Digital HD Video Camera Recorder

Handbook (Additional functions)

This handbook includes operation manual for the additional functions.
Please refer to the “Operating Guide” (paper) and the “Handbook” (PDF) for other functions.
# Table of contents

Setting items .......................................................................................................................... 3

## Live Streaming

About Live Streaming............................................................................................................. 4
Preparing Live Streaming......................................................................................................... 5
Performing Live Streaming....................................................................................................... 6
Restrictions ............................................................................................................................... 8
Error messages ....................................................................................................................... 9

## New functions in still image shooting

Still image mode switching.................................................................................................... 11
Still image shooting interval................................................................................................... 13
SELF-TIMER ........................................................................................................................... 14
Estimated number of recordable photos ............................................................................... 15
The new functions are shown with an asterisk (*). Click the item of the new functions to jump to the corresponding page.

### List of modes

<table>
<thead>
<tr>
<th>Display</th>
<th>Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOVIE</td>
<td>Movie Mode</td>
</tr>
<tr>
<td>PHOTO</td>
<td>Photo Mode</td>
</tr>
<tr>
<td>INTVL</td>
<td>Interval Photo Recording Mode</td>
</tr>
<tr>
<td>LIVE</td>
<td>Live Streaming Mode</td>
</tr>
<tr>
<td>VMODE</td>
<td>Image Quality Setting Mode</td>
</tr>
<tr>
<td>SETUP</td>
<td>Setup Mode</td>
</tr>
<tr>
<td>PLAY</td>
<td>Play Mode</td>
</tr>
<tr>
<td>PwOFF</td>
<td>Power off</td>
</tr>
</tbody>
</table>

### Items you can set in SETUP

<table>
<thead>
<tr>
<th>Display</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEDY</td>
<td>SteadyShot</td>
</tr>
<tr>
<td>FLIP</td>
<td>Flip</td>
</tr>
<tr>
<td>SCENE</td>
<td>Scene</td>
</tr>
<tr>
<td>LAPSE</td>
<td>Interval Photo Recording</td>
</tr>
<tr>
<td>COLOR</td>
<td>Color Setting</td>
</tr>
<tr>
<td>PRO</td>
<td>XAVC S™</td>
</tr>
<tr>
<td>TC/UB</td>
<td>Time Code/User Bit</td>
</tr>
<tr>
<td>IR-RC</td>
<td>IR-Remote Controller</td>
</tr>
<tr>
<td>DRIVE</td>
<td>Still image mode switching</td>
</tr>
<tr>
<td>FPS</td>
<td>Still image shooting interval</td>
</tr>
<tr>
<td>SELF</td>
<td>SELF-TIMER</td>
</tr>
<tr>
<td>CONFIG</td>
<td>Configuration Settings</td>
</tr>
</tbody>
</table>

### Items you can set in CONFIG

<table>
<thead>
<tr>
<th>Display</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wi-Fi</td>
<td>Wi-Fi Remote Control</td>
</tr>
<tr>
<td>GPS</td>
<td>GPS Log</td>
</tr>
<tr>
<td>PLANE</td>
<td>Airplane Mode</td>
</tr>
<tr>
<td>USBPw</td>
<td>USB Power Supply</td>
</tr>
<tr>
<td>A.OFF</td>
<td>Auto Power Off</td>
</tr>
<tr>
<td>BEEP</td>
<td>Beep</td>
</tr>
<tr>
<td>DATE</td>
<td>Date &amp; Time Setting</td>
</tr>
<tr>
<td>DST</td>
<td>Daylight Saving Time (Summer Time) Setting</td>
</tr>
<tr>
<td>LANG</td>
<td>Language Setting</td>
</tr>
<tr>
<td>V.SYS</td>
<td>Switching NTSC/PAL</td>
</tr>
<tr>
<td>RESET</td>
<td>Resetting the Settings</td>
</tr>
<tr>
<td>FORMT</td>
<td>Format</td>
</tr>
</tbody>
</table>

### Notes
- The display panel displays only English, French and Brazilian Portuguese. Other languages are not available.
Live Streaming is a function to stream real-time video to a video streaming site such as USTREAM, and can be accomplished by using this camera with a Wi-Fi router or smartphone capable of tethering.

