

ENG Style Buildup Kit

Operating Instructions

CBK-FS7BK

Extension Unit Software Version 2.0

Network Module Software Version 3.36

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Features

The CBK-FS7BK is an accessory kit that attaches to a PXW-FS7-series camcorder to provide the stability and operability of the camcorder when used shoulder camcorder style. In addition to the XDCA-FS7 functionality, it features a robust viewfinder, sliding shoulder plate, wireless audio receiver slot, and comprehensive network functions. FS7-series camcorders can also be operated with a B4 lens by attaching the LA-EB1 (option).

Remote Operation of Camcorder via a Wireless LAN

When the unit is connected to a PXW-FS7-series camcorder (hereinafter, "camcorder") by USB cable, you can operate the camcorder remotely from a smartphone/tablet/computer that is connected via wireless LAN.

Creating and Recording a Proxy File

The unit creates a proxy file (low resolution) and records it on an SD card that is inserted into the unit, from the HD-SDI input video and audio signals that are shot or played on the camcorder. The created file is called "XAVC (R) Proxy." Recording starts/stops automatically in lock with the camcorder Rec/Stop control signals that are embedded in the HD-SDI signal. When recording using the camcorder, you can create a proxy file of the same duration that inherits the information of the original file recorded on the camcorder.

Uploading a File via a 3G/4G/LTE Network, Wireless LAN, or Wired LAN

You can upload a proxy file (low resolution) that is recorded on an SD card in the unit to a server on the Internet via a 3G/4G/LTE network, wireless LAN, or wired LAN.

Monitoring Camcorder video via a Wireless LAN

The unit can create a stream (H.264) from the camcorder video, which can be monitored using the "Content Browser Mobile" application on a smartphone/tablet via wireless LAN.

"Content Browser Mobile" Application*

You can configure the settings of the unit from a smartphone/tablet using the "Content Browser Mobile" application.

* For details about the "Content Browser Mobile" application, contact your Sony dealer or a Sony service representative.

Streaming Camcorder Video/Audio via a 3G/4G/LTE Network, Wireless LAN, or Wired LAN

The unit can create a stream (H.264/AAC-LC compression) from the camcorder video/audio, which can be streamed via a 3G/4G/LTE network, wireless LAN, or wired LAN.

[Note]

If you start streaming, proxy recording and file transfer cannot be performed.

High Quality Streaming using Sony's QoS Technology

When connected to a Connection Control Manager (CCM) of a Sony Network RX Station (option) or XDCAM air*, the unit supports high quality streaming and file uploading via the CCM.

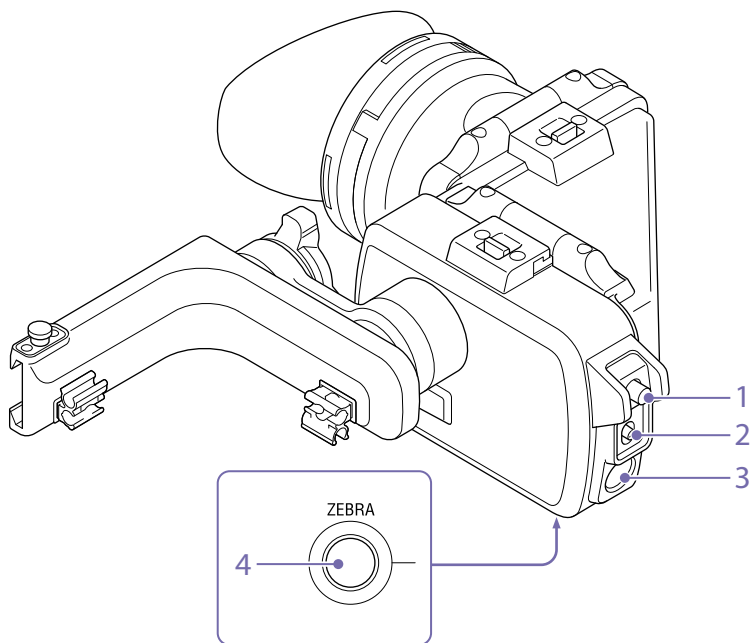
* XDCAM air is a cloud service that is provided by Sony. To use this service, registration is required. XDCAM air is not provided in some regions. For details on areas where the service is provided, refer to the following site.
<https://www.xdcam-air.com>
 For more details, contact a Sony professional sales representative.
 In addition, refer to the following sites for the privacy policy of XDCAM air.
 Terms of service
https://www.xdcam-air.com/site/tos_eu.html
 Privacy policy of XDCAM air
<https://sony-imaging-products-solutions.co.jp/pp/sips/en/index.html>
 Privacy policy of professional ID
<https://www.pro-id.sony.net/#/privacyPolicy>

[Notes]

- The unit works in combination with the latest version of the Network RX Station.
- If network client mode for streaming with Sony's QoS Technology is set to on with proxy recording enabled, the streaming bit rate is limited by the proxy recording setting. File uploading stops when streaming is started.
- You can change the proxy recording setting by operating the CCM.
- You can perform stable streaming with high picture quality using multiple networks. (Depending on the scene, the target bit rate may be exceeded.) This function is available when [Proxy Recording] is set to "Off" or when [Proxy Recording] cannot be set. Use separate network connections to acquire stable performance. To use this function, contact your Sony professional sales representative.

Location and Function of Parts

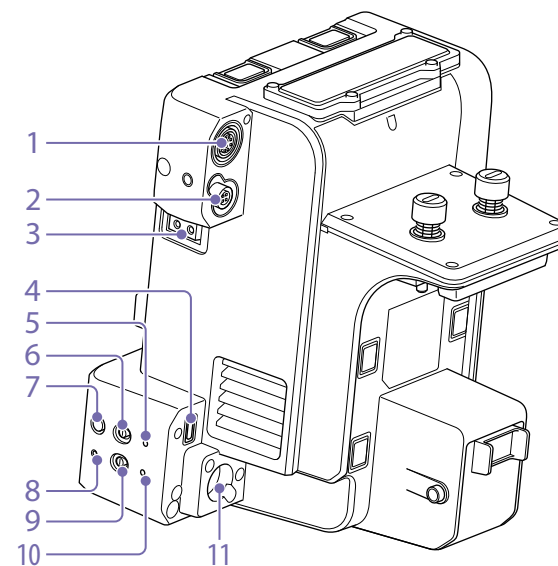
Viewfinder



1. **CONTRAST adjustment knob** (page 13)
2. **MIRROR switch** (page 14)
3. **PEAKING button**
The peaking indicator can be switched on/off.
4. **ZEBRA button**
The zebra pattern indicator can be switched on/off.

Extension Unit

Front / left sides



1. **DATA IN/OUT connector**
Connect to the supplied handle adapter.
Connect in order to use a portable wireless tuner.
2. **DC OUT connector (4-pin round type)**
Outputs 12 V DC power.
Connect when using an LA-EB1 Lens Adapter (option).
3. **LIGHT connector (2-pin)**
Outputs 12 V DC power.
4. **CAM connector (USB Micro B type)**
Connect to the camcorder using the supplied USB cable. Connect in order to control the camcorder remotely.
5. **ST indicator**
Lights blue when the wireless LAN mode of the unit is STA mode. It is off when in AP mode. It flashes blue when executing the WPS function.
6. **WIRELESS (wireless LAN mode select) switch**
Sets the wireless LAN mode of the unit.
"AP": AP mode (access point mode) (page 20)
"ST": STA mode (station mode) (page 22)
7. **WPS button**
Used for the WPS function.
Using Wi-Fi Protected Setup™ (WPS), you can configure connected devices and access points semi-automatically.
8. **RESET button**
Resets the network functions of the unit to the factory default settings.

9. Network module power switch

Set to ON to link the power to the power supply of the camcorder. Set to STANDBY to turn off the network functions.

[Note]

If the camcorder is turned off or the SD card is removed while the SD card is being accessed, the integrity of data on the card cannot be guaranteed. All data recorded on the card may be discarded. Always make sure the access indicator is off before turning off the camcorder or removing the SD card.

[Tip]

When the network module power switch is set to the STANDBY position, the power consumption is reduced, extending the battery life of the camcorder.

10. STATUS indicator

Displays the status of the network functions.

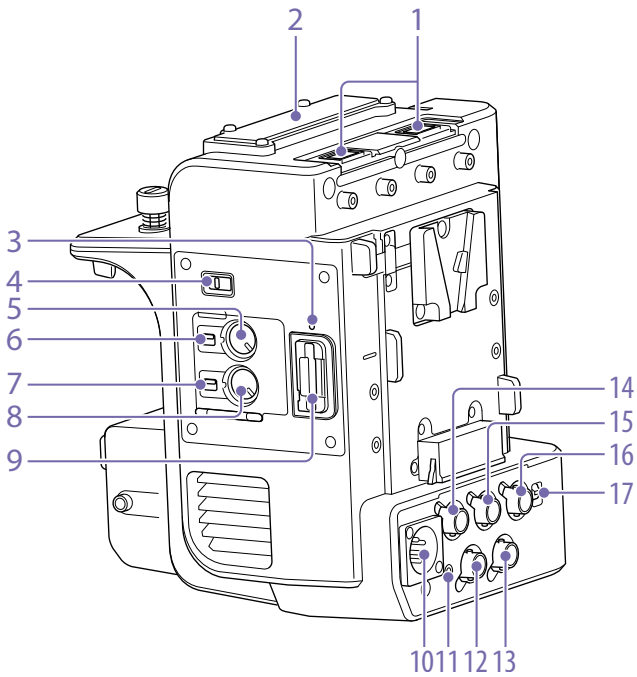
STATUS indicator	Status of network functions
Off	<ul style="list-style-type: none">Power offDuring normal operation
Lit light green	Power on (normal operation)
Flashes light green slowly (0.5 second intervals)	Connecting in STA mode
Flashes light green rapidly (0.2 second intervals)	Transferring files
Flashes red slowly (0.5 second intervals)	<ul style="list-style-type: none">No input signal from SDI IN connectorIntermittent input signal from SDI IN connector
Flashes red rapidly (0.2 second intervals)	<ul style="list-style-type: none">Default setting error when power appliedWireless LAN module/modem not available

STATUS indicator	Status of network functions
Lit orange	<ul style="list-style-type: none">Modem communication not availableNo connection to access point (STA mode)
Flashes orange slowly (0.5 second intervals)	File transfer failed

11. SDI IN connector (BNC type)

Connect to the camcorder using the supplied BNC cable to input the SDI signal that is output from the camcorder. Use to record the video from the camcorder on the unit.

Top / right / rear sides



1. USB connector (type A)

Attach to wireless LAN module supplied with the camcorder, or modem (option).

2. Portable wireless tuner connector

Attach to portable wireless tuner when using a wireless microphone.

3. SD card access indicator

4. Audio signal select switch

Selects the signal line connection of the multi-interface shoe of the camcorder.
MI shoe: Enable the multi-interface shoe.
WIRELESS AUDIO: Enable input from a portable wireless tuner instead of the multi-interface shoe.

5. CH1 INPUT LEVEL dial

Adjusts the WIRELESS AUDIO CH1 audio recording level manually.

6. CH1 LEVEL CONTROL switch

Sets the adjustment method of the WIRELESS AUDIO CH1 audio recording level.
AUTO: Adjust automatically.
MAN: Adjust manually.

7. CH2 LEVEL CONTROL switch

Sets the adjustment method of the WIRELESS AUDIO CH2 audio recording level.
AUTO: Adjust automatically.
MAN: Adjust manually.

8. CH2 INPUT LEVEL dial

Adjusts the WIRELESS AUDIO CH2 audio recording level manually.

9. SD card slot

Insert an SD card (not supplied) for XAVC proxy recording.

10. DC IN connector (XLR type, 4-pin)

11. Recording indicator

12. RAW OUT connector (BNC type)

13. SDI OUT connector (BNC type)

SDI IN pass-through output (when network module is on).

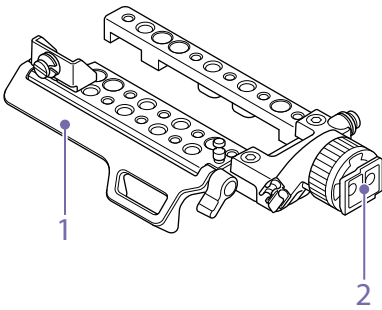
14. GENLOCK IN connector (BNC type)

15. REF OUT connector (BNC type)

16. TC IN/OUT connector (BNC type)

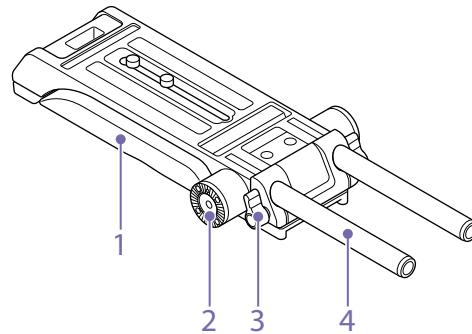
17. TC IN/OUT switch

Top plate



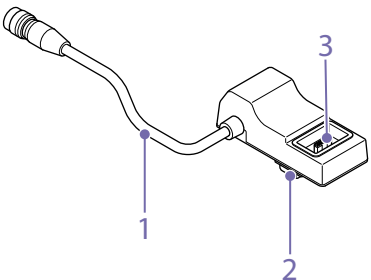
- 1. Cable cover
- 2. Viewfinder attachment shoe

Shoulder Plate



- 1. Shoulder pad
- 2. Rosette (left and right sides)
Supports attachment of general-purpose handle grip.
- 3. Rod lock lever (left and right sides)
Use to attach and remove $\varnothing 15$ rods.
When attaching, turn the rod lock lever clockwise to secure the rod.
When removing, turn the rod lock lever counterclockwise to loosen the rod.
If a lever is in a position that makes it difficult to turn, pull the lever out and rotate it to an angle that will make operation easier. Push the lever in again when the lever is in the desired position.
- 4. $\varnothing 15$ rods

Handle adapter

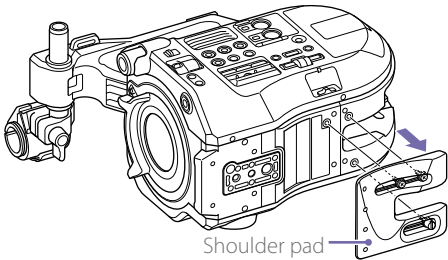


- 1. DATA IN/OUT cable
- 2. Handle connector (for camcorder)
- 3. Handle connector (for handle)

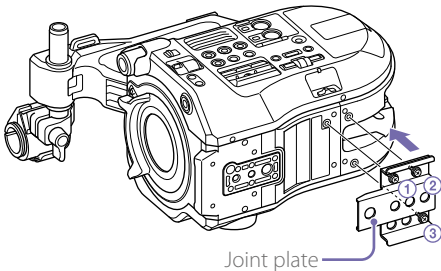
Attaching the Shoulder Plate

You can attach the shoulder plate to the camcorder.

