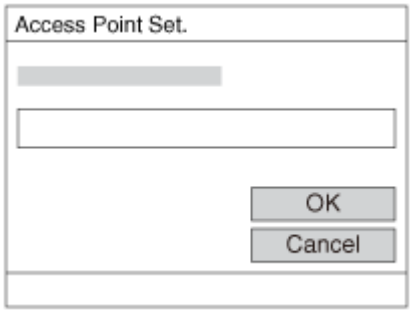
2. **Select the access point you want to register.**



When the desired access point is displayed on the screen: Select the desired access point.
When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.

3. **Input the password, and select [OK].**



- Access points without the mark do not require a password.

4. **Select [OK].**

Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.
WPS PIN:
Displays the PIN code you enter into the connected device.
Priority Connection:
Select [On] or [Off].
IP Address Setting:
Select [Auto] or [Manual].

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.
Subnet Mask/Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- To give the registered access point priority in the future, set [Priority Connection] to [On].

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Setting up a wireless LAN: Frequency Band (models supporting 5 GHz)

Sets the frequency band for Wi-Fi communications. [5GHz] has faster communication speeds and more stable data transfers than [2.4GHz]. The [Frequency Band] setting only applies to [Send to Smartphone], [Ctrl w/ Smartphone], and [PC Remote] (Wi-Fi Direct).

1. **MENU → (Network) → [Wi-Fi Settings] → [Frequency Band] → desired setting.**

Menu item details

2.4GHz/5GHz

Note

- If there are both 2.4 GHz and 5 GHz access points with the same SSID and encryption format, the access point with the stronger radio field will be displayed.

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Registering an FTP server

You can register FTP servers for FTP transfers to the camera. Up to nine FTP servers can be registered. As an example, the method for registering [Server 1] is described here.

1. **MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → [Server 1].**

2. **Select each setting item and then input the setting value for Server 1.**
   - Input each item using the software keyboard and then select [OK]. For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Menu item details

Display Name:
Input a name for the FTP server to be registered.

Destination Settings:
Configure the following items for the FTP server:

- Host Name: The host name or IP address of the server
- Secure Protocol: Set whether or not to execute secure FTP transfers
- Root Certificate Error: Normally it is recommended to set [Does Not Connect]. If a certificate error is displayed, update the root certificate and connect with the correct authentication.
- Port: The port number of the FTP server

Directory Settings:
Set the destination folder on the FTP server.

- Specify Directory: Set the destination folder.
  For example, when “aaa” is specified as the destination folder name, jpeg files are transferred in the manner of C:\interpub\ftproot\aaa\DSC00001.jpg.
  When the folder is not specified, jpeg files are transferred to directly below the user folder in the manner of C:\interpub\ftproot\DSC00001.jpg.
- Directory Hierarchy:
  - [Standard]: Files are transferred to the folder set by [Specify Directory].
  - [Same as in Camera]: The folder configuration is the same as that of the memory card inserted into the camera. If the camera has two memory slots, destination folder name is “A” for Slot 1 and “B” for Slot 2.
    Example: C:\interpub\ftproot\A\DCIM\100MSDCF\DSC00001.jpg
- Same File Name: When there is a file with the same name at the destination, set whether to overwrite the file. When [Does Not Overwrite] is set and there is a file with the same name at the destination, an underscore and a number are added to the end of the file name. (Example: DSC00001_1.jpg)

User Info Settings:
Input a [User] and [Password] to log on to the FTP server.

Passive Mode:
Set whether or not to execute FTP transfers in the passive mode. When [Off] is set, FTP transfers are executed in the active mode.

To select the server to be used for transfer

MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → desired server.

Note

- It is recommended that you set [Secure Protocol] to [On]. When it is set to [Off], communications between the camera and the FTP server may be intercepted. Also, user names, passwords, and file data may be leaked if the camera connects to an unintended FTP server.
- When [Connect] is selected by [Root Certificate Error], [Connected (Root Certificate Error)] will be displayed in the [FTP Transfer Func.] screen. In addition, a connection is established forcibly even when a valid root certificate is not imported to the camera, so the camera may be connected to an unintended FTP server.

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Inputting FTP server settings with a smartphone

You can use the smartphone application “Transfer & Tagging add-on” to input items under [Server Setting], and apply them to the camera by sending the settings via Bluetooth communications. Be sure to pair the camera and the smartphone using the Bluetooth function beforehand.

For details, refer to the website for “Transfer & Tagging add-on” below.
https://www.sony.net/ttad/

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Connecting to an FTP server

Make the following settings to connect to the selected FTP server.

Selecting the method of connecting to the FTP server (only on models supporting wired LAN)

MENU → (Network) → [FTP Transfer Func.] → [FTP Connect Method] → desired setting.

Wired LAN :
Connect to the FTP server using a wired LAN.

Wi-Fi :
Connect to the FTP server using a wireless LAN.

Enabling the FTP transfer function

MENU → (Network) → [FTP Transfer Func.] → [FTP Function] → [On].

- If FTP server registration and the network connection setup are complete, a connection is established with the FTP server.

About the connection status

- Once the connection has been established, the FTP (FTP connection) icon will appear in the recording standby screen or the playback screen.
- If connection fails, the above icon appears orange. Select MENU→ (Network) → [FTP Transfer Func.] and check the displayed error details.

Hint

- When trying to establish an FTP connection via a wireless LAN, if the camera is not emitting radio waves after entering the FTP power save mode, etc., the Wi-Fi (wireless LAN) icon on the screen will disappear.
- If connecting via a wired LAN, see the “Help Guide” for the camera for the location of the terminal (only with models supporting wired LAN).
- If connecting via a wireless LAN, make sure that you are near the registered access point.
- You can also establish an FTP connection via a wired LAN even if [Airplane Mode] is set to [On] (only with models supporting wired LAN).

Note

- When a connection error occurs, check the following.
  - Check whether the wired LAN cable is disconnected, and insert the terminal correctly (only with models supporting wired LAN).
  - If connecting via a wireless LAN but the registered access point cannot be found, move closer to the registered access point.

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About image transfer

You can select and transfer the necessary images shot using the camera to a registered FTP server, and automatically transfer images to a registered FTP server while recording. The [FTP Connect Method] setting (only on models supporting wired LAN) and the destination server can be specified separately, so that settings can be quickly changed according to the network environment and other factors during recording and transfer.

Types of transfer that can be executed by this camera

Batch Transfer:
You can narrow down the transfer target, such as protected images or non-transferred images, and transfer the applicable images together as a batch.

Auto Transfer:
You can transfer all images automatically while recording.

One Image Transfer:
You can transfer only the image being played back.

- On models equipped with two memory card slots, the slot set with [Select PB Media] is used for Batch Transfer and One-Image Transfer. Auto Transfer targets the slot set by [Prioritize Rec. Media].

What you can do during transfer operations

- You can record and play back still images even during transfer operations.
- If you press the shutter button halfway while the transfer underway screen is displayed, the display will change to the recording screen.
- If you select [OK] on the transfer underway screen, the playback screen will appear.
- You can select [FTP Transfer Func.] from the MENU or press the custom key to which the [FTP Transfer] function is assigned during the transfer to return from the recording or playback screen to the transfer underway screen.

To cancel FTP transfer

Select [Cancel Transfer] on the transfer underway screen.

Note

- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- You can only transfer still images recorded by the camera using FTP.
- Do not remove the memory card from the camera during transfer operations.
- Images cannot be transferred if the write protect switch or erase protect switch of the media is set to “LOCK.”
- If the memory card containing the images to be transferred is removed from the camera, the scheduled image transfer will be canceled.
- If the power is turned off during image transfer, transfer of the image currently being transferred (and images scheduled for transfer in case of Batch Transfer) will fail.
- If you start to record or play back a movie during image transfer, the transfer will be paused. The transfer will resume when movie recording or playback ends.
- When the [Connection Error] screen appears, the network connection has been lost. Check the connection status with the access point.

- If the image transfer becomes interrupted due to network disconnection, etc., the transfer will resume when the camera is reconnected to the network. An image whose transfer was initially interrupted and is then transferred after reconnection will have an underscore and numeric characters added to the end of the file name even if [Same File Name] under [Directory Settings] is set to [Overwrite].

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Transferring images in a batch

You can specify the target transfer range, such as protected images or non-transferred images, and transfer only the necessary images together as a batch. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Playback) → [Select PB Media] → desired slot.**
2. **MENU → (Network) → [FTP Transfer Func.] → [FTP Transfer].**
3. **Specify the FTP transfer target.**
   - Target range: Select from [This Media] or [This Date] (in case of Date View)/[This Folder] (in case of Folder View).
   - Target images: Select from [All] or [Only Protected Img.].
   - Transfer status: Select from [All] or [Only Non-transfer]* or [Only Failed Transfer].
     * [Only Non-transfer] also includes images for which transfer failed.
4. **Select [OK] and press the center of the control wheel.**
5. **Select [OK] and press the center.**

   Image transfer starts.

Image transfer status

You can check the image transfer status on the playback screen.

FTP: FTP transfer underway

FTP: FTP transfer complete

FTP: FTP transfer failed

Note

- You cannot select the next image to be transferred while image transfer is underway.
- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Transferring images automatically while recording

You can automatically transfer all recorded images to an FTP server. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Network) → [FTP Transfer Func.] → [Auto Trans When Shot] (or [Auto Transfer]) → desired setting.**
2. **Record images.**

Menu item details

On:
Recorded images are automatically transferred using FTP.

Off:
The [Auto Trans When Shot] (or [Auto Transfer]) function is not used.

Note

- When images are recorded with [Auto Trans When Shot] (or [Auto Transfer]) set to [On] but the connection with the FTP server could not be established for some reason, the recorded images are automatically transferred when the connection with the FTP server recovers.

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Transferring the image currently being played back

By assigning the [FTP Transfer (1 img.)] function to the desired custom key, you can transfer the image currently being played back to the FTP server simply by pressing that key at the playback screen. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Camera Settings2) → [Custom Key] → Set the [FTP Transfer (1 img.)] function to the desired key.**
2. **Display the image to be transferred and press the key to which the [FTP Transfer (1 img.)] function was assigned.**

Hint

- When image transfer is currently underway, image transfer by the [FTP Transfer (1 img.)] function starts after that transfer is complete.