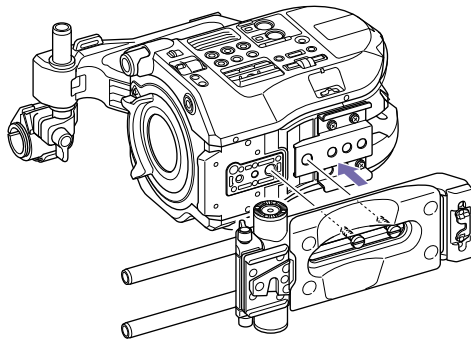
- 1 Remove the two screws and coin-slot screw, and remove the shoulder pad from the camcorder.



- 2 Attach the joint plate to the camcorder, and secure in position using the three screws in the order shown.



- 3 Insert the shoulder plate screws through the 3/8-16UNC screw holes of the camcorder and the 3/8-16UNC screw holes of the joint plate, and tighten the screws.



[Note]
Always secure with screws in two locations.

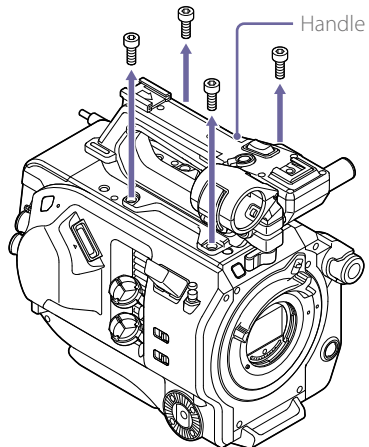
Removing the Shoulder Plate

Unscrew the two 3/8-16UNC screws, and remove the shoulder plate.

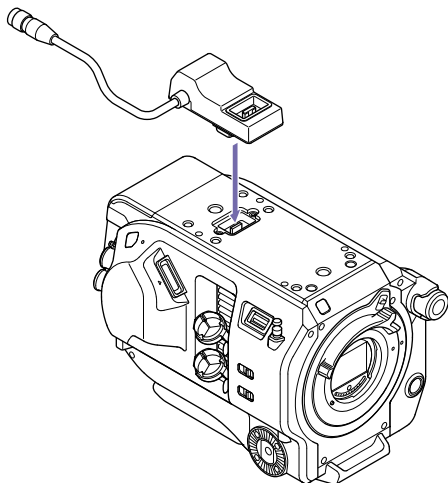
Attaching the Handle Adapter and Top Plate

You can attach a handle adapter and top plate to the camcorder.

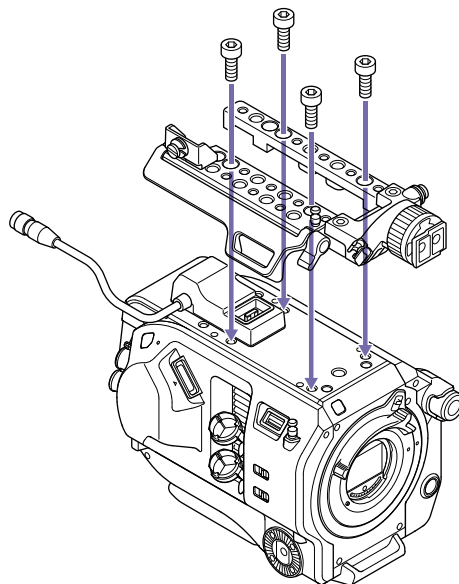
- 1 Remove the four hex screws, and remove the handle.



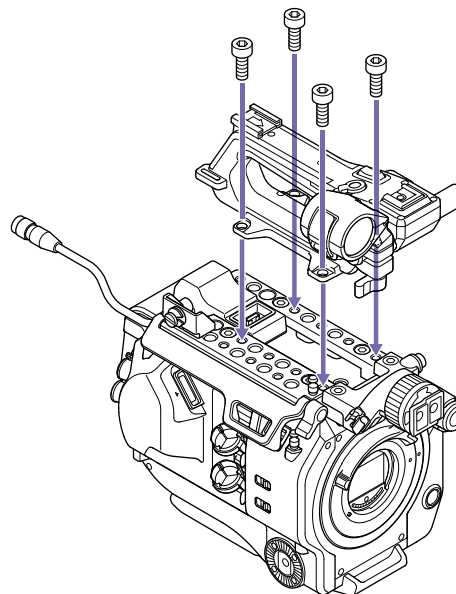
- 2 Attach the handle adapter. Connect the connector of the handle adapter to the connector of the camera handle.



- 3 Attach the top plate, and secure it in place using four supplied hex screws.



- 4 Attach the handle, and secure it in place using four hex screws.



- 5 Connect the DATA IN/OUT cable of the handle adapter to the DATA IN/OUT connector of the extension unit (page 10).

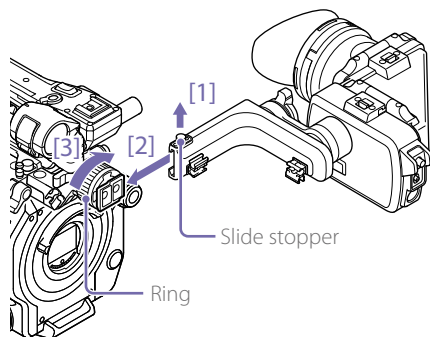
Removing the Top Plate and Handle Adapter

Remove in the reverse procedure of attachment.

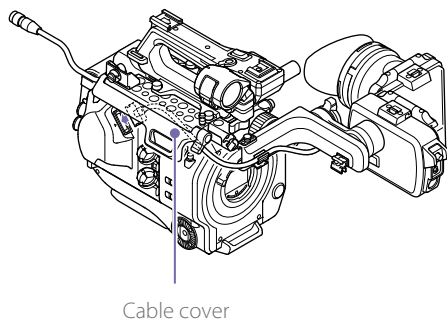
Attaching the Viewfinder

Use the following procedure to attach the viewfinder to the camcorder.

- 1 Pull out the slide stopper [1] and simultaneously slide the viewfinder on to the viewfinder attachment shoe of the top plate [2], and turn the ring of the top plate to secure the viewfinder in position [3].



- 2 Lift up the cable cover of the top plate, and connect the viewfinder cable to the viewfinder connector of the camcorder.



Removing the Viewfinder

Remove in the reverse procedure of attachment.

Attaching the Extension Unit

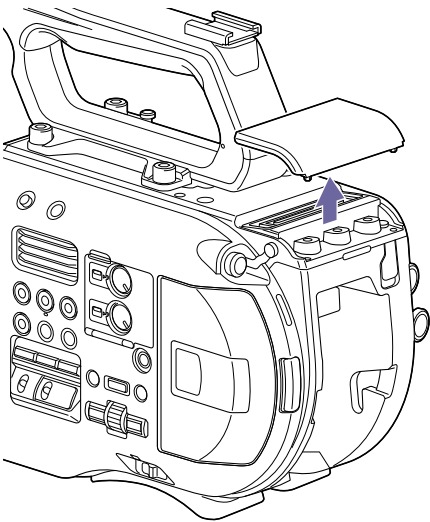
You can add functions to the camcorder, such as a V-shoe battery or external sync signal, by attaching an extension unit to the camcorder. ProRes recording to an XQD card inserted in the camcorder is also supported.

[Notes]

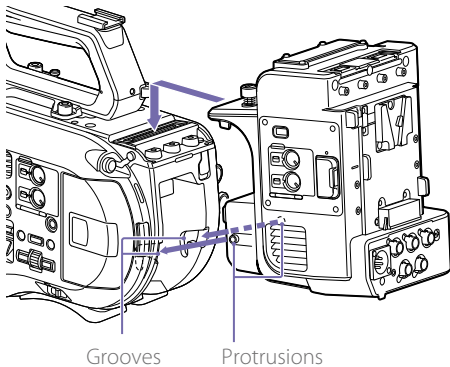
- The camcorder battery pack cannot be used when an extension unit is attached to the camcorder. You must attach a battery pack to the extension unit or connect an external power supply to the DC IN connector.
- Attach/remove the extension unit while the camcorder is turned off.

1 Remove the battery pack attached to the camcorder.

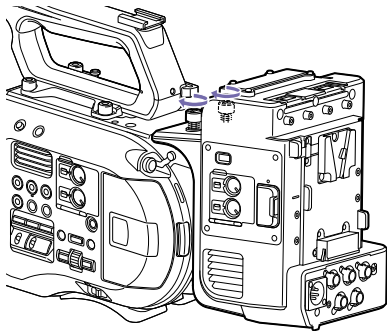
2 Remove the cover of the extension unit connector section.



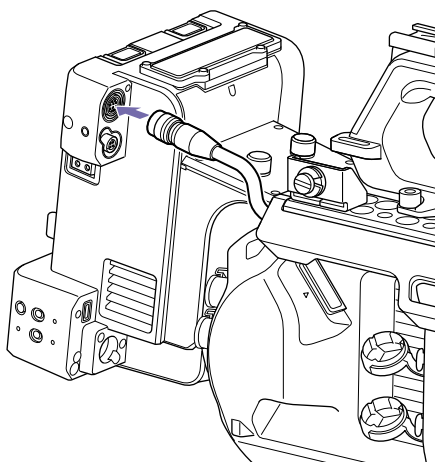
3 Align the protrusions of the extension unit with the left and right grooves of the camcorder and slide all the way in, then slide the extension unit down into the connector section.



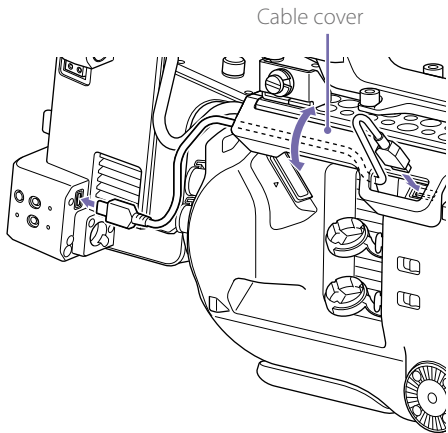
4 Tighten the two screws on the top of the extension unit to secure the extension unit.



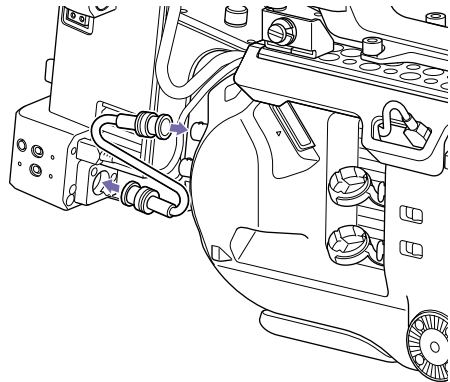
5 Connect the DATA IN/OUT cable of the handle adapter (page 8) to the DATA IN/OUT connector of the extension unit.



6 Connect the extension unit to the camcorder using the USB cable. You can stow the USB cable under the cable cover of the top plate.



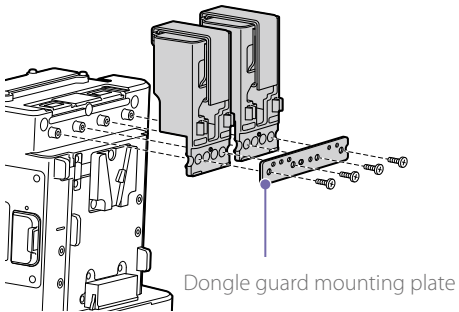
7 Connect the extension unit to the camcorder using the SDI cable.



Attaching the Dongle Guards

You can attach a dongle guard to protect a modem or other USB device attached to a USB connector.

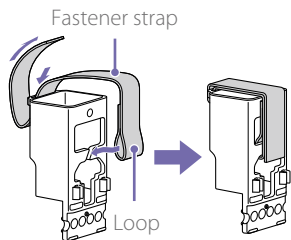
Attach the dongle guard and dongle guard mounting bracket to the extension unit, and secure in position using the mounting bracket screws.



Attaching using fastener strap

Attach the fastener strap to the dongle guard to secure a USB device in place.

Attach the loop of the strap to the back of the dongle guard and pass the strap over the guard as shown below.



Removing the Extension Unit

- 1 Disconnect the DATA IN/OUT cable of the handle adapter (page 8).
- 2 Disconnect the USB cable.
- 3 Disconnect the SDI cable.
- 4 Unscrew the two screws on the top of the extension unit to remove the extension unit from the camcorder.

Attaching a Portable Wireless Tuner (when using a wireless microphone)

You can attach any one of the following portable wireless tuners, once the camcorder is turned off, when using a wireless microphone.

- DWR-S02D/DWR-S02DN Digital Wireless Receiver
- URX-S03D UHF Synthesizer Diversity Tuner

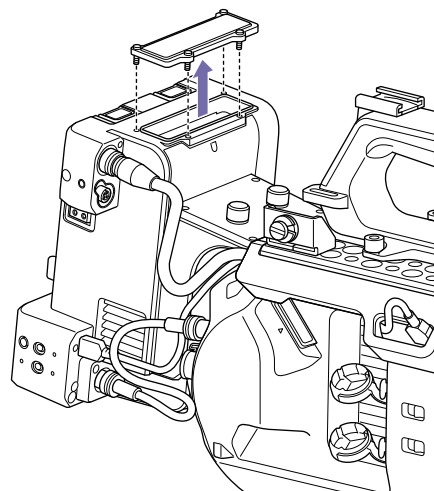
Also refer to the instruction manual of the portable wireless tuner.

[Note]

The wireless tuners that are supported will vary depending on the region and the corresponding frequency band. Consult your Sony dealer or Sony sales representative for the wireless tuners that can be used with this unit.

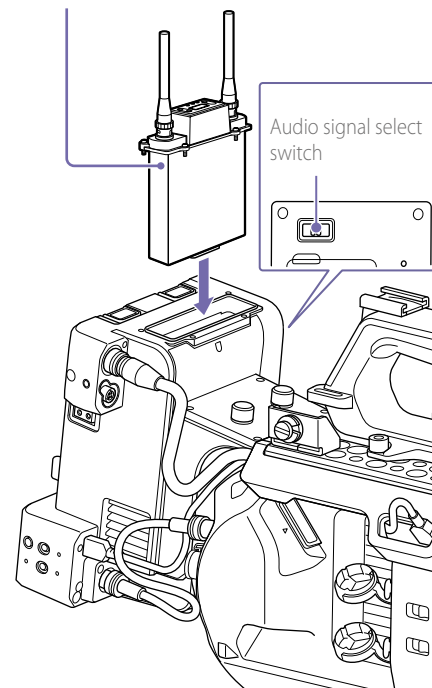
Attaching a DWR-S02D/ DWR-S02DN/URX-S03D

- 1 Remove the four screws securing the cover of the insertion slot, and remove the cover.



- 2 Insert the DWR-S02D, DWR-S02DN, or URX-S03D, and secure it in place using four screws.

DWR-S02D, DWR-S02DN, or
URX-S03D



- 3 Set the audio signal select switch of the extension unit to the WIRELESS AUDIO position.
- 4 On the camcorder, set the desired [CH Input Select] setting for routing the WIRELESS AUDIO signal to [Shoe 1] or [Shoe 2].
Adjust the input level using the switch and dial of the extension unit.

[Notes]

- The multi-interface shoe cannot be used at the same time.
- "XLR Adaptor" is displayed for both Shoe 1 and Shoe 2 on the audio status screen of the camcorder.

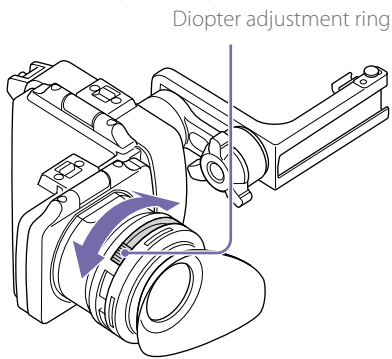
- When using a 1-channel analog wireless tuner, a loud noise may occur on Shoe 2. In this case, set [Audio Input] >[CH Input Select] to [Shoe 1] only.
- Operating the audio signal select switch while the power is turned on may cause a loud noise in the audio signal. Operate the audio signal select switch while the unit is turned off.
- The separate input level adjustment functions on the camcorder for each channel cannot be used.

Adjusting the Viewfinder

You can adjust the position, angle, contrast and other display conditions of the viewfinder for best viewing in various shooting situations. Contrast and other adjustments have no effect on pictures being recorded.

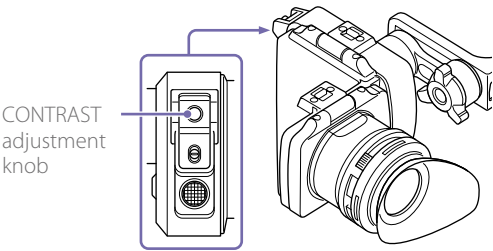
Adjusting the Focus in the Viewfinder

The eyepiece focusing (diopter compensation) ring enables adjustment to match the eyesight of the operator so that the operator can view the image clearly in the eyepiece.



Adjusting the Contrast

Adjust the contrast using the CONTRAST adjustment knob on the rear side of the viewfinder.



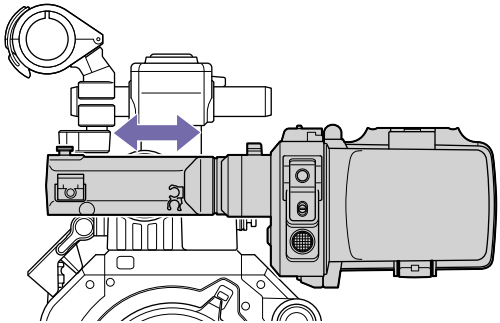
Turn clockwise to increase the level, and counterclockwise to decrease the level.

Adjusting the Position (distance from your eye)

You can adjust the horizontal and front/rear position of the viewfinder.

Adjusting the horizontal position

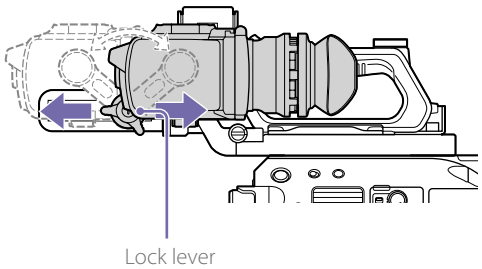
Adjust the horizontal position by moving the support bar horizontally.



[Note]
When adjusting the horizontal position of the viewfinder while holding the handle, be careful not to hit your fingers.

Adjusting the front/rear position

Loosen the lock lever and adjust the front/rear position.

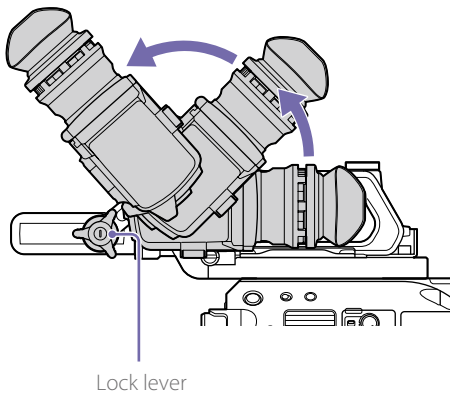


Tighten the lock lever when in the desired position.

- [Notes]**
- When you adjust the front/rear position, the angle of the viewfinder varies simultaneously. Adjust the angle for the best viewing position after tightening the lock lever.
 - When adjusting the front/rear position of the viewfinder while holding the handle, be careful not to hit your fingers.

Adjusting the Angle

You can adjust the angle of the viewfinder.



[Notes]

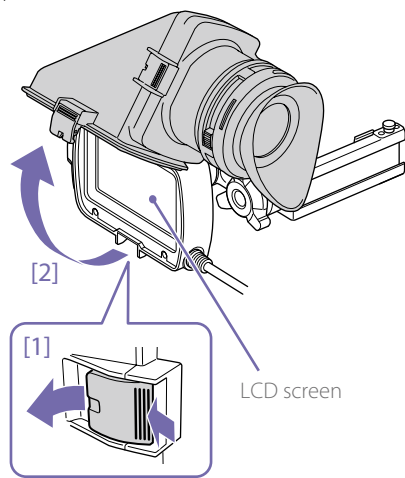
- If the lock lever is loose, the front/rear position may vary when you adjust the angle. Tighten the lever and then adjust the angle.
- When adjusting the angle of the viewfinder while holding the handle, be careful not to hit your fingers.

Raising the Viewfinder Mirror and Eyepiece

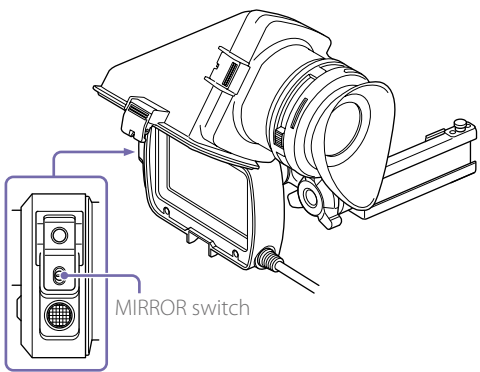
You can view the LCD screen inside the viewfinder or its mirrored image by lifting up the viewfinder mirror or the eyepiece.

To lift up the viewfinder mirror

Push the clip on the bottom to release [1] and flip up [2] the viewfinder mirror. It locks at the 120° position.

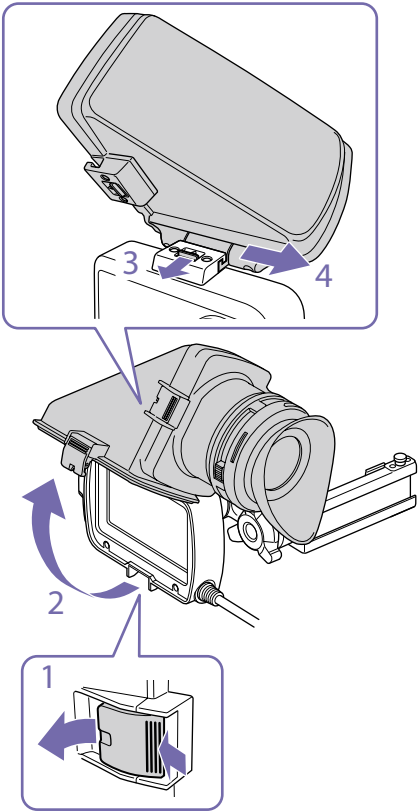


In this state, the image and menu display are flipped horizontally. You can set the MIRROR switch on the rear side of the viewfinder to the ON position to view the display normally.



To detach the viewfinder mirror

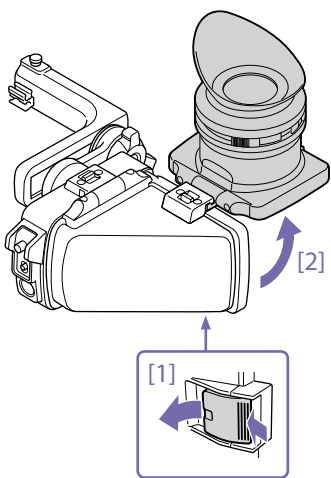
- 1 Push the clip on the bottom to release.
- 2 Raise the viewfinder mirror and eyepiece.
- 3 Slide the button on the top away from the viewfinder mirror.
- 4 Slide the viewfinder mirror sideways to detach it.



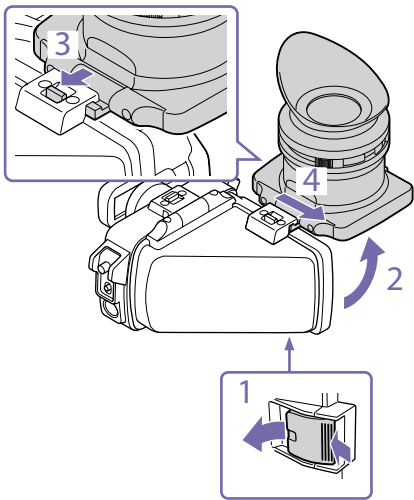
Opening/Detaching the Eyepiece

To open

Push the clip on the bottom to release [1] and flip up [2] the viewfinder mirror. It locks at the 120° position.



4 Slide the eyepiece sideways to detach it.



To detach

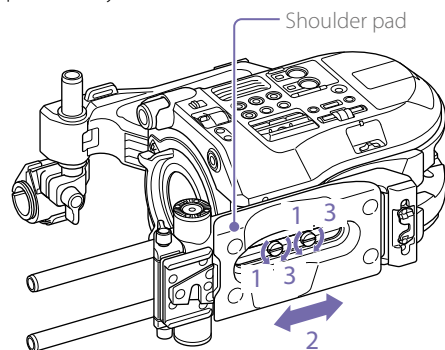
1 Push the clip on the bottom to release.

2 Flip up the eyepiece.

3 Slide the button on the top away from the eyepiece.

Adjusting the Shoulder Pad

You can slide the shoulder pad forward or backward. Adjust the position of the shoulder pad so that the camcorder is easy to operate when placed on your shoulder.



- 1 Loosen the two shoulder pad screws.
- 2 Slide the shoulder pad forward/backward to the desired position.
- 3 Securely tighten the screws.

Compatible Terminal Devices and Functions

Compatible Terminal Devices

The network function settings of the unit support wireless LAN connection to a smartphone, tablet, or computer (hereinafter referred to as a “terminal device”). The supported terminal devices, OS, and browsers are shown in the following table.

Terminal device	OS	Browser
Smartphone/ tablet	Android 5.x/6.x/7.x/8.x/9	Chrome
	iOS 11.x/12.x	Safari
Computer	Microsoft Windows 7/ Microsoft Windows 8/ Microsoft Windows 10	Chrome
	Mac OS X 10.11 macOS 10.12/10.13/10.14	Safari

Compatible Functions with each Network Connection

The unit uploads a file to a server and transmits a stream of the camcorder video to a terminal device by connecting the unit to a network. The unit can configured and operated from the terminal device connected to the unit via the network. A wireless LAN, 3G/4G/LTE network, or wired LAN can be used for the network connection. The following functions are available for each network connection (○: Available, –: Unavailable).

Function	Network connection			
	Wireless LAN		3G/4G/ LTE network	Wired LAN
	AP mode	STA mode		
Setting and controlling the unit	○	○	–	○ ^{*1}
Proxy playback in a browser	○	○	–	○ ^{*1}
Uploading a proxy file	–	○	○	○
Camcorder remote operation	○	○	–	○ ^{*1}
Monitoring live video ^{*2}	○	○	–	○ ^{*1}
Streaming live video	○	○	○	○

^{*1} Available by setting [Web/Cam Remote] (page 40).
^{*2} To use live video monitoring, you need a smartphone/ tablet on which the “Content Browser Mobile” application is installed.

For details about network connections, see “Connecting to a Terminal Device via Wireless LAN” (page 20) or “Connecting to the Internet” (page 22).

Required Devices for Network Function

The following devices are required for each network connection.

Network connection	Required device
Wireless LAN	USB wireless LAN module ^{*1}
3G/4G/LTE network	3G/4G/LTE USB modem ^{*2}
Wired LAN	USB-RJ45 adapter ^{*3}

^{*1} Supplied with the camcorder.
^{*2} A 3G/4G/LTE USB modem (called “modem” in this document) is sold separately.
^{*3} The USB-RJ45 adapter is sold separately

- [Notes]
- Wireless LAN modules may not be available in some countries/regions.
 - The frequency band for the wireless LAN module is shared by various devices. Depending on the usage environment, transmission speed and distance may be decreased, or communication may be disconnected, by using other devices.
 - To use a 3G/4G/LTE network, you need to contract with a cell phone carrier.
 - For details about the required compatible device for each network connection, contact your Sony dealer or Sony service representative.

Turning On the Network Module

- 1 Make sure that the unit is attached to the camcorder correctly.
For details about attaching, see "Attaching the Extension Unit" (page 10).
- 2 Set the network module power switch to the ON position and turn on the camcorder.
The unit starts up with the same settings from the last time it was turned off, then the STATUS indicator lights in light green.

Setting the Camcorder

Setting the Camcorder to Output Recording Control Signals

Configure the camcorder so that it outputs the recording stop/start signals to the unit.

[Note]

The unit accepts the following signals.

1920×1080 59.94i/50i

1920×1080 29.97PsF/25PsF

1280×720 59.94P/50P

1920×1080 23.98PsF

Check whether the signal is accepted or not using the STATUS indicator.

When SDI/HDMI Rec Control >Setting is set to Parallel Rec in the Recording menu, a proxy file is created with the same name as the clip recorded on the camcorder.

Controlling the Camcorder Remotely Via a Network

Set Wi-Fi >Wi-Fi in the System menu to Enable to enable the wireless LAN.

[Note]

The wireless LAN module or a modem must be attached to the unit and the network module power switch must be turned on beforehand (page 20, 29).

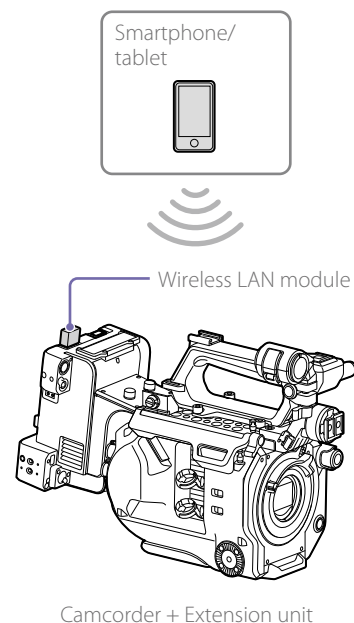
Connecting to a Terminal Device via Wireless LAN

You can connect the unit and a terminal device via wireless LAN.

The network function settings of the unit support wireless LAN connection from a terminal device.

Connecting in Wireless LAN Access Point Mode (AP Mode)

In this mode, the unit acts as an access point. Connect to the terminal device via wireless LAN.



Attaching a wireless LAN module to the unit

Insert the wireless LAN module into the USB connector of the unit. Use the wireless LAN module that is supplied with the camcorder.