Note

- You cannot transfer the following images.
  - Group view images
  - Images not registered in the image database.
  - Movie files

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Checking the transfer results

You can check the transfer results of the images transferred using FTP within the selected slot. It is recommended that you check whether or not the transfer failed before turning off the power.

1. **MENU → (Network) → [FTP Transfer Func.] → [Display FTP Result] → desired slot.**

   The transfer results will be displayed.

Items displayed

Success. Trans. Img.:
Number of FTP transfer successful files

Failed Transfer Img.:
Number of FTP transfer failed files

To delete the transfer results information

Select [Reset] on the [Display FTP Result] screen.

- The entire transfer history of the selected slot will be deleted.

Note

- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Setting the RAW+JPEG image transfer target

You can select the transfer target file formats when transferring images recorded in RAW+JPEG format to an FTP server.

1. **MENU → (Network) → [FTP Transfer Func.] → [RAW+J Trans. Trgt.] → desired setting.**

Menu item details

JPEG Only:
Transfers only JPEG images using FTP.

RAW Only:
Transfers only RAW images using FTP.

RAW & JPEG:
Transfers both RAW and JPEG images using FTP.

Hint

- When FTP transfer is executed with [RAW & JPEG] set, the RAW image and the JPEG image are each counted as one image on the [Display FTP Result] screen.

Note

- The [RAW+J Trans. Trgt.] setting is applied only to images recorded with [File Format] set to [RAW & JPEG].

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Using the FTP Power Save function

You can cut off the network connection when not executing FTP transfer to avoid running down the battery.

1. **MENU → (Network) → [FTP Transfer Func.] → [FTP Power Save] → desired setting.**

Menu item details

Off:
Always connects to the network.

On:
Connects to the network only during FTP transfer. When FTP transfer is not executed for a certain time, the network connection is automatically cut off.

Hint

- When the following operations are performed in FTP Power Save mode, the network connection is reestablished and FTP Power Save mode is canceled.
  - When the FTP server to be used setting is changed.
  - When the connection is switched between wired LAN and wireless LAN (only on models supporting wired LAN).
  - When the LAN connection setting is changed.
  - When image transfer is executed using [FTP Transfer] or [FTP Transfer (1 img.)].
  - When an image is recorded with [Auto Trans When Shot] set to [On].
  - When [FTP Function] is set to [Off].

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Security(IPsec)

Encrypts data when the camera and a computer communicate via a wired LAN (only on models supporting wired LAN) or Wi-Fi connection.
This function is not available for some versions of the camera's system software. Update the camera's system software to the latest version before use.

1. **MENU → (Network) → [Security(IPsec)] → desired setting.**

Menu item details

IPsec([On]/[Off]):
Sets whether or not the [Security(IPsec)] function is used.

Dest. IP Address:
Sets the IP address of the device to connect using the [Security(IPsec)] function.

Shared Key:
Sets the shared key used by the [Security(IPsec)] function.

Note

- Use at least eight and no more than 20 alphanumeric characters or symbols for [Shared Key].
- For IPsec communications, the device to connect must be compatible with IPsec.
  Depending on the device, communications may not be possible or the communication speed may be slow.
- On this camera, IPsec operates in transport mode only and uses IKEv2.
  The algorithm is AES with 128-bit keys in CBC mode/Diffie-Hellman 3072-bit modp group/PRF-HMAC-SHA-256/HMAC-SHA-384-192.
  The authentication expires after 24 hours.
- Encrypted communications can only be made with devices that are configured correctly. Communications with other devices are not encrypted.
- For details on the IPsec configuration, consult the administrator of the network for your device.

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Updating the root certificate on the camera

When executing FTP transfers with [Secure Protocol] set to [On], a root certificate is needed to verify the server. The root certificate is saved to the camera and can be updated. To update the root certificate, save the certificate to a memory card and import it to the camera.

1. **Save a root certificate to a memory card.**
   - Save the certificate to the root directory of the memory card in the PEM format, and name it “cacert.pem.”
2. **Insert the memory card to which the root certificate has been saved into the camera’s memory card slot.**
   - If the camera has two memory card slots, insert the memory card into Slot 1.
3. **MENU → (Network) → [Imp Root Certificate] → [OK].**
   - The root certificate saved to the memory card is read by the camera, and then the root certificate on the camera is updated.

Note

- Do not remove the memory card from the camera during read operations.
- When the network settings are reset, the root certificate on the camera is reset as well.

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Reset Network Set.

Resets all the network settings to default settings.

1 **MENU → (Network) → [Reset Network Set.] → [Enter].**

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Save/Load FTP Settings

You can save settings for the FTP transfer function to a memory card and load the saved settings to a camera. This function is useful when connecting multiple cameras of the same model to an FTP server.

1 **MENU → (Network) → [FTP Transfer Func.] → [Save/Load FTP Settings] → desired item.**

Menu item details

Save:
Saves the current settings for the FTP transfer function to a memory card.

Load:
Loads the settings for the FTP transfer function from a memory card to the camera.

Delete:
Deletes the settings for the FTP transfer function saved on a memory card.

Hint

- All setting parameters under [FTP Transfer Func.] can be saved using the [Save/Load FTP Settings] function.

Note

- You can save up to 10 settings per memory card. When 10 settings have been already saved, you cannot perform [Save New]. Delete the existing settings using [Delete], or overwrite them.
- On models equipped with two memory card slots, only Slot 1 is used for saving or loading data. You cannot change the saving/loading destination slot.
- You cannot load settings from a camera of a different model.

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Troubleshooting

When an error message appears, check the following causes and remedies. If the problem persists even after you have tried the following procedures, temporarily disable the FTP function and then turn it back on again.

Failed to acquire an IP address.

- The DHCP server has frozen or is down. Restart the DHCP server.
  When using a wired LAN: Restart the DHCP server on the network. (Contact the network administrator.)
  When using Wi-Fi: Check that the DHCP server of the wireless LAN access point used is enabled, or restart the access point. (Contact the network administrator.)

Could not create a directory on the FTP server.

- Write permission is not granted by the FTP server permissions settings. Change the FTP server settings. (Contact the FTP server administrator.)
- The specified folder name contains one or more characters that cannot be used by the OS which the FTP server is running. Check the FTP server settings registered in the camera, and change the characters entered to [Specify Directory] of [Directory Settings].

Failed to connect to an FTP server.

- Confirm the details of the FTP server settings.
- The FTP server has frozen or is down. Restart the FTP server. (Contact the FTP server administrator.)

Cannot transfer to the FTP server.

- The FTP server disk is full. Delete the data stored in the FTP server. (Contact the FTP server administrator.)
- Write permission is not granted for some reason such as that the FTP server permissions settings were changed during transfer operations. Change the FTP server settings. (Contact the FTP server administrator.)

Failed to acquire an IP address. Check the DNS server setting or the DESTINATION SET.

- The FTP server name (host name) registration contains an error. Correct [Host Name] of [Destination Settings] in the FTP server settings of the camera.
- When the IP address was set manually in the LAN connection settings of the camera, the DNS server IP address contained an error. Re-enter the DNS server IP address to [Wired LAN Settings] or [Wi-Fi Settings] of the camera.
- When [IP Address Setting] is set to [Auto] in the LAN connection settings of the camera, the DNS server information is not notified. Find the DHCP server on the network and correct the DNS server notification setting. (Contact the network administrator.)
- The DNS server has frozen or is down. Restart the DNS server on the network. (Contact the network administrator.)

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About LAN connection

You can communicate with an FTP server by connecting the camera to a network via a commercially available LAN cable (only if the model supports wired LAN) or wireless LAN. You can then transfer images to the FTP server by operating the camera.

Note

- The wireless access point or wireless router that relays the LAN connection is referred to as the “access point” in this manual.
- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- For details on the camera’s operations, see the “Help Guide” for the camera.
- If your camera is lost or stolen, Sony bears no responsibility for the loss or damage caused by illegal access or use of the registered access point on the camera.
- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN. If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

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Setting up a wireless LAN: WPS Push

If your access point has a Wi-Fi Protected Setup™ (WPS) button, you can register the access point to the camera easily.

1. **MENU → (Network) → [Wi-Fi Settings] → [WPS Push].**
2. **Push the Wi-Fi Protected Setup (WPS) button on the access point to connect.**

Note

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be possible or the communication distance may be shorter depending on the surrounding conditions, such as the type of wall material and the presence of obstructions or radio waves between the camera and access point.
  In this case, change the location of the camera or move the camera closer to the access point.

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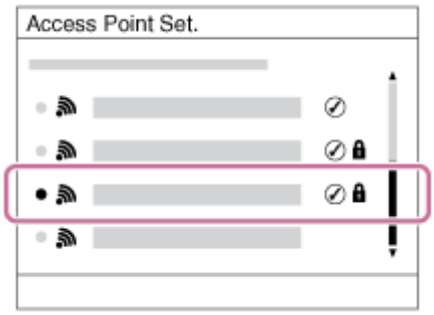
Setting up a wireless LAN: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

1. **MENU → (Network) → [Wi-Fi Settings] → [Access Point Set.].**

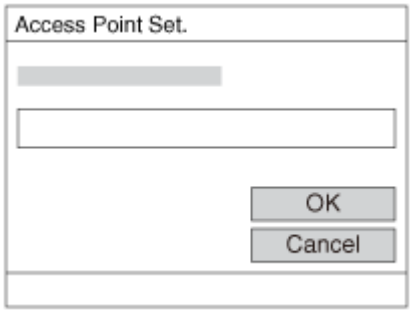
2. **Select the access point you want to register.**



When the desired access point is displayed on the screen: Select the desired access point.
When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.

3. **Input the password, and select [OK].**



- Access points without the mark do not require a password.

4. **Select [OK].**

Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.
WPS PIN:
Displays the PIN code you enter into the connected device.
Priority Connection:
Select [On] or [Off].
IP Address Setting:
Select [Auto] or [Manual].

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.
Subnet Mask/Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- To give the registered access point priority in the future, set [Priority Connection] to [On].

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Setting up a wireless LAN: Frequency Band (models supporting 5 GHz)

Sets the frequency band for Wi-Fi communications. [5GHz] has faster communication speeds and more stable data transfers than [2.4GHz]. The [Frequency Band] setting only applies to [Send to Smartphone], [Ctrl w/ Smartphone], and [PC Remote] (Wi-Fi Direct).