[Notes]

- Attach/remove a wireless LAN module while the unit is turned off.
- If a wireless LAN module that is not compatible with the unit is attached, the STATUS indicator flashes red rapidly. In this case, attach a compatible wireless LAN module to the unit.

To connect

- 1 Set the network module power switch to the ON position, set the WIRELESS switch to the AP position, and turn on the camcorder. The unit starts up in AP mode.
- 2 If the terminal device supports the WPS function, press the WPS button for 3 seconds.

[Note]

It takes some time for the ST indicator to start flashing after the unit is turned on.

The ST indicator flashes blue. Perform the following steps within 2 minutes after pressing the WPS button. If the terminal device does not support the WPS function, proceed to the next step.

- 3 Set the network settings > wireless LAN setting of the terminal device to on. For details about enabling the wireless LAN setting of a terminal device, refer to the operating instructions of each device.

- 4 Do one of the following.

If the terminal device supports the WPS function:

Select the SSID "DIRECT_taP0:FS7BK-012345" of the unit from the SSID list displayed on the terminal device, then select "WPS Push Button" from the options.

If the terminal device does not support the WPS function:

Select the SSID "DIRECT_taP0:FS7BK-012345" of the unit from the SSID list, then enter "abcdefgh" for the password.

[Note]

The SSID and password of the unit are indicated on the label of the unit. You can change the password on the [AP Settings] screen (page 37).

- 5 Launch a browser on the terminal device, then access "http://192.168.1.1:8080/". A login screen appears.

[Note]

Depending on the network environment, the IP address of the unit may be "10.0.0.1" if using multiple networks. In this case, access "http://10.0.0.1:8080/".

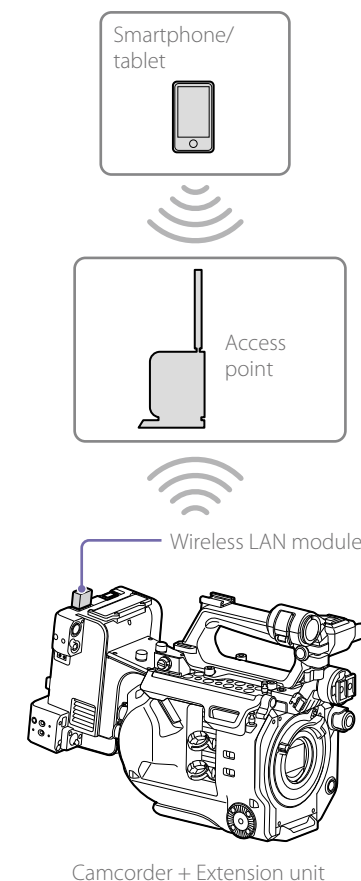
- 6 Enter the user name and password, and tap [OK].
[User name]: admin (default setting)
[Password]: cbk-fs7bk (default setting for the CBK-FS7BK)
The web menu of the unit appears. For details about the web menu, see "Web Menu" (page 30).

[Notes]

- You can change the user name and password (page 35).
- Unless otherwise noted, setting the network functions of the unit and checking the status are performed from the web menu (page 30). They cannot be done from the camcorder.

Connecting in Wireless LAN Station Mode (STA Mode)

In this mode, the unit connects to an access point as a client. Connect to the terminal device via the access point.



Attaching a wireless LAN module to the unit

Insert the wireless LAN module into the USB connector of the unit.

Connecting to an access point using the WPS function

If an access point supports the WPS function, you can connect to the access point using simple settings. If the access point does not support the WPS function, see "Connecting to the access point in STA mode without the WPS function" (page 38).

- 1 Turn the access point on.
- 2 Set the network module power switch to the ON position, set the WIRELESS switch to the ST position, and turn on the camcorder. The unit starts up in STA mode.
- 3 Press and hold the WPS button of the unit for 3 seconds. The ST indicator flashes blue.

[Note]
It takes some time for the ST indicator to start flashing after the unit is turned on.

Perform the following steps within 2 minutes after pressing the WPS button.
- 4 Press the WPS button of the access point. For details about the operation of the WPS button, refer to the operating instructions of the access point. When the connection is successful, the ST indicator lights blue and the STATUS indicator lights light green.

[Note]
If the connection fails, the ST indicator turns off. In this case, perform the setup again from step 1.

- 5 Connect the terminal device to the access point. For details about connecting, refer to the operating instructions of each device.

- 6 Launch a browser on the terminal device, then access the unit. Enter one of the following addresses.
 - `http://<IP address assigned to the unit by the access point>:8080/index.html`
You can check the assigned IP address of the unit on the web page of the access point. For details, refer to the operating instructions of the access point.
 - `http://FS7BK-<serial number of the unit>:8080/index.html`
"FS7BK-<serial number of the unit>" can be changed as the host name (page 35).

- 7 Enter the user name and password, and tap [OK].
 [User name]: admin (default setting)
 [Password]: cbk-fs7bk (default setting for the CBK-FS7BK)
 The web menu of the unit appears. For details about the web menu, see "Web Menu" (page 30).

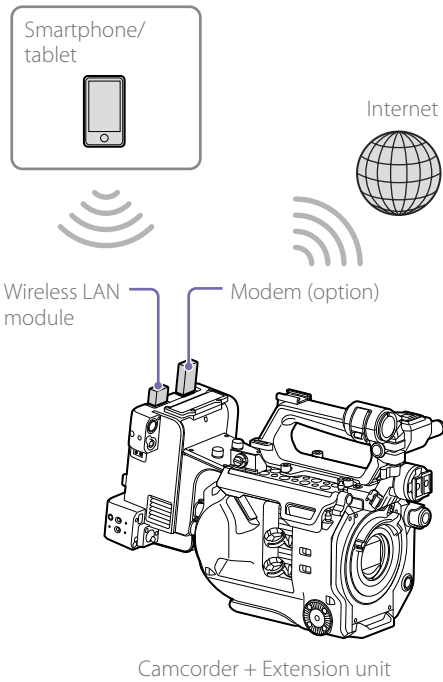
[Note]
You can change the user name and password (page 35).

Connecting to the Internet

You can connect the unit to the Internet by attaching a modem (option) to the unit. You can also connect to the Internet via an access point (option) that supports 3G/4G/LTE.

Connecting Using a Modem

You can connect the unit to the Internet via a 3G/4G/LTE network by attaching a modem (option) to the unit.



Attaching a modem to the unit

Insert the modem (option) into the USB connector of the unit. When a modem that is compatible with the unit is connected, the connection settings are configured automatically and the unit is ready for connection to the Internet. For details about modems compatible with the unit, contact your Sony dealer or Sony service representative. Information about the attached modem appears on the [Modem Settings] screen (page 39).

[Notes]

- Attach/remove a modem while the unit is turned off.
- If a modem that is not compatible with the unit is attached, the STATUS indicator flashes red rapidly. In this case, attach a compatible modem to the unit.

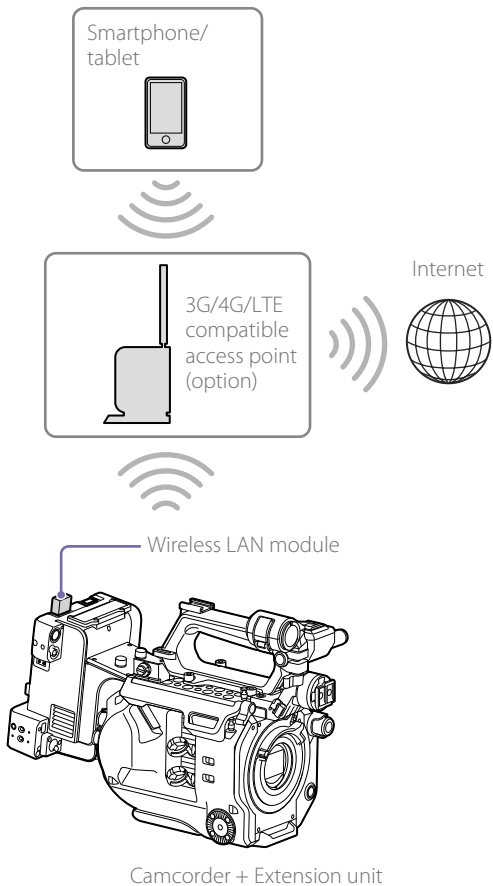
To check modem settings

You can check the modem settings on the [Status] screen (page 39).

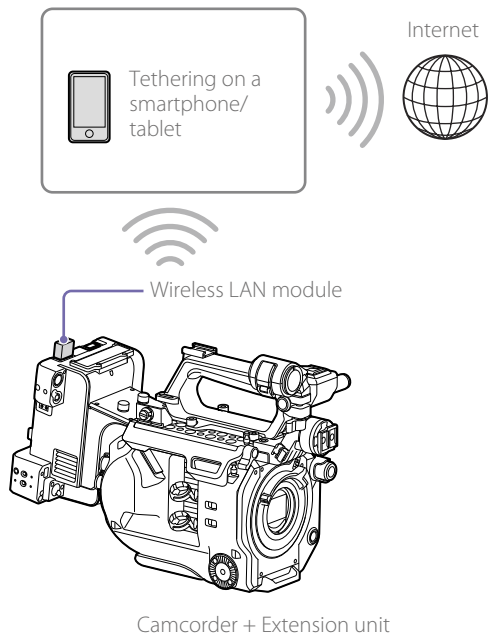
Connecting in Wireless LAN Station Mode (STA Mode)

You can connect the unit to the Internet in STA mode via a 3G/4G/LTE compatible access point (option) or by tethering on a smartphone/tablet.

When connecting via a 3G/4G/LTE compatible access point



When connecting by tethering on a smartphone/tablet



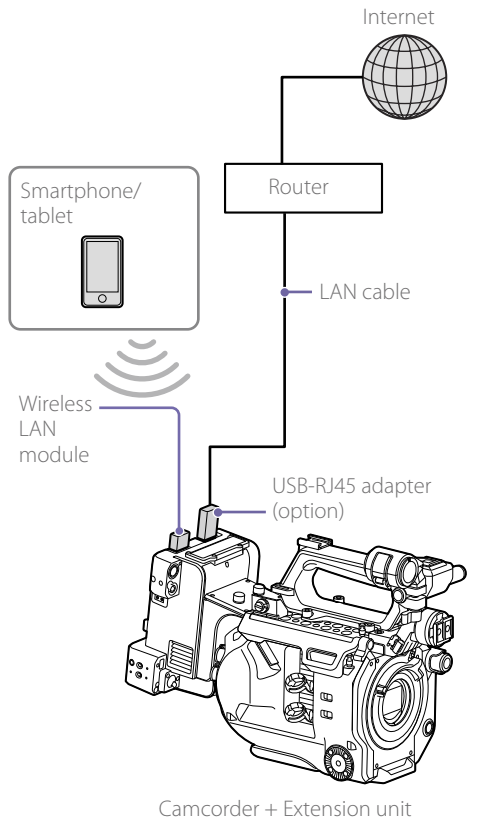
To connect

If the access point or smartphone/tablet supports the WPS function, connect using the procedure in "Connecting to an access point using the WPS function" (page 21). If the access point or smartphone/tablet does not support the WPS function, connect using the procedure in "Connecting to the access point in STA mode without the WPS function" (page 38). Before connecting, turn the access point or smartphone/tablet on. In the case of a smartphone/tablet, also activate its tethering function.

Connecting Using a LAN Cable

You can connect the unit to a network via a LAN cable by attaching the USB-RJ45 adapter of the CBK-NA1 Network Adapter Kit (option) to the unit. Connect the LAN cable to the router. For details about network settings, see “Wired LAN Settings” (page 40).

[Note]
The CBK-NA1 and a modem cannot be used simultaneously.



Recording the Video of a Camcorder

You can create a proxy file* from the recording/playback video and audio signals that are input from the SDI IN connector. The proxy file is recorded on an SD card (option) in sync with the recording start/stop operation of the camcorder.

* When a proxy file is recorded automatically in sync with the camcorder recording start/stop operation, the proxy file inherits the information and duration from the original file. When a proxy file is recorded manually, the proxy file does not inherit the information from the original file.

Preparation

This section describes the SD cards used for recording, and the format setting for the proxy file.

Supported SD cards

SDXC memory cards* (Speed Class: 4 or higher)
SDHC memory cards* (Speed Class: 4 or higher)

* Referred to as "SD cards" in this document.

Recommended Sony SD cards

- SDXC/SDHC UHS-I memory cards (Class 10)
- SDXC/SDHC memory cards (Class 4)
- SDHC memory cards (Class 10)
- microSDXC/microSDHC UHS-I memory cards (Class 10)
- microSDHC memory cards (Class 4)

Operation is not guaranteed to work for all memory cards.

[Note]

The unit cannot format an SDHC card as exFAT or an SDXC card as FAT32.

Inserting an SD card

- 1 Open the cover of the SD card slot.
- 2 Insert the SD memory card into the slot with the SD card label facing the front.

To eject the SD card

Open the cover of the SD card slot, and lightly press the SD card in to eject the card.

To check the remaining capacity

You can check the remaining capacity on an SD card on the [SD Card] screen (page 26).

[Notes]

- If the camcorder is turned off or the SD card is removed while the SD card is being accessed, the integrity of data on the card cannot be guaranteed. All data recorded on the card may be discarded. The unit does not have any salvage function to recover damaged material. Be sure that the unit is turned off before you remove an SD card. Be sure that the STATUS indicator is lit light green and the access indicator is turned off before you turn off the power.
- Take caution to prevent the SD card from flying out when inserting/ejecting the card.

Format setting for the recorded proxy file

The format is set to "640 × 360" (3 Mbps) by default. To change the setting, see "Proxy Format Settings" (page 34).

Recording

The unit can record automatically in sync with the recording start/stop operation of the camcorder or recording can be started/stopped manually on the unit.

Recording to an SD card starts/stops in sync with the recording start/stop operation of the camcorder (access indicator is lit red while recording).

Recording on the unit stops when recording on the camcorder stops (access indicator turns off). You can create a proxy file of the same duration that inherits the information of the original file recorded on the camcorder.

[Notes]

- To record a proxy file of the same duration that inherits the information of the original file recorded on the camcorder, you need to set [Parallel REC] in the menu of the camcorder.
- If recording is started immediately after turning the camcorder on, the length of a proxy file that is recorded on an SD card may differ from that of the original file because of a short delay before the unit starts recording.

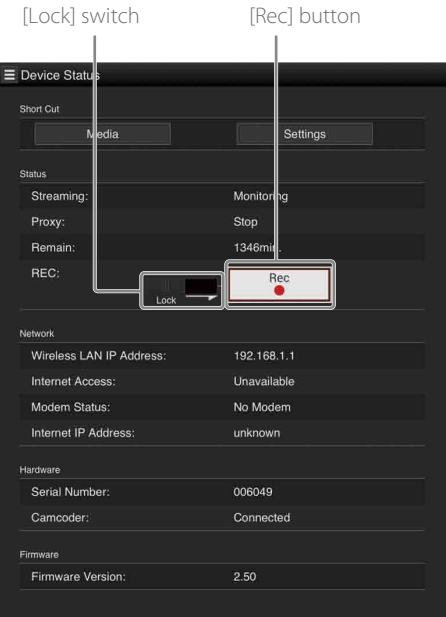
Starting/stopping recording manually

You can start/stop recording the signal from the camcorder manually.