1 **MENU → (Network) → [Wi-Fi Settings] → [Frequency Band] → desired setting.**

Menu item details

2.4GHz/5GHz

Note

- If there are both 2.4 GHz and 5 GHz access points with the same SSID and encryption format, the access point with the stronger radio field will be displayed.

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Registering an FTP server

You can register FTP servers for FTP transfers to the camera. Up to nine FTP servers can be registered. As an example, the method for registering [Server 1] is described here.

1. **MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → [Server 1].**
2. **Select each setting item and then input the setting value for Server 1.**
   - Input each item using the software keyboard and then select [OK]. For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Menu item details

Display Name:
Input a name for the FTP server to be registered.

Destination Settings:
Configure the following items for the FTP server:

- Host Name: The host name or IP address of the server
- Secure Protocol: Set whether or not to execute secure FTP transfers
- Root Certificate Error: Normally it is recommended to set [Does Not Connect]. If a certificate error is displayed, update the root certificate and connect with the correct authentication.
- Port: The port number of the FTP server

Directory Settings:
Set the destination folder on the FTP server.

- Specify Directory: Set the destination folder.
  For example, when “aaa” is specified as the destination folder name, jpeg files are transferred in the manner of C:\interpub\ftproot\aaa\DSC00001.jpg.
  When the folder is not specified, jpeg files are transferred to directly below the user folder in the manner of C:\interpub\ftproot\DSC00001.jpg.
- Directory Hierarchy:
  - [Standard]: Files are transferred to the folder set by [Specify Directory].
  - [Same as in Camera]: The folder configuration is the same as that of the memory card inserted into the camera. If the camera has two memory slots, destination folder name is “A” for Slot 1 and “B” for Slot 2.
    Example: C:\interpub\ftproot\A\DCIM\100MSDCF\DSC00001.jpg
- Same File Name: When there is a file with the same name at the destination, set whether to overwrite the file. When [Does Not Overwrite] is set and there is a file with the same name at the destination, an underscore and a number are added to the end of the file name. (Example: DSC00001_1.jpg)

User Info Settings:
Input a [User] and [Password] to log on to the FTP server.

To select the server to be used for transfer

MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → desired server.

Note

- It is recommended that you set [Secure Protocol] to [On]. When it is set to [Off], communications between the camera and the FTP server may be intercepted. Also, user names, passwords, and file data may be leaked if the camera connects to an unintended FTP server.
- When [Connect] is selected by [Root Certificate Error], [Connected (Root Certificate Error)] will be displayed in the [FTP Transfer Func.] screen. In addition, a connection is established forcibly even when a valid root certificate is not imported to the camera, so the camera may be connected to an unintended FTP server.
- The camera is not compatible with active mode FTP transfers.

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Connecting to an FTP server

Make the following settings to connect to the selected FTP server.

Selecting the method of connecting to the FTP server (only on models supporting wired LAN)

MENU → (Network) → [FTP Transfer Func.] → [FTP Connect Method] → desired setting.

Wired LAN :
Connect to the FTP server using a wired LAN.

Wi-Fi :
Connect to the FTP server using a wireless LAN.

Enabling the FTP transfer function

MENU → (Network) → [FTP Transfer Func.] → [FTP Function] → [On].

- If FTP server registration and the network connection setup are complete, a connection is established with the FTP server.

About the connection status

- Once the connection has been established, the FTP (FTP connection) icon will appear in the recording standby screen or the playback screen.
- If connection fails, the above icon appears orange. Select MENU→ (Network) → [FTP Transfer Func.] and check the displayed error details.

Hint

- When trying to establish an FTP connection via a wireless LAN, if the camera is not emitting radio waves after entering the FTP power save mode, etc., the Wi-Fi (wireless LAN) icon on the screen will disappear.
- If connecting via a wired LAN, see the “Help Guide” for the camera for the location of the terminal (only with models supporting wired LAN).
- If connecting via a wireless LAN, make sure that you are near the registered access point.
- You can also establish an FTP connection via a wired LAN even if [Airplane Mode] is set to [On] (only with models supporting wired LAN).

Note

- When a connection error occurs, check the following.
  - Check whether the wired LAN cable is disconnected, and insert the terminal correctly (only with models supporting wired LAN).
  - If connecting via a wireless LAN but the registered access point cannot be found, move closer to the registered access point.

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About image transfer

You can select and transfer the necessary images shot using the camera to a registered FTP server, and automatically transfer images to a registered FTP server while recording. The [FTP Connect Method] setting (only on models supporting wired LAN) and the destination server can be specified separately, so that settings can be quickly changed according to the network environment and other factors during recording and transfer.

Types of transfer that can be executed by this camera

Batch Transfer:
You can narrow down the transfer target, such as protected images or non-transferred images, and transfer the applicable images together as a batch.

Auto Transfer:
You can transfer all images automatically while recording.

One Image Transfer:
You can transfer only the image being played back.

- On models equipped with two memory card slots, the slot set with [Select PB Media] is used for Batch Transfer and One-Image Transfer. Auto Transfer targets the slot set by [Prioritize Rec. Media].

What you can do during transfer operations

- You can record and play back still images even during transfer operations.
- If you press the shutter button halfway while the transfer underway screen is displayed, the display will change to the recording screen.
- If you select [OK] on the transfer underway screen, the playback screen will appear.
- You can select [FTP Transfer Func.] from the MENU or press the custom key to which the [FTP Transfer] function is assigned during the transfer to return from the recording or playback screen to the transfer underway screen.

To cancel FTP transfer

Select [Cancel Transfer] on the transfer underway screen.

Note

- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- You can only transfer still images recorded by the camera using FTP.
- Do not remove the memory card from the camera during transfer operations.
- Images cannot be transferred if the write protect switch or erase protect switch of the media is set to “LOCK.”
- If the memory card containing the images to be transferred is removed from the camera, the scheduled image transfer will be canceled.
- If the power is turned off during image transfer, transfer of the image currently being transferred (and images scheduled for transfer in case of Batch Transfer) will fail.
- If you start to record or play back a movie during image transfer, the transfer will be paused. The transfer will resume when movie recording or playback ends.
- When the [Connection Error] screen appears, the network connection has been lost. Check the connection status with the access point.

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Transferring images in a batch

You can specify the target transfer range, such as protected images or non-transferred images, and transfer only the necessary images together as a batch. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Playback) → [Select PB Media] → desired slot.**
2. **MENU → (Network) → [FTP Transfer Func.] → [FTP Transfer].**
3. **Specify the FTP transfer target.**
   - Target range: Select from [This Media] or [This Date] (in case of Date View)/[This Folder] (in case of Folder View).
   - Target images: Select from [All] or [Only Protected Img.].
   - Transfer status: Select from [All] or [Only Non-transfer]* or [Only Failed Transfer].
     * [Only Non-transfer] also includes images for which transfer failed.
4. **Select [OK] and press the center of the control wheel.**
5. **Select [OK] and press the center.**

   Image transfer starts.

Image transfer status

You can check the image transfer status on the playback screen.

FTP: FTP transfer underway

FTP: FTP transfer complete

FTP: FTP transfer failed

Note

- You cannot select the next image to be transferred while image transfer is underway.
- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Transferring images automatically while recording

You can automatically transfer all recorded images to an FTP server. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Network) → [FTP Transfer Func.] → [Auto Trans When Shot] (or [Auto Transfer]) → desired setting.**
2. **Record images.**

Menu item details

On:
Recorded images are automatically transferred using FTP.

Off:
The [Auto Trans When Shot] (or [Auto Transfer]) function is not used.

Note

- When images are recorded with [Auto Trans When Shot] (or [Auto Transfer]) set to [On] but the connection with the FTP server could not be established for some reason, the recorded images are automatically transferred when the connection with the FTP server recovers.

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Transferring the image currently being played back

By assigning the [FTP Transfer (1 img.)] function to the desired custom key, you can transfer the image currently being played back to the FTP server simply by pressing that key at the playback screen. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Camera Settings2) → [Custom Key] → Set the [FTP Transfer (1 img.)] function to the desired key.**
2. **Display the image to be transferred and press the key to which the [FTP Transfer (1 img.)] function was assigned.**

Hint

- When image transfer is currently underway, image transfer by the [FTP Transfer (1 img.)] function starts after that transfer is complete.

Note

- You cannot transfer the following images.
  - Group view images
  - Images not registered in the image database.
  - Movie files

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Checking the transfer results

You can check the transfer results of the images transferred using FTP within the selected slot. It is recommended that you check whether or not the transfer failed before turning off the power.

1. **MENU → (Network) → [FTP Transfer Func.] → [Display FTP Result] → desired slot.**

   The transfer results will be displayed.

Items displayed

Success. Trans. Img.:
Number of FTP transfer successful files

Failed Transfer Img.:
Number of FTP transfer failed files

To delete the transfer results information

Select [Reset] on the [Display FTP Result] screen.

- The entire transfer history of the selected slot will be deleted.

Note

- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Setting the RAW+JPEG image transfer target

You can select the transfer target file formats when transferring images recorded in RAW+JPEG format to an FTP server.

1. **MENU → (Network) → [FTP Transfer Func.] → [RAW+J Trans. Trgt.] → desired setting.**

Menu item details

JPEG Only:
Transfers only JPEG images using FTP.

RAW Only:
Transfers only RAW images using FTP.

RAW & JPEG:
Transfers both RAW and JPEG images using FTP.

Hint

- When FTP transfer is executed with [RAW & JPEG] set, the RAW image and the JPEG image are each counted as one image on the [Display FTP Result] screen.

Note

- The [RAW+J Trans. Trgt.] setting is applied only to images recorded with [File Format] set to [RAW & JPEG].

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Using the FTP Power Save function

You can cut off the network connection when not executing FTP transfer to avoid running down the battery.

1. **MENU → (Network) → [FTP Transfer Func.] → [FTP Power Save] → desired setting.**

Menu item details

Off:
Always connects to the network.

On:
Connects to the network only during FTP transfer. When FTP transfer is not executed for a certain time, the network connection is automatically cut off.