You can also record manually from devices that do not have Rec/Stop control signals embedded in the HD-SDI signal.

In this case, the recorded file does not inherit the information from the original file.

- 1 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20). The [Device Status] screen appears.



[Note]
If a screen other than the [Device Status] screen is displayed, tap  at the top left of the screen to display the menu, then select [Device Status] to display the [Device Status] screen.

- 2 Tap [Rec].
Recording starts.
To stop recording, tap [Rec] again.
You can prevent accidental operations by setting the [Lock] switch to the right to lock the [Rec] button.

[Note]
The [Rec] button operation is disabled while recording is synced to the camcorder.

Using the “Content Browser Mobile” application
You can start/stop recording manually using the “Content Browser Mobile” application. In this case, you can control recording while viewing a stream of the recording/playback video.

About the recorded file

The file system is FAT32 for an SDHC card and exFAT for an SDXC card, and the file extension is “.mp4.”
The timecode embedded in the HD-SDI signal is also recorded simultaneously. A still image of the first frame is also recorded.

If GPS* information is embedded in the HD-SDI signal, the GPS information is also recorded.
* The GPS (Global Positioning System) is a navigation system of the United States that uses high precision satellites to provide precise location information about wherever you are.

About the file name

When a proxy file is recorded in sync with the camcorder
The file name is in “<file name of the original file> + S03.mp4” format.

In other cases
The file name is given by the recording start timecode. For example, if recording starts at 14 hours 30 minutes 20 seconds 05 frames (14:30:20:05) the file name will be “14_30_20_05.mp4.” If a file exists which has the same name, a consecutive number is appended to the file name.

Directory of the recorded file


The recorded file is stored in the “Root/PRIVATE/PXROOT/Clip” directory.
The still picture file of the first frame is stored in the “Root/PRIVATE/PXROOT/Thmbnl” directory, and a GPS log file is stored in the “Root/PRIVATE/SONY/GPS” directory.

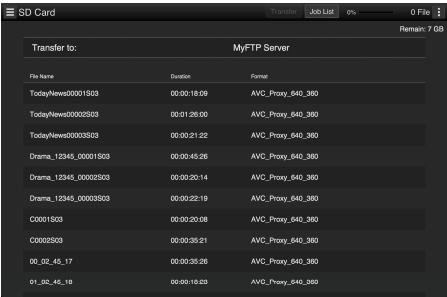
[Notes]
• When the storage capacity of an SD card is reached during recording, “Warning” appears on the screen and the access indicator flashes. Recording stops.

- The maximum number of files that can be recorded on an SD card is 600. When the maximum number of files is exceeded, a warning message appears on the screen and the access indicator flashes. At this time, the remaining recording time becomes 0 minutes.
- When an SD card error is detected during recording (write error or read error), an error message appears on the screen and the access indicator flashes.
- Recording is disabled if an SD card is write-protected. A warning message appears on the screen and the access indicator flashes.
- When there is a disturbance in the input signal from the SDI IN connector and recording cannot continue, an error message appears on the screen and the STATUS indicator flashes.
- When an SD card is not inserted, recording cannot be performed. A warning appears on the screen.
- During automatic recording using the Rec/Stop control signals, the recording start/stop operations on the [Device Status] screen are disabled.
- Special recording modes, such as the Frame Rec and Interval Rec functions, are not supported.
- When an SDHC card is used and the file size exceeds 4 GB, “_01” is appended to the file name and the file is split.

Checking the Files Recorded on an SD Card

The recorded files are listed on the [SD Card] screen. You can play a file, delete a file, or format an SD card on the [SD Card] screen.


- 1 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20).
The [Device Status] screen appears.
- 2 Tap  > [Media Info.] > [SD Card].
The [SD Card] screen appears.



- 3 Double-tap the file that you want to play.
The selected file is played.

[Note]
Playback may not be available depending on the OS of your terminal device or the version of the browser. In this case, use “Content Browser Mobile.”

Deleting recorded files

- 1 Select the file that you want to delete from the list on the [SD Card] screen.
Tap a file to select it. Tap again to cancel.
- 2 Tap  at the top right of the screen > [Delete].
A confirmation screen appears. Tap [OK] to delete the file. Select [Cancel] to cancel.

Formatting an SD card

If an SD card is inserted that was formatted in a format not supported by the unit, format it using the following procedure.

1 Tap  at the top right of the [SD Card] screen > [Format].

A confirmation screen appears. Tap [OK] to start formatting. Select [Cancel] to cancel.

[Note]

Formatting an SD card erases all data on the card. The card cannot be restored.

Checking the remaining capacity of an SD card

The remaining capacity is displayed at the top of the [SD Card] screen.

You can also check the remaining capacity on the viewfinder of a compatible camcorder.

Uploading a File

You can upload a proxy file that is recorded on the unit to a server on the Internet via a 3G/4G/LTE network, access point, or wired LAN. If network client mode is enabled, you can upload to the server set by the CCM.

[Note]
Files cannot be uploaded when you start streaming. If you start streaming while uploading a file, the file upload is stopped, and restarts when streaming is stopped.

Preparation

Connecting to the Internet

Connect the unit to the Internet using the procedure in “Connecting to the Internet” (page 22).


Registering the server for uploading

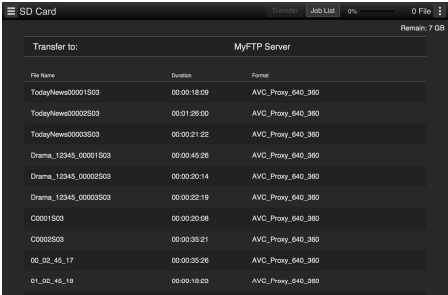
The server for uploading files must be registered beforehand. For details about registering a server, see “Register a New Server for Uploading” (page 41).

Selecting and Uploading a File

You can upload a file that is recorded on an SD card in the unit to a server.

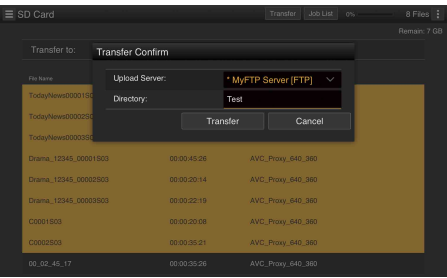
1 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20). The [Device Status] screen appears.

2 Tap  > [Media Info.] > [SD Card]. The [SD Card] screen appears.



3 Select the file you want to upload. Tap a file to select it. Tap again to cancel. You can double-tap to start playback to check the contents.

4 Tap [Transfer]. The server for which [Default Setting] is set to “On” in “Register a New Server for Uploading” (page 41) appears. To change the server, tap the server to display the server list, then select a different server. Enter the directory on the server in [Directory] as required.



5 Tap [Transfer]. The unit starts uploading the selected file. The STATUS indicator flashes light green during uploading. To cancel uploading, tap [Cancel].

[Note]
If uploading fails, the STATUS indicator flashes orange.

Checking file uploading

You can check the status of uploading on the [Job List] screen that is displayed by tapping [Job List] on the [SD Card] screen.

Partial transfer of a proxy file

When you use the “Content Browser Mobile” application, you can transfer a cutout part of a file by specifying In and Out points in the proxy file. You can also transfer the cutout parts of multiple files using the Storyboard.

- [Notes]**
- Margins of up to 15 frames are added before and after the cutout positions to proxy files that are uploaded partially.
 - When uploading part of a file based on the Storyboard, a file for transferring Storyboard information to a nonlinear editor appears in [Job List].
 - A General/Sony/tmp directory is created on the SD card for uploading this file. The file is stored here temporarily, and then it is deleted when uploading is completed.

Uploading a File in Network Client Mode

You can upload a file to a server set by a CCM by connecting the unit to the CCM of a Sony Network RX Station (option) or XDCAM air in network client mode.

1 Select the file you want to upload as described in “Selecting and Uploading a File.”

2 Tap [Transfer]. “NCM: RX Server” appears as the destination.


3 Tap [Transfer]. The unit starts uploading the selected file to the server set by the CCM.

[Note]
You can also set “NCM: RX Server” for the server when the unit is not in network client mode. In this case, uploading is paused. Uploading to the server restarts when the unit connects to the CCM in network client mode.

Streaming Live Video from the Camcorder

Streaming via the Internet or Local Network

You can transmit live video that is being shot with the camcorder via the Internet or local network.


- 1 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20). The [Device Status] screen appears.
- 2 Tap  > [Settings] > [Streaming Format]. The [Streaming Format] screen appears.
- 3 Select a preset in [Streaming] > [Preset].
- 4 Tap [Edit] to edit the preset. Set the format and destination settings (page 32).
- 5 Tap the [Streaming] On/Off switch to set it to [On]. Live video transmission starts.

[Notes]

- If the power is turned off, [Streaming] is set to [Off]. To restart streaming, set [Streaming] to [On].
- The streaming transmission of the unit uses the MPEG2-TS/UDP or MPEG2-TS/RTP method. To monitor the video and sound that are transmitted as a stream, use a device that is compatible with these methods. For details, refer to the operating instructions of the device.

Streaming using Sony's QoS Technology

You can stream high quality video by connecting the unit to the CCM of a Sony Network RX Station (option) or XDCAM air in network client mode.

- 1 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20). The [Device Status] screen appears.
- 2 Tap  > [Settings] > [System Settings]. The [System Settings] screen appears.
- 3 Tap [Network Client Mode Settings].
- 4 Select a preset in [Network Client Mode Settings] > [Preset].
- 5 Tap [Edit] to edit the preset. The network client mode settings screen appears.
- 6 Configure each item. For details about settings, see "Network Client Mode Settings" (page 36).
- 7 Tap the [Network Client] On/Off switch to set it to [On]. You can arbitrarily change the display name of the preset selected in [Preset] after editing the preset.
- 8 Tap [OK]. Network client mode is activated and the unit connects to the Network RX Station or XDCAM air. Live video transmission is started from the Network RX Station or XDCAM air. For details, refer to the operating instructions of the Network RX Station or the Help of XDCAM air.

Streaming with Proxy Recording Enabled

Proxy recording in network client mode is enabled when [Proxy Recording] in [Network Client Mode Settings] is set to [On].


You can change this setting from the Network RX Station or XDCAM air.

[Notes]

- The streaming bit rate that can be set on the Network RX Station or XDCAM air is limited as follows depending on the proxy recording format.
 - When the proxy recording format is 1280×720 9 Mbps/6 Mbps: The streaming bit rate is Very Low (1 Mbps or lower).
 - When the proxy recording format is 640×360 3 Mbps: The streaming bit rate is Low (3 Mbps or lower).
- The proxy format cannot be changed while in network client mode. To change the proxy format, first turn network client mode off.

Controlling the Camcorder Remotely

You can control the camcorder remotely by accessing the Wi-Fi remote control that is built into the camcorder.

- 1 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20). The [Device Status] screen appears.
- 2 On the camcorder, set [Wi-Fi] > [Wi-Fi] in the [System] menu to [Enable].
- 3 Tap  > [Cam Remote Control]. The remote control screen appears. A password entry screen may appear. Enter the password previously configured using the menu of the camcorder.

[Notes]

- You can control the camcorder remotely via wired LAN by connecting the unit and the terminal device via a wired LAN network and setting [Wired LAN Settings] > [Web/Cam Remote] to [On] (page 40).
- Setting the network module power switch to the STANDBY position and turning on the camcorder disables remote operation of the camcorder. Configure the setting in step 2.

Web Menu

The web menu of the unit is displayed by accessing the unit from a browser on a terminal device that is connected to the unit via wireless LAN. You can check the status of the unit, configure settings, and start/stop recording manually from the web menu.

Initial Screen

When the unit is connected to a terminal device and the unit is accessed from a browser on the terminal device, the [Device Status] screen appears, displaying the status of the unit and control shortcut buttons.

Displays the menu for selecting setup screen.



Displays the status of the unit.

Status of the unit

[Status]

- [Streaming]
[Monitoring]: [Streaming] is set to [Off]
[Running]: [MPEG2-TS/UDP] or [MPEG2-TS/RTP]
[Stop]: Not streaming
[Initializing]: In preparation

Error indication: Destination Address Error, No Internet Access

- [Proxy]
[Recording]: During proxy file recording
[Stop]: Not recording
- [Remain]: Remaining recording time of the SD card
- [Warning/Error]: Warning/Error indication ("Wxx-xxx" is a warning number. "Exx-xxx" is an error number (page 47))
- [Rec]: Recording start button (page 24)
- [Lock]: Lock switch (page 24)

When network client mode (page 36) is on, [Streaming] and [Proxy] change to the following items.

- [Network Client]
[Connected to CCM Name]: Connection successful
Error indication: Destination Address Error, Authentication Failed, No Internet Access, Certificate is not yet valid, Certification Error
In this case, the STATUS indicator flashes orange slowly.
- [Streaming]
[Running]: During streaming
[Stop]: Not streaming
[Initializing]: In preparation
- [Proxy]
[Stop]: Not recording (when [Proxy Recording] is set to [On])
[Recording]: During proxy file recording (when [Proxy Recording] is set to [On])
[Disabling]: Recording disabled (when [Proxy Recording] is set to [Off])

[Note]

If "Certificate is not yet valid" appears, the date may be set to an invalid value. Check the date setting.

[Network]

- [Wireless LAN IP Address]: IP address of the unit
- [Internet Access]: Internet connection
[Modem]: Via modem

[Wi-Fi Router]: Via wireless LAN access point
[Unavailable]: Connection not available

- [Modem Status]: Modem status
[Connected]: Connected
[Connecting]: Attempting to connect
[Disconnected]: Disconnected
[USB-RJ45 Connected]: USB-RJ45 adapter is attached
- [Internet IP Address]: Internet-facing IP address (only when the IP address can be retrieved)


[Hardware]

- [Serial Number]: Serial number of the unit
- [Camcorder]: Status of connection with the camcorder
[Connected]: Connected

[Firmware]

- [Firmware Version]: Software version of the network module

Setup Menu

The setup menu is displayed by tapping  at the top left of the screen. Tap the item that you want to set.

[Settings]

Displays the screen for configuring the unit.