Hint

- When the following operations are performed in FTP Power Save mode, the network connection is reestablished and FTP Power Save mode is canceled.
  - When the FTP server to be used setting is changed.
  - When the connection is switched between wired LAN and wireless LAN (only on models supporting wired LAN).
  - When the LAN connection setting is changed.
  - When image transfer is executed using [FTP Transfer] or [FTP Transfer (1 img.)].
  - When an image is recorded with [Auto Trans When Shot] set to [On].
  - When [FTP Function] is set to [Off].

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Security(IPsec)

Encrypts data when the camera and a computer communicate via a wired LAN (only on models supporting wired LAN) or Wi-Fi connection.
This function is not available for some versions of the camera's system software. Update the camera's system software to the latest version before use.

1. **MENU → (Network) → [Security(IPsec)] → desired setting.**

Menu item details

IPsec([On]/[Off]):
Sets whether or not the [Security(IPsec)] function is used.

Dest. IP Address:
Sets the IP address of the device to connect using the [Security(IPsec)] function.

Shared Key:
Sets the shared key used by the [Security(IPsec)] function.

Note

- Use at least eight and no more than 20 alphanumeric characters or symbols for [Shared Key].
- For IPsec communications, the device to connect must be compatible with IPsec.
  Depending on the device, communications may not be possible or the communication speed may be slow.
- On this camera, IPsec operates in transport mode only and uses IKEv2.
  The algorithm is AES with 128-bit keys in CBC mode/Diffie-Hellman 3072-bit modp group/PRF-HMAC-SHA-256/HMAC-SHA-384-192.
  The authentication expires after 24 hours.
- Encrypted communications can only be made with devices that are configured correctly. Communications with other devices are not encrypted.
- For details on the IPsec configuration, consult the administrator of the network for your device.

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Updating the root certificate on the camera

When executing FTP transfers with [Secure Protocol] set to [On], a root certificate is needed to verify the server. The root certificate is saved to the camera and can be updated. To update the root certificate, save the certificate to a memory card and import it to the camera.

1. **Save a root certificate to a memory card.**
   - Save the certificate to the root directory of the memory card in the PEM format, and name it “cacert.pem.”
2. **Insert the memory card to which the root certificate has been saved into the camera’s memory card slot.**
   - If the camera has two memory card slots, insert the memory card into Slot 1.
3. **MENU → (Network) → [Imp Root Certificate] → [OK].**
   - The root certificate saved to the memory card is read by the camera, and then the root certificate on the camera is updated.

Note

- Do not remove the memory card from the camera during read operations.
- When the network settings are reset, the root certificate on the camera is reset as well.

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Reset Network Set.

Resets all the network settings to default settings.

1 **MENU → (Network) → [Reset Network Set.] → [Enter].**

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Troubleshooting

When an error message appears, check the following causes and remedies. If the problem persists even after you have tried the following procedures, temporarily disable the FTP function and then turn it back on again.

Failed to acquire an IP address.

- The DHCP server has frozen or is down. Restart the DHCP server.
  When using a wired LAN: Restart the DHCP server on the network. (Contact the network administrator.)
  When using Wi-Fi: Check that the DHCP server of the wireless LAN access point used is enabled, or restart the access point. (Contact the network administrator.)

Could not create a directory on the FTP server.

- Write permission is not granted by the FTP server permissions settings. Change the FTP server settings. (Contact the FTP server administrator.)
- The specified folder name contains one or more characters that cannot be used by the OS which the FTP server is running. Check the FTP server settings registered in the camera, and change the characters entered to [Specify Directory] of [Directory Settings].

Failed to connect to an FTP server.

- Confirm the details of the FTP server settings.
- The FTP server has frozen or is down. Restart the FTP server. (Contact the FTP server administrator.)

Cannot transfer to the FTP server.

- The FTP server disk is full. Delete the data stored in the FTP server. (Contact the FTP server administrator.)
- Write permission is not granted for some reason such as that the FTP server permissions settings were changed during transfer operations. Change the FTP server settings. (Contact the FTP server administrator.)

Failed to acquire an IP address. Check the DNS server setting or the DESTINATION SET.

- The FTP server name (host name) registration contains an error. Correct [Host Name] of [Destination Settings] in the FTP server settings of the camera.
- When the IP address was set manually in the LAN connection settings of the camera, the DNS server IP address contained an error. Re-enter the DNS server IP address to [Wired LAN Settings] or [Wi-Fi Settings] of the camera.
- When [IP Address Setting] is set to [Auto] in the LAN connection settings of the camera, the DNS server information is not notified. Find the DHCP server on the network and correct the DNS server notification setting. (Contact the network administrator.)
- The DNS server has frozen or is down. Restart the DNS server on the network. (Contact the network administrator.)

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About LAN connection

You can communicate with an FTP server by connecting the camera to a network via a commercially available LAN cable (only if the model supports wired LAN) or wireless LAN. You can then transfer images to the FTP server by operating the camera.

Note

- The wireless access point or wireless router that relays the LAN connection is referred to as the “access point” in this manual.
- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- For details on the camera’s operations, see the “Help Guide” for the camera.
- If your camera is lost or stolen, Sony bears no responsibility for the loss or damage caused by illegal access or use of the registered access point on the camera.
- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN. If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

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Setting up a wired LAN

Configure the settings to connect the camera to the network using a wired LAN.

1 **MENU → (Network) → [Wired LAN Settings] → desired setting.**

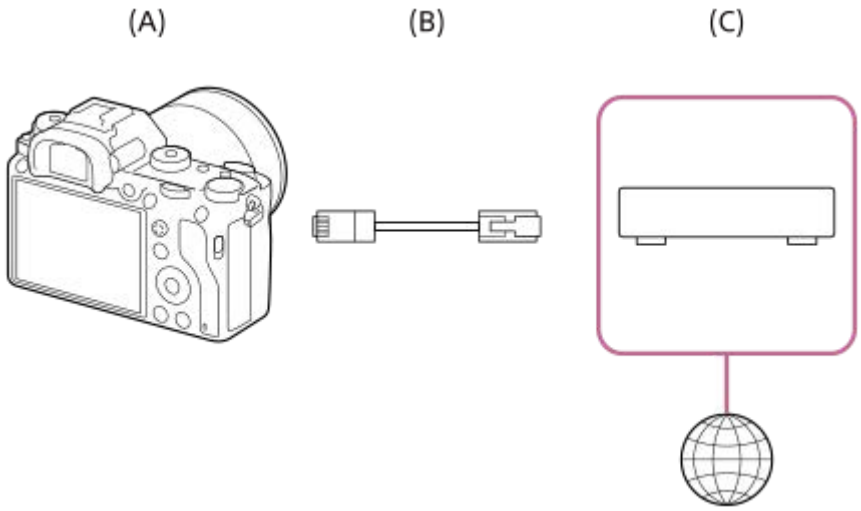
Menu item details

IP Address Setting:
Select [Auto] or [Manual].

Display Wired LAN Info.:
Displays wired LAN information for this product such as the MAC address or IP address.

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.

Subnet Mask /Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.



(A) Camera

- For the location of the LAN terminal, see the “Help Guide” for the camera.

(B) LAN cable (sold separately)

- Use a Category 5e or higher Shielded Twisted Pair (STP) cable with high shielding performance.

(C) Router (sold separately)

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

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Setting up a wireless LAN: WPS Push

If your access point has a Wi-Fi Protected Setup™ (WPS) button, you can register the access point to the camera easily.

1. **MENU → (Network) → [Wi-Fi Settings] → [WPS Push].**
2. **Push the Wi-Fi Protected Setup (WPS) button on the access point to connect.**

Note

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be possible or the communication distance may be shorter depending on the surrounding conditions, such as the type of wall material and the presence of obstructions or radio waves between the camera and access point.
  In this case, change the location of the camera or move the camera closer to the access point.

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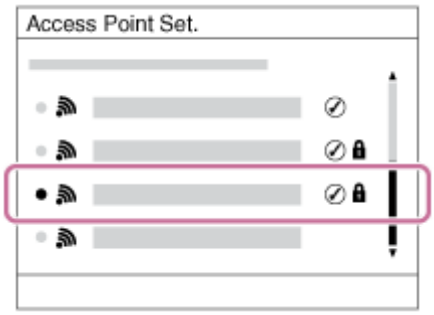
Setting up a wireless LAN: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

1. **MENU → (Network) → [Wi-Fi Settings] → [Access Point Set.].**

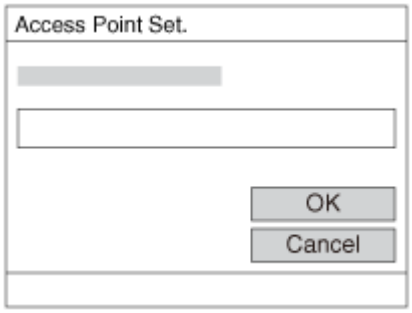
2. **Select the access point you want to register.**



When the desired access point is displayed on the screen: Select the desired access point.
When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.

3. **Input the password, and select [OK].**



- Access points without the mark do not require a password.

4. **Select [OK].**

Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.
WPS PIN:
Displays the PIN code you enter into the connected device.
Priority Connection:
Select [On] or [Off].
IP Address Setting:
Select [Auto] or [Manual].

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.
Subnet Mask/Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- To give the registered access point priority in the future, set [Priority Connection] to [On].

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Registering an FTP server

You can register FTP servers for FTP transfers to the camera. Up to nine FTP servers can be registered. As an example, the method for registering [Server 1] is described here.

1. **MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → [Server 1].**
2. **Select each setting item and then input the setting value for Server 1.**
   - Input each item using the software keyboard and then select [OK]. For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Menu item details

Display Name:
Input a name for the FTP server to be registered.

Destination Settings:
Configure the following items for the FTP server:

- Host Name: The host name or IP address of the server
- Secure Protocol: Set whether or not to execute secure FTP transfers
- Root Certificate Error: Normally it is recommended to set [Does Not Connect]. If a certificate error is displayed, update the root certificate and connect with the correct authentication.
- Port: The port number of the FTP server

Directory Settings:
Set the destination folder on the FTP server.