[Wireless Adapter]

- [Streaming Format]: Streaming format settings (page 32)
- [Proxy Format]: Proxy format settings (page 34)
- [System Settings]: System settings (page 35)

[Wireless LAN]

- [AP Settings]: Access point settings (page 37)
- [Station Settings]: Wireless LAN settings (page 38)
- [Status]: Wireless LAN status (page 38)

[Modem]

- [Modem Settings]: Modem settings (page 39)
- [Status]: Modem status (page 39)

[Wired LAN]

- [Wired LAN Settings]: Wired LAN settings (page 40)
- [Status]: Wired LAN status (page 40)

[Note]

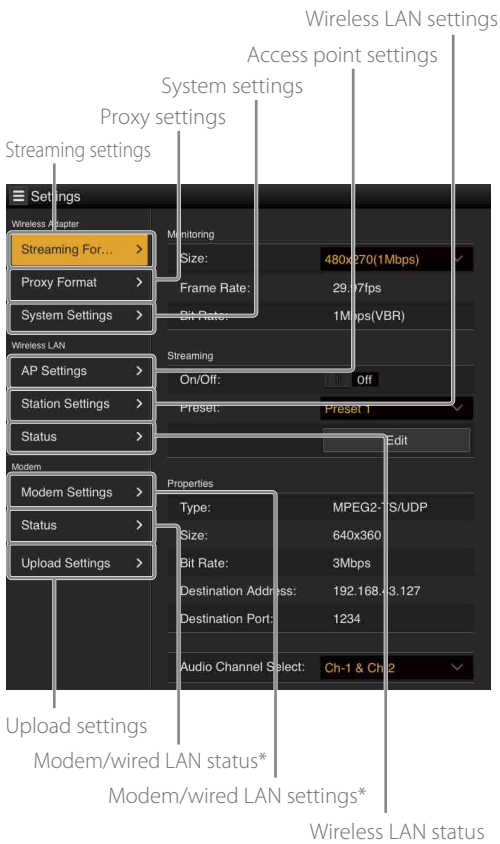
[Modem] changes to [Wired LAN] when the USB-RJ45 adapter is attached.

[Upload Settings]

Upload settings (page 41)

[Note]

When the [Settings] screen is displayed, you can display the following sub-screens.



* When the USB-RJ45 adapter is attached.

[Media Info]

Displays the screen for displaying the status of the media, or for selecting the file to upload (page 27).
[SD Card]: SD card that is inserted into the card slot of the unit.

[Job List]

Displays the [Job List] screen for managing the uploading of files (page 43).

[Cam Remote Control]

Displays the Wi-Fi remote control by accessing the camcorder (page 29).

[OSS Information]

Displays copyright information.

Streaming Format Settings

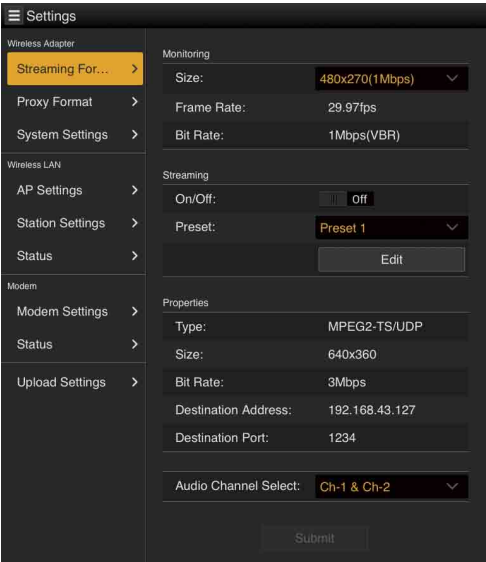
You can set the format for the stream that is monitored on the terminal device via wireless LAN, and the format/transmission destination for the stream via Internet/wired LAN.

Video

- AVC/H.264 Main Profile, 4:2:0 Long GOP
- The size is selected by the following settings.

Audio

- AAC-LC compression
- Sampling frequency: 48 kHz
- Bit rate: 128 kbps for stereo
- The playback channel is selected by the following settings.



Monitoring Settings

You can set the format when monitoring on a terminal device.

[Size]

Sets the size and bit rate of the video for monitoring.
[480×270]: 1 Mbps (VBR)
[480×270]: 0.5 Mbps (VBR)

[Note]

This bit rate is the average value. The actual bit rate may be higher than the average value.

[Frame Rate]

Displays the frame rate of the video. This is set by the signal that is input from the SDI IN connector.
[23.98fps]: 23.975 fps
[25fps]: 25 fps
[29.97fps]: 29.97 fps
[50fps]: 50 fps
[59.94fps]: 59.94 fps

[Note]

24 fps is not supported.

[Bit Rate]

Displays the bit rate of the video.
[1Mbps (VBR)]: 480×270
[0.5Mbps (VBR)]: 480×270

Streaming Settings

You can set the format and transmission destination for streaming. Settings are stored as a preset (up to three presets).

[On/Off]

Switches streaming transmission on/off.

[Note]

The monitoring function is not available when this item is set to [On].

[Preset]

Select a preset from [Preset 1] to [Preset 3]. The preset can be edited by tapping [Edit].

To edit a preset

- 1 Select the preset you want to edit in [Preset].
- 2 Tap [Edit].
The preset editing screen appears.
- 3 Configure the following items.

[Type]

Selects the type of video for streaming from [MPEG2-TS/UDP] and [MPEG2-TS/RTP].

[Size]

Sets the video size for streaming.
When [HD/SD Auto] is selected, this is set by the signal that is input from the SDI IN connector.

[Bit Rate]

Sets the bit rate for streaming.
The selectable items differ depending on the [Size] setting.
When using a network bandwidth of 500 kbps or lower, select the following:
[Size] 480×270: [Bit Rate] 0.3 Mbps (Mono L)/0.3 Mbps (Mono R)
[Size] 480×270: [Bit Rate] 0.2 Mbps (Mono L)/0.2 Mbps (Mono R)

[Size] 320×180: [Bit Rate] 0.2 Mbps (Mono L)/0.2 Mbps (Mono R)

In this case, the video frame rate is 10 fps, the audio sampling frequency is 48 kHz, and the audio bit rate is 56 kbps Mono.

[Destination Address]

Enter the address of the server for streaming transmission.

[Destination Port]

Enter the port number of the destination server that is used for streaming.

- 4 Tap [OK].
The settings are applied, and the preset settings are displayed in [Properties].
To cancel, tap [Cancel].

[Notes]

- Data may leak because the video/audio data is transferred as-is via the Internet. Check that the transmission destination can receive the streaming data. The data may be sent to an unintended party if the address or other settings are incorrect.
- Not all frames may be played depending on the network status.
- The picture quality may deteriorate in scenes with quick motion.
- Not all frames may be played when the stream is set to a large size with a small bit rate. To reduce this, select a smaller size in [Size].

Audio Channel Settings

[Audio Channel Select]

Selects the audio channel.

[Ch-1 & Ch-2]: Audio of channels 1 and 2 (default setting)

[Ch-3 & Ch-4]: Audio of channels 3 and 4

[Notes]

- The channel on the left of the item name becomes the left channel, and the channel on the right of the item name becomes the right channel.

- [Size] 480×270: [Bit Rate] 0.3 Mbps (Mono L)/0.3 Mbps (Mono R)

[Size] 480×270: [Bit Rate] 0.2 Mbps (Mono L)/0.2 Mbps (Mono R)

[Size] 320×180: [Bit Rate] 0.2 Mbps (Mono L)/0.2 Mbps (Mono R)

When the settings above are made, the following are selected.

For Mono L

Ch-1 from [Ch-1 & Ch-2]

Ch-3 from [Ch-3 & Ch-4]

For Mono R

Ch-2 from [Ch-1 & Ch-2]

Ch-4 from [Ch-3 & Ch-4]

Proxy Format Settings

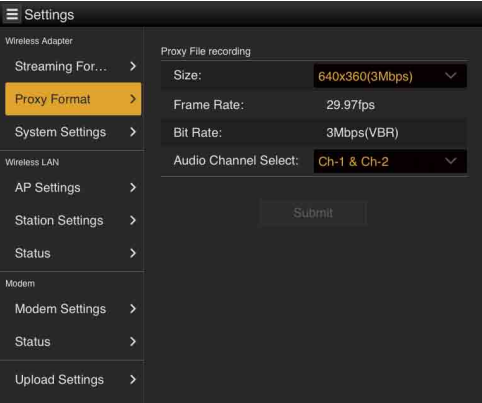
You can set the format of the proxy file that is recorded on the SD card of the unit.

Video

- XAVC® Proxy (AVC/H.264 Main Profile, 4:2:0 Long GOP)
- The size is selected by the following settings.

Audio

- AAC-LC compression
- Sampling frequency: 48 kHz
- Bit rate: 128 kbps for stereo
- The playback channel is selected by the following settings.



[Size]

Set the size and bit rate of the video for the proxy file.

- [HD/SD Auto]: 9 Mbps (VBR)
- [HD/SD Auto]: 6 Mbps (VBR)
- [1280×720]: 9 Mbps (VBR)
- [1280×720]: 6 Mbps (VBR)
- [640×360]: 3 Mbps (VBR)
- [480×270]: 1 Mbps (VBR)
- [480×270]: 0.5 Mbps (VBR)

[Notes]

- This bit rate is the average value. The actual bit rate may be higher than the average value.
- When [HD/SD Auto] is selected, the format is automatically set by the signal that is input from the SDI IN connector. Proxy recording is not available when the SDI input signal is 23.98PsF.
- The proxy file recorded with [HD/SD Auto] may not be playable in a web browser or Content Browser Mobile. Insert the SD card on which the proxy file is recorded directly into a computer play the video.

[Frame Rate]

Displays the frame rate of the video. This is set by the signal that is input from the SDI IN connector.

- [23.98fps]: 23.975 fps
- [25fps]: 25 fps
- [29.97fps]: 29.97 fps
- [50fps]: 50 fps
- [59.94fps]: 59.94 fps

[Note]

24 fps is not supported.

[Bit Rate]

Displays the bit rate of the video.

- [9Mbps (VBR)]: HD/SD Auto / 1280×720
- [6Mbps (VBR)]: HD/SD Auto / 1280×720
- [3Mbps (VBR)]: 640×360
- [1Mbps (VBR)]: 480×270
- [0.5Mbps (VBR)]: 480×270

[Audio Channel Select]

Selects the audio channel for recording.

- [Ch-1 & Ch-2]: Audio of channels 1 and 2 (default setting)
- [Ch-3 & Ch-4]: Audio of channels 3 and 4

[Note]

The channel on the left of the item name becomes the left channel, and the channel on the right of the item name becomes the right channel.

System Settings

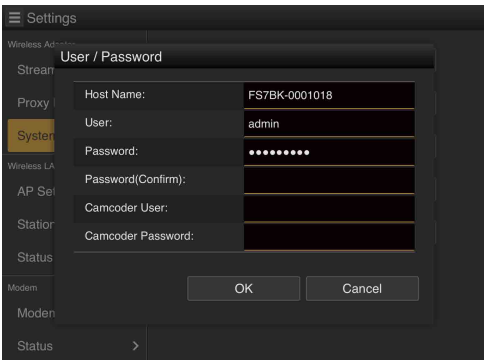
You can set the date/time and the host name/user name/password for accessing the web menu of the unit.



For details about dating, see “Updating the Unit” (page 44).

User Name and Password Settings

You can set the host name, user name, and password for accessing the web menu of the unit from a browser on a terminal device. Tap [User/Password] on the [System Settings] screen to display the user input screen.



[Note]
Do not use [Camcorder User] and [Camcorder Password].

When finished, tap [OK] to apply the settings. To cancel, tap [Cancel].

[Host Name]
Enter the host name of the unit.
(Default setting: FS7BK- + serial number)

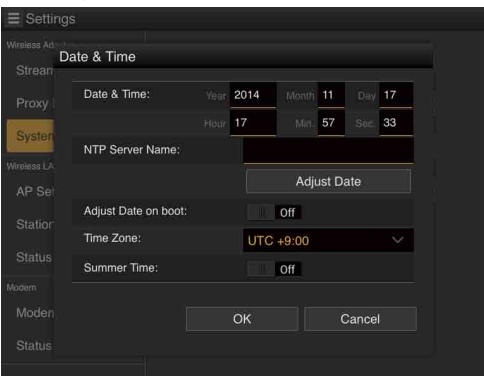
[User]
Enter the user name of the unit.
(Default setting: admin)

[Password]
Enter the password of the unit.
Enter the password to confirm the password.
(Default setting: cbk-fs7bk)

- [Notes]**
- Alphanumeric characters and ! % * + , - . = _ characters are valid for [User] and [Password].
 - From a security standpoint, it is recommended that you set a password with a sufficiently long character string that is hard to guess by others, and that you store it safely.

Date and Time Settings

You can set the date and time. Tap [Date & Time] on the [System Settings] screen to display the user input screen.



When finished, tap [OK] to apply the settings. To cancel, tap [Cancel].

[Note]
The retention period for the date and time settings is about two months. If the retention period is exceeded, the date and time settings returns to the default of 2019:05:01:00:00:00.

[Date & Time]
[Year]: Year
[Month]: Month
[Day]: Day
[Hour]: Hour (24-hour format)
[Min.]: Minute
[Sec.]: Second

[NTP Server Name]
Adjusts the date and time automatically by connecting to an NTP server.
Enter the host name of the NTP server that you want to connect to in the entry field.
[Adjust Date]: Tap to access the NTP server and update the date and time automatically.

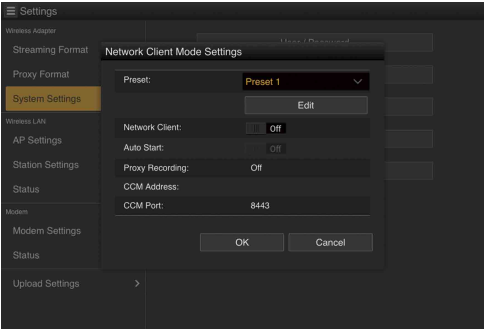
[Adjust Date on boot]
When set to [On], the date and time are updated automatically by accessing the NTP server when the unit is turned on (only when the unit is connected to the Internet).

[Time Zone]
Select the time zone from the list.

[Summer Time]
When set to [On], summer time is activated (+1 hour).

Network Client Mode Settings

You can set network client mode settings. Settings are stored as a preset (up to three presets). Tap [Network Client Mode Settings] on the [System Settings] screen to display the setup screen.



When finished, tap [OK] to apply the settings. To cancel, tap [Cancel].

[Preset]
Select a preset from [Preset 1] to [Preset 3]. The preset can be edited by tapping [Edit].

[Network Client]
When set to [On], network client mode is enabled, and the unit starts connecting to the CCM that is selected in [Preset].

[Auto Start]
When set to [On], the unit starts up with network client mode enabled when the unit is turned on the next time.

[Proxy Recording]
Displays the current setting.

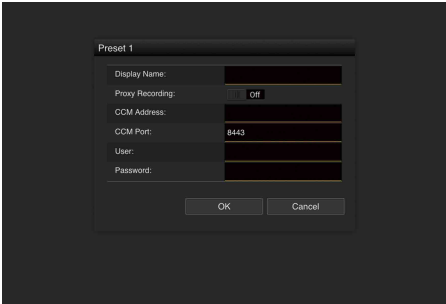
[CCM Address]
Displays the current setting.

[CCM Port]
Displays the current setting.

- [Notes]**
- If network client mode is set to on during streaming or monitoring, a confirmation dialog appears. If [OK] is selected, the unit enters network client mode and those operations are canceled.
 - When HD/SD Auto (9 Mbps) or HD/SD Auto (6 Mbps) is selected for the Proxy Format, [Proxy Recording] cannot be set. If set to [On], the value is retained, but recording is not performed.