- Specify Directory: Set the destination folder.
  For example, when “aaa” is specified as the destination folder name, jpeg files are transferred in the manner of C:\interpub\ftproot\aaa\DSC00001.jpg.
  When the folder is not specified, jpeg files are transferred to directly below the user folder in the manner of C:\interpub\ftproot\DSC00001.jpg.
- Directory Hierarchy:
  - [Standard]: Files are transferred to the folder set by [Specify Directory].
  - [Same as in Camera]: The folder configuration is the same as that of the memory card inserted into the camera. If the camera has two memory slots, destination folder name is “A” for Slot 1 and “B” for Slot 2.
    Example: C:\interpub\ftproot\A\DCIM\100MSDCF\DSC00001.jpg
- Same File Name: When there is a file with the same name at the destination, set whether to overwrite the file. When [Does Not Overwrite] is set and there is a file with the same name at the destination, an underscore and a number are added to the end of the file name. (Example: DSC00001_1.jpg)

User Info Settings:
Input a [User] and [Password] to log on to the FTP server.

To select the server to be used for transfer

MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → desired server.

Note

- It is recommended that you set [Secure Protocol] to [On]. When it is set to [Off], communications between the camera and the FTP server may be intercepted. Also, user names, passwords, and file data may be leaked if the camera connects to an unintended FTP server.
- When [Connect] is selected by [Root Certificate Error], [Connected (Root Certificate Error)] will be displayed in the [FTP Transfer Func.] screen. In addition, a connection is established forcibly even when a valid root certificate is not imported to the camera, so the camera may be connected to an unintended FTP server.
- The camera is not compatible with active mode FTP transfers.

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Connecting to an FTP server

Make the following settings to connect to the selected FTP server.

Selecting the method of connecting to the FTP server (only on models supporting wired LAN)

MENU → (Network) → [FTP Transfer Func.] → [FTP Connect Method] → desired setting.

Wired LAN :
Connect to the FTP server using a wired LAN.

Wi-Fi :
Connect to the FTP server using a wireless LAN.

Enabling the FTP transfer function

MENU → (Network) → [FTP Transfer Func.] → [FTP Function] → [On].

- If FTP server registration and the network connection setup are complete, a connection is established with the FTP server.

About the connection status

- Once the connection has been established, the FTP (FTP connection) icon will appear in the recording standby screen or the playback screen.
- If connection fails, the above icon appears orange. Select MENU→ (Network) → [FTP Transfer Func.] and check the displayed error details.

Hint

- When trying to establish an FTP connection via a wireless LAN, if the camera is not emitting radio waves after entering the FTP power save mode, etc., the Wi-Fi (wireless LAN) icon on the screen will disappear.
- If connecting via a wired LAN, see the “Help Guide” for the camera for the location of the terminal (only with models supporting wired LAN).
- If connecting via a wireless LAN, make sure that you are near the registered access point.
- You can also establish an FTP connection via a wired LAN even if [Airplane Mode] is set to [On] (only with models supporting wired LAN).

Note

- When a connection error occurs, check the following.
  - Check whether the wired LAN cable is disconnected, and insert the terminal correctly (only with models supporting wired LAN).
  - If connecting via a wireless LAN but the registered access point cannot be found, move closer to the registered access point.

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About image transfer

You can select and transfer the necessary images shot using the camera to a registered FTP server, and automatically transfer images to a registered FTP server while recording. The [FTP Connect Method] setting (only on models supporting wired LAN) and the destination server can be specified separately, so that settings can be quickly changed according to the network environment and other factors during recording and transfer.

Types of transfer that can be executed by this camera

Batch Transfer:
You can narrow down the transfer target, such as protected images or non-transferred images, and transfer the applicable images together as a batch.

Auto Transfer:
You can transfer all images automatically while recording.

One Image Transfer:
You can transfer only the image being played back.

- On models equipped with two memory card slots, the slot set with [Select PB Media] is used for Batch Transfer and One-Image Transfer. Auto Transfer targets the slot set by [Prioritize Rec. Media].

What you can do during transfer operations

- You can record and play back still images even during transfer operations.
- If you press the shutter button halfway while the transfer underway screen is displayed, the display will change to the recording screen.
- If you select [OK] on the transfer underway screen, the playback screen will appear.
- You can select [FTP Transfer Func.] from the MENU or press the custom key to which the [FTP Transfer] function is assigned during the transfer to return from the recording or playback screen to the transfer underway screen.

To cancel FTP transfer

Select [Cancel Transfer] on the transfer underway screen.

Note

- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- You can only transfer still images recorded by the camera using FTP.
- Do not remove the memory card from the camera during transfer operations.
- Images cannot be transferred if the write protect switch or erase protect switch of the media is set to “LOCK.”
- If the memory card containing the images to be transferred is removed from the camera, the scheduled image transfer will be canceled.
- If the power is turned off during image transfer, transfer of the image currently being transferred (and images scheduled for transfer in case of Batch Transfer) will fail.
- If you start to record or play back a movie during image transfer, the transfer will be paused. The transfer will resume when movie recording or playback ends.
- When the [Connection Error] screen appears, the network connection has been lost. Check the connection status with the access point.

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Transferring images in a batch

You can specify the target transfer range, such as protected images or non-transferred images, and transfer only the necessary images together as a batch. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Playback) → [Select PB Media] → desired slot.**
2. **MENU → (Network) → [FTP Transfer Func.] → [FTP Transfer].**
3. **Specify the FTP transfer target.**
   - Target range: Select from [This Media] or [This Date] (in case of Date View)/[This Folder] (in case of Folder View).
   - Target images: Select from [All] or [Only Protected Img.].
   - Transfer status: Select from [All] or [Only Non-transfer]* or [Only Failed Transfer].
     * [Only Non-transfer] also includes images for which transfer failed.
4. **Select [OK] and press the center of the control wheel.**
5. **Select [OK] and press the center.**

   Image transfer starts.

Image transfer status

You can check the image transfer status on the playback screen.

FTP: FTP transfer underway

FTP: FTP transfer complete

FTP: FTP transfer failed

Note

- You cannot select the next image to be transferred while image transfer is underway.
- Depending on the version of the camera's system software (firmware) when you protected the images, you may be unable to transfer the images. Update the system software to the latest version, and then protect the images again.
- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Transferring images automatically while recording

You can automatically transfer all recorded images to an FTP server. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Network) → [FTP Transfer Func.] → [Auto Trans When Shot] (or [Auto Transfer]) → desired setting.**
2. **Record images.**

Menu item details

On:
Recorded images are automatically transferred using FTP.

Off:
The [Auto Trans When Shot] (or [Auto Transfer]) function is not used.

Note

- When images are recorded with [Auto Trans When Shot] (or [Auto Transfer]) set to [On] but the connection with the FTP server could not be established for some reason, the recorded images are automatically transferred when the connection with the FTP server recovers.

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Transferring the image currently being played back

By assigning the [FTP Transfer (1 img.)] function to the desired custom key, you can transfer the image currently being played back to the FTP server simply by pressing that key at the playback screen. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Camera Settings2) → [Custom Key] → Set the [FTP Transfer (1 img.)] function to the desired key.**
2. **Display the image to be transferred and press the key to which the [FTP Transfer (1 img.)] function was assigned.**

Hint

- When image transfer is currently underway, image transfer by the [FTP Transfer (1 img.)] function starts after that transfer is complete.

Note

- You cannot transfer the following images.
  - Group view images
  - Images not registered in the image database.
  - Movie files

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Checking the transfer results

You can check the transfer results of the images transferred using FTP within the selected slot. It is recommended that you check whether or not the transfer failed before turning off the power.

1. **MENU → (Network) → [FTP Transfer Func.] → [Display FTP Result] → desired slot.**

   The transfer results will be displayed.

Items displayed

Success. Trans. Img.:
Number of FTP transfer successful files

Failed Transfer Img.:
Number of FTP transfer failed files

To delete the transfer results information

Select [Reset] on the [Display FTP Result] screen.

- The entire transfer history of the selected slot will be deleted.

Note

- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Setting the RAW+JPEG image transfer target

You can select the transfer target file formats when transferring images recorded in RAW+JPEG format to an FTP server.

1. **MENU → (Network) → [FTP Transfer Func.] → [RAW+J Trans. Trgt.] → desired setting.**

Menu item details

JPEG Only:
Transfers only JPEG images using FTP.

RAW Only:
Transfers only RAW images using FTP.

RAW & JPEG:
Transfers both RAW and JPEG images using FTP.

Hint

- When FTP transfer is executed with [RAW & JPEG] set, the RAW image and the JPEG image are each counted as one image on the [Display FTP Result] screen.

Note

- The [RAW+J Trans. Trgt.] setting is applied only to images recorded with [File Format] set to [RAW & JPEG].

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Using the FTP Power Save function

You can cut off the network connection when not executing FTP transfer to avoid running down the battery.

1. **MENU → (Network) → [FTP Transfer Func.] → [FTP Power Save] → desired setting.**

Menu item details

Off:
Always connects to the network.

On:
Connects to the network only during FTP transfer. When FTP transfer is not executed for a certain time, the network connection is automatically cut off.

Hint

- When the following operations are performed in FTP Power Save mode, the network connection is reestablished and FTP Power Save mode is canceled.
  - When the FTP server to be used setting is changed.
  - When the connection is switched between wired LAN and wireless LAN (only on models supporting wired LAN).
  - When the LAN connection setting is changed.
  - When image transfer is executed using [FTP Transfer] or [FTP Transfer (1 img.)].
  - When an image is recorded with [Auto Trans When Shot] set to [On].
  - When [FTP Function] is set to [Off].

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Security(IPsec)

Encrypts data when the camera and a computer communicate via a wired LAN (only on models supporting wired LAN) or Wi-Fi connection.
This function is not available for some versions of the camera's system software. Update the camera's system software to the latest version before use.

1. **MENU → (Network) → [Security(IPsec)] → desired setting.**

Menu item details

IPsec([On]/[Off]):
Sets whether or not the [Security(IPsec)] function is used.

Dest. IP Address:
Sets the IP address of the device to connect using the [Security(IPsec)] function.

Shared Key:
Sets the shared key used by the [Security(IPsec)] function.

Note

- Use at least eight and no more than 20 alphanumeric characters or symbols for [Shared Key].
- For IPsec communications, the device to connect must be compatible with IPsec.
  Depending on the device, communications may not be possible or the communication speed may be slow.
- On this camera, IPsec operates in transport mode only and uses IKEv2.
  The algorithm is AES with 128-bit keys in CBC mode/Diffie-Hellman 3072-bit modp group/PRF-HMAC-SHA-256/HMAC-SHA-384-192.
  The authentication expires after 24 hours.
- Encrypted communications can only be made with devices that are configured correctly. Communications with other devices are not encrypted.
- For details on the IPsec configuration, consult the administrator of the network for your device.

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Updating the root certificate on the camera

When executing FTP transfers with [Secure Protocol] set to [On], a root certificate is needed to verify the server. The root certificate is saved to the camera and can be updated. To update the root certificate, save the certificate to a memory card and import it to the camera.

1. **Save a root certificate to a memory card.**
   - Save the certificate to the root directory of the memory card in the PEM format, and name it “cacert.pem.”
2. **Insert the memory card to which the root certificate has been saved into the camera’s memory card slot.**
   - If the camera has two memory card slots, insert the memory card into Slot 1.
3. **MENU → (Network) → [Imp Root Certificate] → [OK].**
   - The root certificate saved to the memory card is read by the camera, and then the root certificate on the camera is updated.

Note

- Do not remove the memory card from the camera during read operations.
- When the network settings are reset, the root certificate on the camera is reset as well.

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Reset Network Set.

Resets all the network settings to default settings.

1 **MENU → (Network) → [Reset Network Set.] → [Enter].**

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Troubleshooting

When an error message appears, check the following causes and remedies. If the problem persists even after you have tried the following procedures, temporarily disable the FTP function and then turn it back on again.

Failed to acquire an IP address.

- The DHCP server has frozen or is down. Restart the DHCP server.
  When using a wired LAN: Restart the DHCP server on the network. (Contact the network administrator.)
  When using Wi-Fi: Check that the DHCP server of the wireless LAN access point used is enabled, or restart the access point. (Contact the network administrator.)

Could not create a directory on the FTP server.

- Write permission is not granted by the FTP server permissions settings. Change the FTP server settings. (Contact the FTP server administrator.)
- The specified folder name contains one or more characters that cannot be used by the OS which the FTP server is running. Check the FTP server settings registered in the camera, and change the characters entered to [Specify Directory] of [Directory Settings].

Failed to connect to an FTP server.

- Confirm the details of the FTP server settings.
- The FTP server has frozen or is down. Restart the FTP server. (Contact the FTP server administrator.)

Cannot transfer to the FTP server.

- The FTP server disk is full. Delete the data stored in the FTP server. (Contact the FTP server administrator.)
- Write permission is not granted for some reason such as that the FTP server permissions settings were changed during transfer operations. Change the FTP server settings. (Contact the FTP server administrator.)

Failed to acquire an IP address. Check the DNS server setting or the DESTINATION SET.

- The FTP server name (host name) registration contains an error. Correct [Host Name] of [Destination Settings] in the FTP server settings of the camera.
- When the IP address was set manually in the LAN connection settings of the camera, the DNS server IP address contained an error. Re-enter the DNS server IP address to [Wired LAN Settings] or [Wi-Fi Settings] of the camera.
- When [IP Address Setting] is set to [Auto] in the LAN connection settings of the camera, the DNS server information is not notified. Find the DHCP server on the network and correct the DNS server notification setting. (Contact the network administrator.)
- The DNS server has frozen or is down. Restart the DNS server on the network. (Contact the network administrator.)

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What you can do using [FTP Transfer Func.]

You can communicate with an FTP server by connecting the camera to a network via a commercially available LAN cable (wired LAN) or wireless LAN. You can then transfer images to the FTP server by operating the camera.

Note

- The wireless access point or wireless router that relays the LAN connection is referred to as the “access point” in this manual.
- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- For details on the camera’s operations, see the “Help Guide” for the camera.
- If your camera is lost or stolen, Sony bears no responsibility for the loss or damage caused by illegal access or use of the registered access point on the camera.
- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN. If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

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Setting up a wired LAN (ILCE-9 only)

Configure the settings to connect the camera to the network using a wired LAN.

1 **MENU → (Network) → [Wired LAN Settings] → desired setting.**

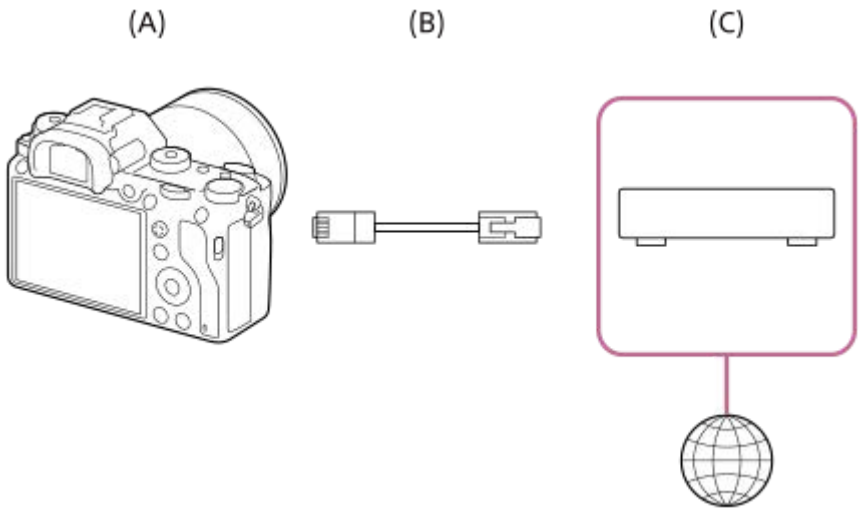
Menu item details

IP Address Setting:
Select [Auto] or [Manual].

Disp MAC Address:
Displays the wired LAN MAC address of this product.

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.

Subnet Mask /Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.



(A) Camera

- For the location of the LAN terminal, see the “Help Guide” for the camera.

(B) LAN cable (sold separately)

- Use a Category 5e or higher Shielded Twisted Pair (STP) cable with high shielding performance.

(C) Router (sold separately)

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

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Setting up a wireless LAN: WPS Push

If your access point has a Wi-Fi Protected Setup™ (WPS) button, you can register the access point to the camera easily.

1. **MENU → (Network) → [Wi-Fi Settings] → [WPS Push].**
2. **Push the Wi-Fi Protected Setup (WPS) button on the access point to connect.**

Note

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be possible or the communication distance may be shorter depending on the surrounding conditions, such as the type of wall material and the presence of obstructions or radio waves between the camera and access point.
  In this case, change the location of the camera or move the camera closer to the access point.

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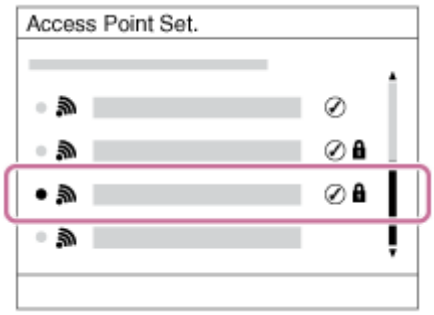
Setting up a wireless LAN: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

1. **MENU → (Network) → [Wi-Fi Settings] → [Access Point Set.].**

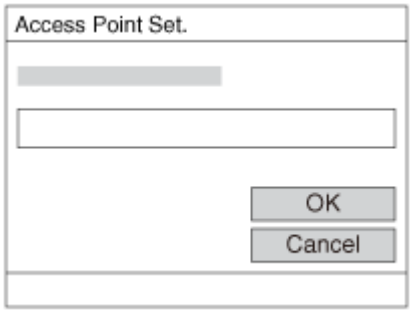
2. **Select the access point you want to register.**



When the desired access point is displayed on the screen: Select the desired access point.
When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.

3. **Input the password, and select [OK].**



- Access points without the mark do not require a password.

4. **Select [OK].**

Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.
WPS PIN:
Displays the PIN code you enter into the connected device.
Priority Connection:
Select [On] or [Off].
IP Address Setting:
Select [Auto] or [Manual].

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.
Subnet Mask/Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- To give the registered access point priority in the future, set [Priority Connection] to [On].

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Registering an FTP server

You can register FTP servers for FTP transfers to the camera. Up to three FTP servers can be registered. As an example, the method for registering [FTP Server 1] is described here.

1. **MENU → (Network) → [FTP Transfer Func.] → [FTP Server 1].**
   - The setting screen for FTP Server 1 will appear.
2. **Select each setting item and then input the setting value for FTP Server 1.**
   - Input each item using the software keyboard and then select [OK].

Menu item details

Display Name:
Input a name for the FTP server to be registered.

Destination Settings:
Configure the following items for the FTP server:

- Host Name: The host name or IP address of the server
- Secure Protocol: Set whether or not to execute secure FTP transfers
- Port: The port number of the FTP server
- Directory: The destination folder name

User Info Settings:
Input a user name and password to log on to the FTP server.

About the destination folder

The destination folder configuration is as follows.

Example:
When “aaa” is specified as the destination folder name
C:\interpub\ftproot\aaa\ILCE9-_xxxxxxx\hhmmss\DCIM\100MSDCF\

When the destination folder name is not specified
C:\interpub\ftproot\yyyy-mm-dd\ILCE9-_xxxxxxx\hhmmss\DCIM\100MSDCF\

interpub\ftproot: Destination folder name set by the FTP server side
aaa: Folder name specified by the camera
ILCE9-xxxxxx: Model name and serial number
hhmmss: Transfer time
DCIM\100MSDCF: Name of the transfer source folder inside the camera
yyyy-mm-dd: Transfer date

- Even if an image with the same file name is transmitted again, the image will be transferred to another folder with a different transfer time, so the image will not be overwritten.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- It is recommended that you set [Secure Protocol] to [On]. When it is set to [Off], communications between the camera and the FTP server may be intercepted. Also, user names, passwords, and file data may be leaked if the camera connects to an unintended FTP server.
- The camera is not compatible with active mode FTP transfers.

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Selecting an FTP server

You can select a destination FTP server from among the registered FTP servers.

1. **MENU → (Network) → [FTP Transfer Func.] → [Select FTP Server].**
2. **Select the desired FTP server.**

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Updating the root certificate on the camera

When executing FTP transfers with [Secure Protocol] set to [On], a root certificate is needed to verify the server. The root certificate is saved to the camera and can be updated. To update the root certificate, save the certificate to a memory card and import it to the camera.