To edit a preset

- 1 Select the preset you want to edit in [Preset].
- 2 Tap [Edit].
The preset editing screen appears.



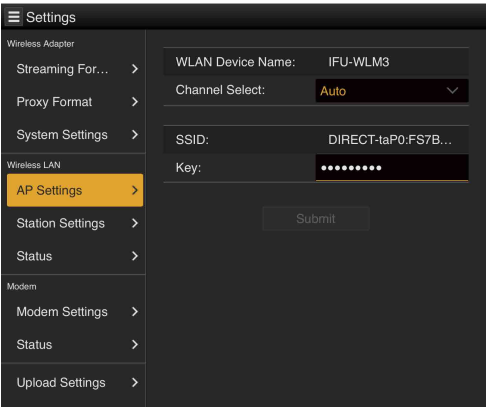
- 3 Configure the following items.
[Display Name]
Enter the name displayed in the list.
[Proxy Recording]
When set to [On], proxy recording is enabled and the unit enters network client mode.
[Note]
The streaming bit rate is limited when proxy recording is enabled.
[CCM Address]
Enter the address of the connected CCM.
Enter the destination URL when using XDCAM air.

[CCM Port]
Enter the port number of the connected CCM.
[User]
Enter the user name.
[Password]
Enter the password.

- 4 Tap [OK].
The settings are applied, and the preset settings are displayed in [Properties].
To cancel, tap [Cancel].

Access Point Settings (AP Settings)

You can configure the unit for use as an access point.



[WLAN Device Name]

Displays the name of the used wireless LAN module.

[Channel Select]

You can change the wireless LAN channel.
[Auto] selects Ch1 to Ch11 automatically, and [Channel Select] allows you to set Ch1 to Ch11 manually.
When a 5 GHz compatible wireless LAN module is attached, the [Auto (5GHz)] item is added.

[Note]

Depending on the wireless LAN module, [Auto (5GHz)] may not be displayed. It also is not displayed on models for the country/region that prohibits the use of the 5GHz band outdoors. Check if the wireless LAN module is supported in the country/region where the unit is used. For details, refer to the operating instructions of the wireless LAN module.

[SSID]

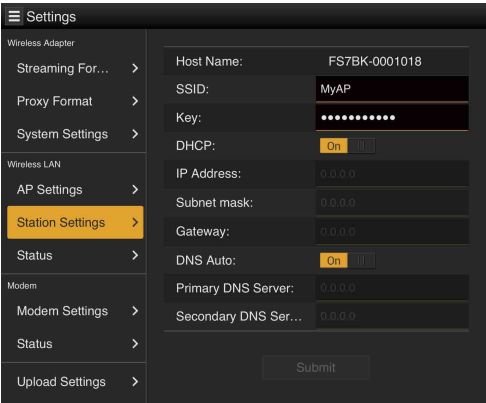
Displays the SSID of the unit.

[Key]

You can change the password of the unit.
8 to 63 alphanumeric characters can be used.

Wireless LAN settings (Station Settings)

You can configure settings for connecting to a wireless LAN.



[Host Name]
Displays the host name of the unit.

[SSID]
Enter the SSID of the access point to which the unit connects.
WPA and WPA2 are available for the authentication method.
When a 5 GHz compatible wireless LAN module is attached, the unit can connect to a 5 GHz compatible access point.

[Key]
Enter the password for the access point.

[DHCP]
Enables DHCP.
When set to [On], an IP address is assigned to the unit automatically.
To assign an IP address to the unit manually, set to [Off].

[IP Address]
Enter the IP address of the unit. This setting is available only when [DHCP] is set to [Off].

[Subnet mask]
Enter the subnet mask of the unit. This setting is available only when [DHCP] is set to [Off].

[Gateway]
Enter the gateway for the access point. This setting is available only when [DHCP] is set to [Off].

[DNS Auto]
Sets whether to acquire DNS automatically. When set to [On], the DNS server address is acquired automatically.

[Primary DNS Server]
Enter the primary DNS server for the access point. This setting is available only when [DNS Auto] is set to [Off].

[Secondary DNS Server]
Enter the secondary DNS server for the access point. This setting is available only when [DNS Auto] is set to [Off].

[Submit]
Applies the wireless LAN settings.

Connecting to the access point in STA mode without the WPS function

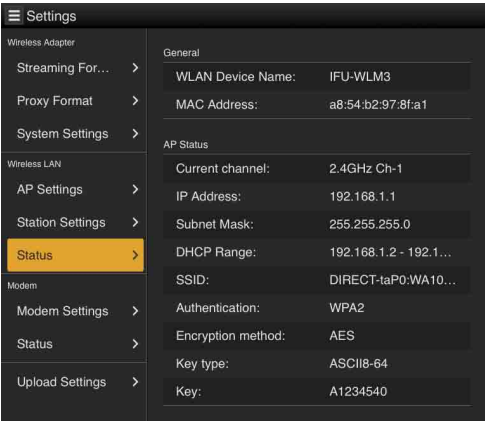
- 1 Connect the terminal device to the unit in AP mode (page 20).
- 2 Set the items on the [Station Settings] screen. Configure the settings to match the settings of the access point to which to connect. For details about the access point settings, refer to the operating instructions of the access point.
- 3 Tap [Submit]. The configured items are applied.

- 4 Set the WIRELESS switch to the ST position. The unit connects to the access point in STA mode. Access the unit from a terminal device from step 5 of “Connecting to an access point using the WPS function” (page 21).

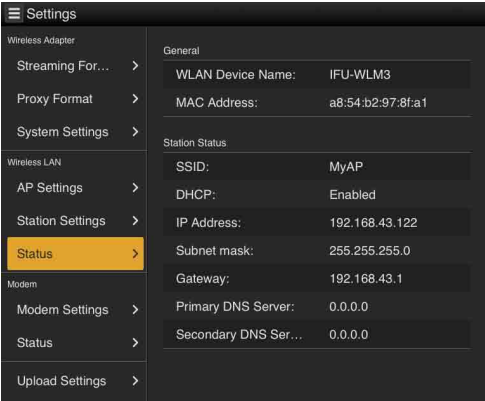
Checking the Wireless LAN Settings

Display the screen for checking the wireless LAN settings by tapping [Wireless LAN] > [Status]. The displayed items differ depending on the wireless LAN mode of the unit.

AP mode

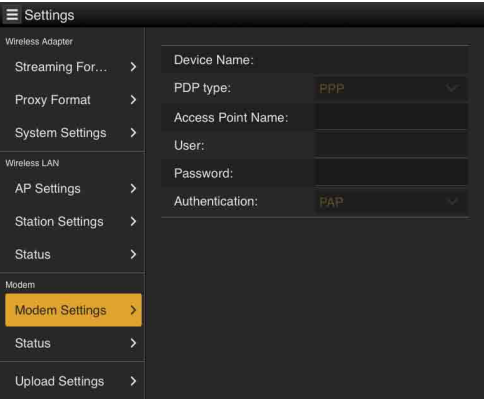


STA mode



Modem Settings

You can configure settings for connecting to the Internet when using a modem (option) connected to the unit.



When a modem that is compatible with the unit is connected, the connection settings are made automatically, and are displayed on the [Modem Settings] screen. (The unit is ready to connect to the Internet.)

When a modem is not connected, values are not displayed.

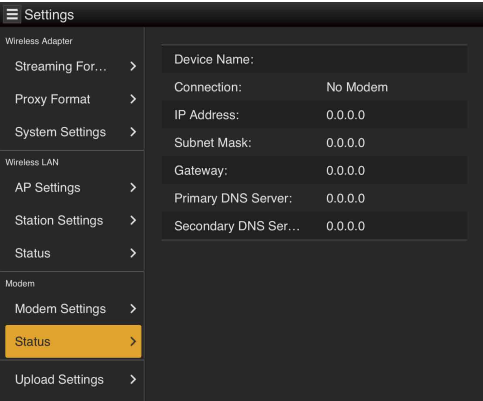
For details about modems compatible with the unit, contact your Sony dealer or Sony service representative.

[Note]

When the USB-RJ45 adapter (option) is attached, the [Modem Settings] screen does not appear.

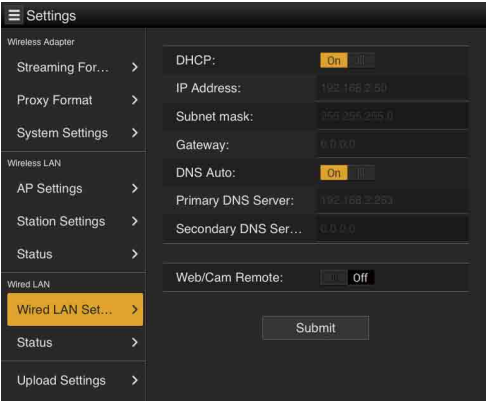
Checking the Modem Settings

Display the screen for checking the modem settings by tapping [Modem] > [Status].



Wired LAN Settings

You can configure settings for connecting to a network using the USB-RJ45 adapter (option) and a LAN cable.



[Note]
The [Wired LAN Settings] screen appears only when the USB-RJ45 adapter (option) is attached.

[DHCP]
Enables DHCP.
When set to [On], an IP address is assigned to the unit automatically.
To assign an IP address to the unit manually, set to [Off].

[IP Address]
Enter the IP address of the unit. This setting is available only when [DHCP] is set to [Off].

[Subnet mask]
Enter the subnet mask of the unit. This setting is available only when [DHCP] is set to [Off].

[Gateway]
Enter the gateway for the access point. This setting is available only when [DHCP] is set to [Off].

[DNS Auto]
Sets whether to acquire DNS automatically.
When set to [On], the DNS server address is acquired automatically.

[Primary DNS Server]
Enter the primary DNS server for the router.
This setting is available only when [DNS Auto] is set to [Off].

[Secondary DNS Server]
Enter the secondary DNS server for the router.
This setting is available only when [DNS Auto] is set to [Off].

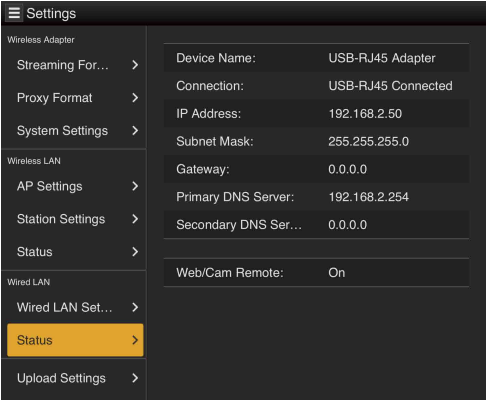
[Web/Cam Remote]
Set the access permission for the web menu of the unit or the Wi-Fi remote control of the camcorder when using the USB-RJ45 adapter. Access is permitted by setting to [On].

[Note]
We recommend that [Web/Cam Remote] be set to [On] only when the wired LAN network is not connected to the Internet to prevent unauthorized access. If the unit is connected to the Internet, be sure to confirm that the connected network is protected securely.

[Submit]
Applies the Ethernet settings.

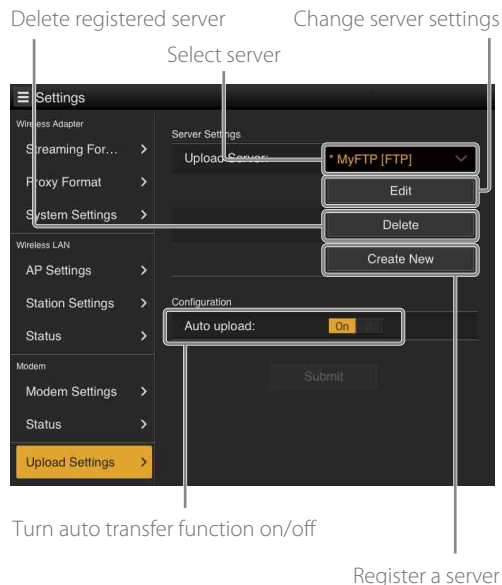
Checking the Wired LAN Settings

Display the screen for checking the wired LAN settings by tapping [Wired LAN] > [Status].



Upload Settings

You can register a server for uploading a proxy file that is recorded on the unit, and change the registered server.



“Sony Ci” and “NCM: RX Server” are registered, and “Sony Ci” is set as the default server. Sony Ci is part of the “Media Cloud Services” provided by Sony. You can upload files to the Sony Ci cloud service.

[Notes]

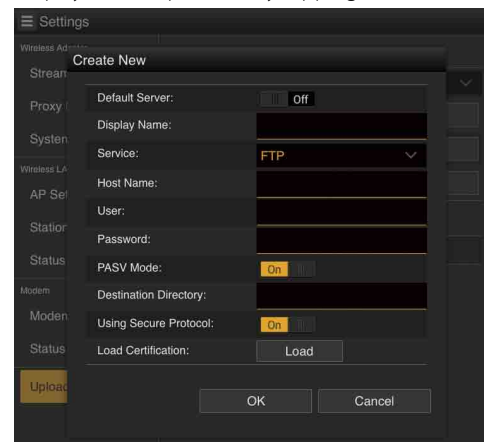
- Not supported in some regions.
- To use Sony Ci, registration is required. For details, visit www.SonyMCS.com/wireless. In addition, refer to the following sites for the privacy policy of Sony Ci.
Terms of service
<https://www.sonymcs.com/terms/>
Use policy
<https://www.sonymcs.com/use/>
Privacy policy
<https://www.sonymcs.com/privacy/>
- You can set “NCM: RX Server” as the default server. When network client mode is disabled, uploading is paused.

To register with “Sony Ci”

- 1 Check that “Sony Ci” is displayed on the [Upload Settings] screen, then tap [Edit]. The Sony Ci setup screen appears.
- 2 Enter the user name in [User] and the password in [Password]. For more details, visit www.SonyMCS.com/wireless.
- 3 Tap [Link].
[Note]
“Link” is an operation that associates the user with the unit. An Internet connection is required to execute Link. After a few moments, a completion message appears.
- 4 Tap [OK].
[Note]
After registering with Sony Ci, [Unlink] will appear on the setup screen. If you tap [Unlink], the current user account will be unlinked, and then you can link to a different user account.

Register a New Server for Uploading

Display the setup screen by tapping [Create New].



When finished, tap [OK] to apply the settings. To cancel, tap [Cancel].

[Default Server]

When set to [On], the file server is set as the default (displayed as the preferred server in the list when uploading).

[Display Name]

Enter the server name displayed in the list.

[Service]

Displays the server type.

[FTP]: FTP server

[Host Name]

Enter the address of the server.

[Note]

If using a port other than the default port 21, add “:123” (example) after the address.

[User]

Enter the user name.

[Password]

Enter the password.

[PASV Mode]

Turns PASV mode on/off.

[Destination Directory]

Specifies the directory for uploading.

[Note]

If invalid characters are entered in a directory name, the directory is not created and the file is uploaded directly to the top directory.