1. **Save a root certificate to a memory card.**
   - Save the certificate to the root directory of the memory card in the PEM format, and name it “cacert.pem.”
2. **Insert the memory card to which the root certificate has been saved into the camera’s memory card slot.**
   - If the camera has two memory card slots, insert the memory card into Slot 1.
3. **MENU → (Network) → [Imp Root Certificate] → [OK].**
   - The root certificate saved to the memory card is read by the camera, and then the root certificate on the camera is updated.

Note

- Do not remove the memory card from the camera during read operations.
- When the network settings are reset, the root certificate on the camera is reset as well.

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Transferring images to an FTP server

You can transfer images to the selected FTP server. Configure the settings for the FTP server setting and the wired/wireless LAN in advance.

1. **MENU → (Playback) → [Select PB Media] → desired slot.**
2. **Set the camera to playback mode.**
3. **MENU → (Network) → [FTP Transfer Func.] → [FTP Transfer] → Select the network connection method.**
   - The connection will start when you select the network connection method.
   - Once a connection to the FTP server has been established, the image selection screen will appear.
4. **Select the images to transfer and then select MENU → [OK].**
   - The image transfer will start when you select [OK].
   - To cancel the transfer, select [Cancel].
5. **To continue transferring other images, select [OK] on the completion screen.**

   The camera will go back to Step 4.

Hint

- If connecting via a wired LAN, see the “Help Guide” for the camera for the location of the terminal.
- If connecting via a wireless LAN, make sure that you are near the registered access point.

Note

- You can only transfer still images recorded by the camera using FTP.
- Do not remove the memory card from the camera during transfer operations.
- You can only use a wired LAN connection when [Airplane Mode] is set to [On].

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Checking the FTP transfer results

You can check the results of the last FTP transfer.

1. **MENU → (Network) → [FTP Transfer Func.] → [Display FTP Result].**

   The FTP transfer results will be displayed.

Items displayed

Transfer Date/Time:
The date and time when the transfer was started

Number of Transfers:
The amount of transferred content / The total amount of content

Transfer Result:
Complete/Not Complete/Cancel

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Reset Network Set.

Resets all the network settings to default settings.

1 **MENU → (Network) → [Reset Network Set.] → [Enter].**

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Troubleshooting

The image transfer fails.
The following causes are possible. For details, consult the FTP server’s administrator.

- You are using an active mode FTP server.
- The FTP server's capacity is full.
- You do not have write authority for the FTP server.
- The FTP server is shut down.

The message “Could not verify the certificate. Continue connection?” appears.
The FTP server’s reliability cannot be verified. If you select [OK], the camera will start connecting.

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About LAN connection

You can communicate with an FTP server by connecting the camera to a network via a commercially available LAN cable (only if the model supports wired LAN) or wireless LAN. You can then transfer images to the FTP server by operating the camera.

Note

- The wireless access point or wireless router that relays the LAN connection is referred to as the “access point” in this manual.
- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- For details on the camera’s operations, see the “Help Guide” for the camera.
- If your camera is lost or stolen, Sony bears no responsibility for the loss or damage caused by illegal access or use of the registered access point on the camera.
- Always make sure that you are using a secure wireless LAN to avoid hacking, access by malicious third parties, or other vulnerabilities.
- It is important that you set the security settings when using a wireless LAN. If a security problem arises because no security precautions are in place or due to any inevitable circumstances when using a wireless LAN, Sony bears no responsibility for the loss or damage.

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Setting up a wireless LAN: WPS Push

If your access point has a Wi-Fi Protected Setup™ (WPS) button, you can register the access point to the camera easily.

1. **MENU → (Network) → [Wi-Fi Settings] → [WPS Push].**
2. **Push the Wi-Fi Protected Setup (WPS) button on the access point to connect.**

Note

- [WPS Push] works only if the security setting of your access point is set to WPA or WPA2 and your access point supports the Wi-Fi Protected Setup (WPS) button method. If the security setting is set to WEP or your access point does not support the Wi-Fi Protected Setup (WPS) button method, perform [Access Point Set.].
- For details about the available functions and settings of your access point, see the access point operating instructions or contact the administrator of the access point.
- A connection may not be possible or the communication distance may be shorter depending on the surrounding conditions, such as the type of wall material and the presence of obstructions or radio waves between the camera and access point.
  In this case, change the location of the camera or move the camera closer to the access point.

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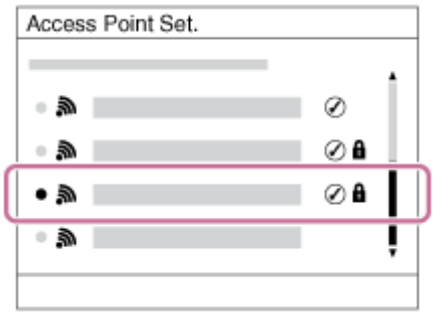
Setting up a wireless LAN: Access Point Set.

You can register your access point manually. Before starting the procedure, check the SSID name of the access point, security system, and password. The password may be preset in some devices. For details, see the access point operating instructions, or consult the access point administrator.

1. **MENU → (Network) → [Wi-Fi Settings] → [Access Point Set.].**

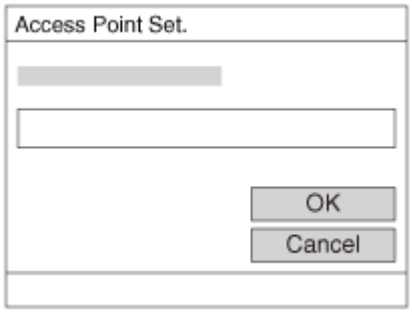
2. **Select the access point you want to register.**



When the desired access point is displayed on the screen: Select the desired access point.
When the desired access point is not displayed on the screen: Select [Manual Setting] and set the access point.

- If you select [Manual Setting], input the SSID name of the access point, then select the security system.

3. **Input the password, and select [OK].**



- Access points without the mark do not require a password.

4. **Select [OK].**

Other setting items

Depending on the status or the setting method of your access point, you may want to set more items.
WPS PIN:
Displays the PIN code you enter into the connected device.
Priority Connection:
Select [On] or [Off].
IP Address Setting:
Select [Auto] or [Manual].

IP Address:
If you have set [IP Address Setting] to [Manual], enter the fixed address.
Subnet Mask/Default Gateway/Primary DNS Server/Second DNS Server:
If you have set [IP Address Setting] to [Manual], enter each address according to your network environment.

Hint

- For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Note

- To give the registered access point priority in the future, set [Priority Connection] to [On].

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Registering an FTP server

You can register FTP servers for FTP transfers to the camera. Up to nine FTP servers can be registered. As an example, the method for registering [Server 1] is described here.

1. **MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → [Server 1].**
2. **Select each setting item and then input the setting value for Server 1.**
   - Input each item using the software keyboard and then select [OK]. For details on how to input using the software keyboard, see the “Help Guide” for the camera.

Menu item details

Display Name:
Input a name for the FTP server to be registered.

Destination Settings:
Configure the following items for the FTP server:

- Host Name: The host name or IP address of the server
- Secure Protocol: Set whether or not to execute secure FTP transfers
- Root Certificate Error: Normally it is recommended to set [Does Not Connect]. If a certificate error is displayed, update the root certificate and connect with the correct authentication.
- Port: The port number of the FTP server

Directory Settings:
Set the destination folder on the FTP server.

- Specify Directory: Set the destination folder.
  For example, when “aaa” is specified as the destination folder name, jpeg files are transferred in the manner of C:\interpub\ftproot\aaa\DSC00001.jpg.
  When the folder is not specified, jpeg files are transferred to directly below the user folder in the manner of C:\interpub\ftproot\DSC00001.jpg.
- Directory Hierarchy:
  - [Standard]: Files are transferred to the folder set by [Specify Directory].
  - [Same as in Camera]: The folder configuration is the same as that of the memory card inserted into the camera. If the camera has two memory slots, destination folder name is “A” for Slot 1 and “B” for Slot 2.
    Example: C:\interpub\ftproot\A\DCIM\100MSDCF\DSC00001.jpg
- Same File Name: When there is a file with the same name at the destination, set whether to overwrite the file. When [Does Not Overwrite] is set and there is a file with the same name at the destination, an underscore and a number are added to the end of the file name. (Example: DSC00001_1.jpg)

User Info Settings:
Input a [User] and [Password] to log on to the FTP server.

To select the server to be used for transfer

MENU → (Network) → [FTP Transfer Func.] → [Server Setting] → desired server.

Note

- It is recommended that you set [Secure Protocol] to [On]. When it is set to [Off], communications between the camera and the FTP server may be intercepted. Also, user names, passwords, and file data may be leaked if the camera connects to an unintended FTP server.
- When [Connect] is selected by [Root Certificate Error], [Connected (Root Certificate Error)] will be displayed in the [FTP Transfer Func.] screen. In addition, a connection is established forcibly even when a valid root certificate is not imported to the camera, so the camera may be connected to an unintended FTP server.
- The camera is not compatible with active mode FTP transfers.

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Inputting FTP server settings with a smartphone

You can use the smartphone application “Transfer & Tagging add-on” to input items under [Server Setting], and apply them to the camera by sending the settings via Bluetooth communications. Be sure to pair the camera and the smartphone using the Bluetooth function beforehand.

For details, refer to the website for “Transfer & Tagging add-on” below.
https://www.sony.net/ttad/

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Connecting to an FTP server

Make the following settings to connect to the selected FTP server.

Selecting the method of connecting to the FTP server (only on models supporting wired LAN)

MENU → (Network) → [FTP Transfer Func.] → [FTP Connect Method] → desired setting.

Wired LAN :
Connect to the FTP server using a wired LAN.

Wi-Fi :
Connect to the FTP server using a wireless LAN.

Enabling the FTP transfer function

MENU → (Network) → [FTP Transfer Func.] → [FTP Function] → [On].

- If FTP server registration and the network connection setup are complete, a connection is established with the FTP server.

About the connection status

- Once the connection has been established, the FTP (FTP connection) icon will appear in the recording standby screen or the playback screen.
- If connection fails, the above icon appears orange. Select MENU→ (Network) → [FTP Transfer Func.] and check the displayed error details.

Hint

- When trying to establish an FTP connection via a wireless LAN, if the camera is not emitting radio waves after entering the FTP power save mode, etc., the Wi-Fi (wireless LAN) icon on the screen will disappear.
- If connecting via a wired LAN, see the “Help Guide” for the camera for the location of the terminal (only with models supporting wired LAN).
- If connecting via a wireless LAN, make sure that you are near the registered access point.
- You can also establish an FTP connection via a wired LAN even if [Airplane Mode] is set to [On] (only with models supporting wired LAN).