[Using Secure Protocol]

Sets whether to execute secure FTP transfer.

[Load Certification]

Loads an intermediate CA certificate.

Displayed only when [Using Secure Protocol] is set to [On].

[Notes]

- We recommend using FTPS because FTP communication is not encrypted.
- An intermediate CA certificate including a root CA certificate is required.
- The loaded certificate is in PEM format and named “certification.pem.” It is stored in the root directory of an SD card.

Changing the Registered Server Settings

Tap [Edit] after selecting the server for which you want to change the settings on the [Upload Settings] screen. Change the settings on the screen, as required.
For details about settings, see “Register a New Server for Uploading” (page 41).

Deleting a Registered Server

Tap [Delete] after selecting the server which you want to delete on the [Upload Settings] screen. A confirmation screen appears. Tap [OK] to delete the server and return to the previous screen.

Starting File Transfer Automatically after Recording Ends

Set [Auto upload] to [On] to automatically start transferring the file that is stored on an SD card after recording ends.

Restarting File Transfer (Resume Function)

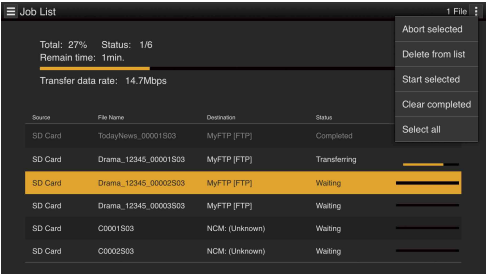
If file transfer fails, the file transfer resumes from where the file transfer had failed.

[Notes]

- This function is available only on a server that supports the resume function.
- When file transfer fails, the STATUS indicator flashes orange.

Checking File Uploading (Job List)


You can check the list of the files to be uploaded, the file that is being uploaded, cancel or start file uploading, and delete a file from the file list.



[Total]: Progress of all the files to be uploaded.
[Status]: Progress of the file that is currently being uploaded.
[Transfer data rate]: Transfer rate (estimated value)
[Remain time]: Remaining time (estimated value)

[Note]
When "NCM: RX Server" is set as the default server and network client mode is disabled, "NCM: (Unknown)" appears as the destination and "Waiting" appears in [Status]. When connection is established after connecting to CCM in network client mode, the destination changes (example: "NCM: My FTP Server") and uploading starts.

To cancel or resume uploading, or delete a file from the file list


- 1 Select the file.
- 2 Tap  at the top right of the screen. Select the following items.
[Abort selected]: Cancel uploading the selected file.
[Delete from list]: Delete the selected file from the list.
[Start selected]: Start uploading the selected file.
[Clear completed]: Delete all the uploaded files from the list.

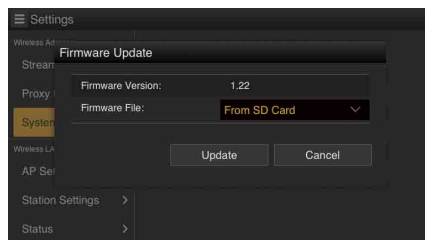
Updating the Unit

The unit uses two types of software; software that provides the same functionality as the XDCA-FS7, and software that provides the network functions. The XDCA-FS7 equivalent functions are updated using the UTILITY SD card slot of the camcorder and executing [Version] >[Ext. Unit Version Up] in the [System] menu of the camcorder. For details, refer to the instructions supplied with the updater file.

Updating the Network Functions

The network functions are updated using the SD card slot of the extension unit. Even though the unit is updated, the settings of the unit are retained and you can continue to use the unit as-is. However, the [Job List] items are reset.

- 1 Save the network functions updater file to the root directory of an SD card.
- 2 Insert the SD card into the SD card slot of the extension unit, and turn on the camcorder.
- 3 Connect a terminal device to the unit via wireless LAN, launch a browser on the terminal device, then access the unit (page 20). The [Device Status] screen appears.
- 4 Tap  > [Settings] > [System Settings]. The [System Settings] screen appears.
- 5 Tap [Firmware Update]. The [Firmware Update] screen appears.



- 6 Tap [Update] to load the firmware package file from the SD card. While updating, the message "Firmware updating It takes several minutes, please wait." appears.
- 7 The unit restarts, and the STATUS indicator and ST indicator flashes. While restarting, the web menu does not appear in the browser.

[Note]
If you turn the camcorder off or set the network module power switch to the STANDBY position while updating, the update will fail. In this case, repeat the steps from the beginning.
- 8 Turn the camcorder off, and then on again. The unit starts with the new version of the firmware. You can check the version on the [Device Status] screen (page 30). Change the camcorder settings as required (page 19).

If updating fails

If updating fails, the STATUS indicator flashes red. In this case, repeat the steps from the beginning.

Outputting the log file

If an abnormality occurs in the unit, a log can be recorded on an SD card. The log file is encrypted, and cannot be checked by the customer. Contact a Sony service representative and submit the log file as necessary.

Resetting Network Function Settings to Factory Defaults

You can reset the network function settings to the factory default settings.

- 1 Press and hold the RESET button for 3 seconds. The STATUS indicator turns off, and then the unit restarts. Change the camcorder settings as required (page 19).

Usage Precautions

Use and Storage Locations

- Store in a level, ventilated place. Avoid using or storing the unit in the following places.
- In excessive heat or cold (operating temperature range: 0 °C to 40 °C (32 °F to 104 °F))
Remember that in summer in warm climates, the temperature inside a car with the windows closed can easily exceed 50 °C (122 °F).
 - In damp or dusty locations
 - Locations exposed to rain
 - Locations subject to violent vibration
 - Near strong magnetic fields
 - Close to radio or TV transmitters producing strong electromagnetic fields.
 - In direct sunlight or close to heaters for extended periods

Do not subject to strong shocks

Do not drop the unit or subject it to strong shocks. The unit may be damaged.

Do not wrap in a cloth or other covering during operation

Internal temperatures may rise, causing a malfunction.

Cleaning

Clean the cabinet and panels by wiping lightly with a soft, dry cloth. If the unit is very dirty, use a cloth dampened with a small amount of neutral detergent, then wipe dry. Avoid the use of volatile solvents such as thinners, alcohol, benzene, and insecticides. They may damage the surface finish or cause it to peel off.

Transport

When transporting the unit by truck, ship, or air, or whenever it may be handled as freight, always pack it in the original protective packaging, after removing the camcorder, camera adapter, and cables from the camcorder support.

Moving

Before moving the camcorder, remove the unit from the camcorder support. If the camcorder is moved while the unit is attached, the unit may fall and may cause an injury.

Condensation

If the unit is suddenly taken from a cold to a warm location, or if ambient temperature suddenly rises, moisture may form on the outer surface of the unit and/or inside of the unit. This is known as condensation. If condensation occurs, turn off the unit and wait until the condensation clears before operating the unit. Operating the unit while condensation is present may damage the unit.

File Fragmentation

If pictures cannot be recorded/reproduced properly, try reformatting the SD card. After repeated recording/playback with an SD card for an extended period, files on the SD card may become fragmented, preventing proper recording/storage. In such a case, make a backup of clips from the SD card, then reformat it.

Troubleshooting

This section describes measures you can take when problems occur in the following situations.

- Wireless LAN connection
- Internet connection
- Wired LAN connection

[Note]

Obstructions and electromagnetic interference between the unit and a wireless LAN access point or terminal device, or the ambient environment (such as wall materials) could shorten the communication range or prevent connections altogether. If you experience these problems, check the connection/communication status after moving the camcorder to a new location or bringing the unit and access point/terminal device closer together.

Wireless LAN Connection

Problem	Resolution
The STATUS indicator flashes red, and wireless LAN cannot be used.	The connected wireless LAN module may not be compatible with the unit. For details about compatible wireless LAN modules, contact your Sony dealer or Sony service representative.
The terminal device cannot access the unit.	<ul style="list-style-type: none">• Check the wireless LAN connection settings (such as the IP address).• The communication setting between the access point and client may be invalid. For details, refer to the operating instructions of the access point.
Cannot log in to the unit.	Check the user name and password that you set.
The web menu of the unit does not appear.	<ul style="list-style-type: none">• Check the IP address setting.• Check that the port number (:8080) is added to the IP address.
The Wi-Fi Remote screen of the camcorder does not appear.	<ul style="list-style-type: none">• Check that the USB cable is connected.• Check that the firmware version of the camcorder is supported by the unit.

Internet Connection

Problem	Resolution
The STATUS indicator flashes red, and the modem cannot be recognized.	The connected modem may not be compatible with the unit. For details about compatible modems, contact your Sony dealer or Sony service representative.
The STATUS indicator flashes orange, and file uploading fails.	The user name and password of the server may not be correct. Enter the correct user name and password.
The STATUS indicator lights orange, and files cannot be uploaded.	The 3G/4G/LTE signal strength may be bad. Change the location and try again.

Wired LAN Connection

Problem	Resolution
“E03-007 IP Address Setting Error” appears.	A conflict between the network address for the wireless LAN and IP address setting may have occurred. Change the address manually, or change the setting of the network router.
Functions via the Internet do not work.	If the USB-RJ45 adapter is attached to the unit and a wired LAN is not connected to the Internet, functions via the Internet will not work even if the wireless adapter is connected to the Internet in STA mode. In this case, remove the USB-RJ45 adapter and connect to the Internet in STA mode only.

Error/Warning Indications

If an error is detected on the unit, an error message will appear on the [Device Status] screen.

Type	Error/warning ID	Description	STATUS indicator	Access indicator
Hardware	E01-003	Device Error	Flashes red rapidly	–
	E01-004	3G/4G Device Error	Flashes orange rapidly	–
	E01-005	Firmware update error	Flashes red slowly	–
AV	E02-002	SDI Signal Error	Flashes red slowly	–
Communication	E03-001	Communication Error	Lit orange	–
	E03-002	Not supported device	Flashes red rapidly	–
	E03-003	File Transfer Error	Flashes orange slowly	–
	E03-004	Firmware update error	Flashes red slowly	–
	E03-005	Authentication failed*	Flashes orange slowly	–
	E03-006	Server Capacity Over	Flashes orange slowly	–
	E03-007	IP Address setting error	Lit orange	–
	E03-008	Certification Error	Flashes orange slowly	–
Media	W04-001	No Media	–	Flashes red
	W04-002	Media Full	–	Flashes red
	E04-003	Read Error	–	Flashes red
	E04-004	Write Error (excluding capacity over)	–	Flashes red
	W04-005	Locked Media	–	Flashes red
	W04-006	Clips Full (reached 600 clips)	–	Flashes red
	E04-007	Not supported media	–	Flashes red
	W04-008	Media Near Full	–	–
	W04-009	Clips Near Full	–	–
	W04-010	Last Clip Recording	–	–

* Sony Ci authentication expired, or FTP server authentication failed.

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Specifications

Shoulder Plate

Mass Plate: Approx. 670 g (1 lb 8 oz)
Rods (each): Approx. 44 g (1.6 oz)

Dimensions Approx. 129.8 × 57.8 × 250 mm
(5 1/8 × 2 3/8 × 9 7/8 in)
(width / height / depth)

Top Plate

Mass Approx. 335 g (12 oz)

Dimensions Approx. 106.5 × 74 × 221.4 mm
(4 1/4 × 3 × 8 3/4 in)
(width / height / depth)

Viewfinder

Mass Approx. 644 g (1 lb 7 oz)

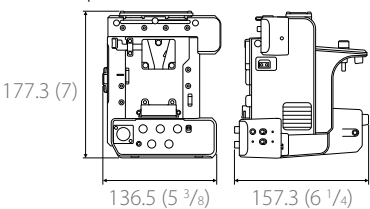
Dimensions Approx. 242 × 87 × 215 mm
(9 5/8 × 3 1/2 × 8 1/2 in)
(width / height / depth)

Extension Unit

General

Mass Approx. 1 kg (2 lb 3 oz)

Dimensions (Unit: mm (inch), excluding protrusions)¹⁾



1) The values for dimensions are approximate.

Power requirements 12 V DC (11 V to 17.0 V)

Power consumption Approx. 45 W (PXW-FS7 connected, RAW output mode, using WRR, wireless LAN video monitoring, proxy recording. 23 W consumed by extension unit itself)

Approx. 72 W (PXW-FS7 connected, RAW output mode, using WRR, wireless LAN video monitoring, proxy recording, 2.0 A output from DC OUT connector)

Operating temperature 0 °C to 40 °C (32 °F to 104 °F)

Storage temperature -20 °C to +60 °C (-4 °F to +140 °F)

Continuous operating time Approx. 120 minutes (using BP-FL75, camcorder set to RAW output)

Output format (RAW OUT)
4K RAW for HXR-IFR5
2K RAW for HXR-IFR5

Output frame rate (RAW OUT)
4K: 4096×2160/59.94P, 50P, 29.97P, 23.98P, 25P
2K: 2048×1080/59.94P, 50P, 29.97P, 23.98P, 25P, 100P, 119.88P, 200P, 239.76P

ProRes recording format (PXW-FS7/PXW-FS7M2)
1920×1080/59.94i, 50i, 29.97P, 25P, 23.98P

ProRes 422 HQ
Apple ProRes 422 HQ 4:2:2, 10-bit, VBR, 220 Mbps max.

ProRes 422
Apple ProRes 422 4:2:2, 10-bit, VBR, 147 Mbps max.

Input/outputs

Inputs

GENLOCK IN BNC type, 1.0 Vp-p, 75 Ω, unbalanced

TC IN BNC type, 0.5 V to 18 Vp-p, 10 kΩ

SDI IN BNC type

WRR D-Sub 15-pin
Analog CH1: -40 dBu

Outputs

RAW OUT BNC type, 0.8 Vp-p, unbalanced
HXR-IFR5 dedicated output

REF OUT BNC type, REF SYNC output 0.6 Vp-p ± 0.1 Vp-p, 75 Ω

TC OUT BNC type, 1.0 Vp-p, 75 Ω

SDI OUT BNC type, SDI IN pass-through output (when network module is on)

Other

DC IN XLR type, 4-pin, male, 11 V to 17 V DC

DC OUT 4-pin round type, 10 V to 12.5 V DC, 2.0 A maximum rated current (total, including LIGHT connector)

REC Tally signal output and REC Trigger signal input are supported via the DC OUT connector.

LIGHT 2-pin, 12 V DC (20 W or lower)

DATA IN/OUT 10-pin round type (for handle adapter connection)

USB connector USB 2.0 compliant, type A, for wireless LAN module or modem (2)

CAM connector USB 2.0 compliant, Micro B type (for camera control)

SD card slot For SD card

[Note]
Only connect devices with current consumption of 2.0 A or lower to the DC OUT connector.

Supplied accessories

USB cable (1)
SDI BNC cable (1)
Dongle guard (2)
Dongle guard mounting plate (1)
Mounting plate screws (4)
Shoulder belt (1)
Joint plate (1)
Rod (2)
Cable clamp (2)
Hex screws (4)
Before Using This Unit (1)
Operating Instructions (CD-ROM) (1)
Warranty booklet (1)

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