Note

- When a connection error occurs, check the following.
  - Check whether the wired LAN cable is disconnected, and insert the terminal correctly (only with models supporting wired LAN).
  - If connecting via a wireless LAN but the registered access point cannot be found, move closer to the registered access point.

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About image transfer

You can select and transfer the necessary images shot using the camera to a registered FTP server, and automatically transfer images to a registered FTP server while recording. The [FTP Connect Method] setting (only on models supporting wired LAN) and the destination server can be specified separately, so that settings can be quickly changed according to the network environment and other factors during recording and transfer.

Types of transfer that can be executed by this camera

Batch Transfer:
You can narrow down the transfer target, such as protected images or non-transferred images, and transfer the applicable images together as a batch.

Auto Transfer:
You can transfer all images automatically while recording.

One Image Transfer:
You can transfer only the image being played back.

- On models equipped with two memory card slots, the slot set with [Select PB Media] is used for Batch Transfer and One-Image Transfer. Auto Transfer targets the slot set by [Prioritize Rec. Media].

What you can do during transfer operations

- You can record and play back still images even during transfer operations.
- If you press the shutter button halfway while the transfer underway screen is displayed, the display will change to the recording screen.
- If you select [OK] on the transfer underway screen, the playback screen will appear.
- You can select [FTP Transfer Func.] from the MENU or press the custom key to which the [FTP Transfer] function is assigned during the transfer to return from the recording or playback screen to the transfer underway screen.

To cancel FTP transfer

Select [Cancel Transfer] on the transfer underway screen.

Note

- Basic knowledge of FTP servers is required to use the FTP transfer function.
- The explanations in this manual are based on the assumption that your network or FTP server environment is ready to use. For information on how to prepare the network environment, check with the manufacturer of each device.
- You can only transfer still images recorded by the camera using FTP.
- Do not remove the memory card from the camera during transfer operations.
- Images cannot be transferred if the write protect switch or erase protect switch of the media is set to “LOCK.”
- If the memory card containing the images to be transferred is removed from the camera, the scheduled image transfer will be canceled.
- If the power is turned off during image transfer, transfer of the image currently being transferred (and images scheduled for transfer in case of Batch Transfer) will fail.
- If you start to record or play back a movie during image transfer, the transfer will be paused. The transfer will resume when movie recording or playback ends.
- When the [Connection Error] screen appears, the network connection has been lost. Check the connection status with the access point.

- If the image transfer becomes interrupted due to network disconnection, etc., the transfer will resume when the camera is reconnected to the network. An image whose transfer was initially interrupted and is then transferred after reconnection will have an underscore and numeric characters added to the end of the file name even if [Same File Name] under [Directory Settings] is set to [Overwrite].

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Transferring images in a batch

You can specify the target transfer range, such as protected images or non-transferred images, and transfer only the necessary images together as a batch. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Playback) → [Select PB Media] → desired slot.**
2. **MENU → (Network) → [FTP Transfer Func.] → [FTP Transfer].**
3. **Specify the FTP transfer target.**
   - Target range: Select from [This Media] or [This Date] (in case of Date View)/[This Folder] (in case of Folder View).
   - Target images: Select from [All] or [Only Protected Img.].
   - Transfer status: Select from [All] or [Only Non-transfer]* or [Only Failed Transfer].
     * [Only Non-transfer] also includes images for which transfer failed.
4. **Select [OK] and press the center of the control wheel.**
5. **Select [OK] and press the center.**

   Image transfer starts.

Image transfer status

You can check the image transfer status on the playback screen.

FTP : FTP transfer underway

FTP : FTP transfer complete

FTP : FTP transfer failed

Note

- You cannot select the next image to be transferred while image transfer is underway.
- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Transferring images automatically while recording

You can automatically transfer all recorded images to an FTP server. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Network) → [FTP Transfer Func.] → [Automatic Transfer] → desired setting.**
2. **Record images.**

Menu item details

On:
Recorded images are automatically transferred using FTP.

Off:
The [Automatic Transfer] function is not used.

Note

- When images are recorded with [Automatic Transfer] set to [On] but the connection with the FTP server could not be established for some reason, the recorded images are automatically transferred when the connection with the FTP server recovers.

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Transferring the image currently being played back

By assigning the [FTP Transfer (1 img.)] function to the desired custom key, you can transfer the image currently being played back to the FTP server simply by pressing that key at the playback screen. Set MENU → (Network) → [FTP Transfer Func.] → [FTP Function] to [On] in advance.

1. **MENU → (Camera Settings2) → [Custom Key] → Set the [FTP Transfer (1 img.)] function to the desired key.**
2. **Display the image to be transferred and press the key to which the [FTP Transfer (1 img.)] function was assigned.**

Hint

- When image transfer is currently underway, image transfer by the [FTP Transfer (1 img.)] function starts after that transfer is complete.

Note

- You cannot transfer the following images.
  - Group view images
  - Images not registered in the image database.
  - Movie files

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Checking the transfer results

You can check the transfer results of the images transferred using FTP within the selected slot. It is recommended that you check whether or not the transfer failed before turning off the power.

1. **MENU → (Network) → [FTP Transfer Func.] → [Display FTP Result] → desired slot.**

   The transfer results will be displayed.

Items displayed

Success. Trans. Img.:
Number of FTP transfer successful files

Failed Transfer Img.:
Number of FTP transfer failed files

To delete the transfer results information

Select [Reset] on the [Display FTP Result] screen.

- The entire transfer history of the selected slot will be deleted.

Note

- When [Recover Image DB] is executed, all transfer statuses for that slot are cleared.

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Setting the RAW+JPEG image transfer target

You can select the transfer target file formats when transferring images recorded in RAW+JPEG format to an FTP server.

1. **MENU → (Network) → [FTP Transfer Func.] → [RAW+J Trans. Trgt.] → desired setting.**

Menu item details

JPEG Only:
Transfers only JPEG images using FTP.

RAW Only:
Transfers only RAW images using FTP.

RAW & JPEG:
Transfers both RAW and JPEG images using FTP.

Hint

- When FTP transfer is executed with [RAW & JPEG] set, the RAW image and the JPEG image are each counted as one image on the [Display FTP Result] screen.

Note

- The [RAW+J Trans. Trgt.] setting is applied only to images recorded with [File Format] set to [RAW & JPEG].

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Using the FTP Power Save function

You can cut off the network connection when not executing FTP transfer to avoid running down the battery.

1 **MENU → (Network) → [FTP Transfer Func.] → [FTP Power Save] → desired setting.**

Menu item details

Off:
Always connects to the network.

On:
Connects to the network only during FTP transfer. When FTP transfer is not executed for a certain time, the network connection is automatically cut off.

Hint

- When the following operations are performed in FTP Power Save mode, the network connection is reestablished and FTP Power Save mode is canceled.
  - When the FTP server to be used setting is changed.
  - When the connection is switched between wired LAN and wireless LAN (only on models supporting wired LAN).
  - When the LAN connection setting is changed.
  - When image transfer is executed using [FTP Transfer] or [FTP Transfer (1 img.)].
  - When an image is recorded with [Auto Trans When Shot] set to [On].
  - When [FTP Function] is set to [Off].

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Updating the root certificate on the camera

When executing FTP transfers with [Secure Protocol] set to [On], a root certificate is needed to verify the server. The root certificate is saved to the camera and can be updated. To update the root certificate, save the certificate to a memory card and import it to the camera.

1. **Save a root certificate to a memory card.**
   - Save the certificate to the root directory of the memory card in the PEM format, and name it “cacert.pem.”
2. **Insert the memory card to which the root certificate has been saved into the camera’s memory card slot.**
   - If the camera has two memory card slots, insert the memory card into Slot 1.
3. **MENU → (Network) → [Imp Root Certificate] → [OK].**
   - The root certificate saved to the memory card is read by the camera, and then the root certificate on the camera is updated.

Note

- Do not remove the memory card from the camera during read operations.
- When the network settings are reset, the root certificate on the camera is reset as well.

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Reset Network Set.

Resets all the network settings to default settings.

1 **MENU → (Network) → [Reset Network Set.] → [Enter].**

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Troubleshooting

When an error message appears, check the following causes and remedies. If the problem persists even after you have tried the following procedures, temporarily disable the FTP function and then turn it back on again.

Failed to acquire an IP address.

- The DHCP server has frozen or is down. Restart the DHCP server.
  When using a wired LAN: Restart the DHCP server on the network. (Contact the network administrator.)
  When using Wi-Fi: Check that the DHCP server of the wireless LAN access point used is enabled, or restart the access point. (Contact the network administrator.)

Could not create a directory on the FTP server.

- Write permission is not granted by the FTP server permissions settings. Change the FTP server settings. (Contact the FTP server administrator.)
- The specified folder name contains one or more characters that cannot be used by the OS which the FTP server is running. Check the FTP server settings registered in the camera, and change the characters entered to [Specify Directory] of [Directory Settings].

Failed to connect to an FTP server.

- Confirm the details of the FTP server settings.
- The FTP server has frozen or is down. Restart the FTP server. (Contact the FTP server administrator.)

Cannot transfer to the FTP server.

- The FTP server disk is full. Delete the data stored in the FTP server. (Contact the FTP server administrator.)
- Write permission is not granted for some reason such as that the FTP server permissions settings were changed during transfer operations. Change the FTP server settings. (Contact the FTP server administrator.)

Failed to acquire an IP address. Check the DNS server setting or the DESTINATION SET.

- The FTP server name (host name) registration contains an error. Correct [Host Name] of [Destination Settings] in the FTP server settings of the camera.
- When the IP address was set manually in the LAN connection settings of the camera, the DNS server IP address contained an error. Re-enter the DNS server IP address to [Wired LAN Settings] or [Wi-Fi Settings] of the camera.
- When [IP Address Setting] is set to [Auto] in the LAN connection settings of the camera, the DNS server information is not notified. Find the DHCP server on the network and correct the DNS server notification setting. (Contact the network administrator.)
- The DNS server has frozen or is down. Restart the DNS server on the network. (Contact the network administrator.)

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