You can also send messages to your registered SNS (Facebook, Twitter, etc.) to announce that you have started Live Streaming of video.*

* Registration to a video streaming site or SNS is required.

To perform Live Streaming, the following preparations are required.

- User registration to USTREAM
- A smartphone (capable of tethering) or a Wi-Fi network environment

* For the tethering settings of your smartphone or the Wi-Fi network settings of your router, refer to the instructions manual of your smartphone or your Wi-Fi router. For more details about the Wi-Fi network settings, consult the network service provider.
Preparing Live Streaming

Using the dedicated application, “Network Setting Tool,” configure the network settings and register the video streaming site account and the SNS settings in advance. You can download the dedicated application from the following support site. http://www.sony.net/nst/

Input the USTREAM account and information of the “Network Setting Tool.”

What you can do with network setting

You can set the following with the Live Streaming Settings of your camera.
• Network settings
  You can set the Wi-Fi network to which your camera connects to.
  – Network SSID, password
• Streaming settings
  You can set the streaming method and information of videos.
  – Streaming site, channel, image quality and the saving settings of the streaming site
  – Title and description of streaming video
• SNS settings
  By configuring this setting, you can post a comment through social network services when starting streaming video.
  – Connection settings for Twitter or Facebook
  – Comments you post

About USTREAM

USTREAM is a video sharing site through which you can stream and view videos with the Live Streaming function of this camera. For details of USTREAM, see the following site. http://www.ustream.tv/

Notes

• Your personal information (information required when logging in to USTREAM, Twitter or Facebook) is set in the camera. Be sure to reset the camera when you transfer or dispose of it.
You can start Live Streaming after the preparation is complete. When Live Streaming for the first time, it is recommended that you rehearse streaming in a prepared environment after setting up with a computer in advance.

1 Press the NEXT button to display [LIVE].

2 Press the REC button to start streaming.
   The display panel changes from [PREP] (preparing stream) to [ONAIR] (streaming) and the REC lamp (page 7) lights red.

3 Press the REC button again to stop streaming.

About memory cards in the camera

You can record video that is Live Streaming into a memory card in the camera. When a memory card is inserted in the camera, the video is recorded while streaming*. If the memory card becomes full, recording stops automatically without stopping video streaming.

When no memory card is inserted in the camera, only the video streaming is performed.

* The image format/quality of video recorded during streaming is MP4/HQ mode.
Display during Live Streaming

<table>
<thead>
<tr>
<th>Display</th>
<th>Streaming status</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Prep Icon]</td>
<td>Preparing to connect to the video streaming site.</td>
</tr>
<tr>
<td>![On Icon]</td>
<td>Starts streaming.</td>
</tr>
<tr>
<td>![Streaming Icon]</td>
<td>Displays the number of viewers</td>
</tr>
</tbody>
</table>

**Notes**

- There may be time lag of 10 - 20 seconds between the start of Live Streaming on your camera and video streaming on the video streaming site.

**REC lamp indicator during Live Streaming**

If you select Live Streaming mode, you can see the streaming status for Live Streaming with the REC lamp on the camera.

<table>
<thead>
<tr>
<th>REC lamp</th>
<th>Status</th>
<th>Streaming status</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Off Icon]</td>
<td>Off</td>
<td>Before streaming</td>
</tr>
<tr>
<td>![On Icon]</td>
<td>On</td>
<td>Streaming</td>
</tr>
<tr>
<td>![Blinking Icon]</td>
<td>Slow-blinking (Blinks about once per second)</td>
<td>There are viewers.</td>
</tr>
<tr>
<td>![Blinking Icon]</td>
<td>Fast-blinking (Blinks rapidly about 3 times per second)</td>
<td>Streaming error</td>
</tr>
</tbody>
</table>
Restrictions

Restrictions for USTREAM
There are some restrictions for video streaming on USTREAM. For details, see the USTREAM site.

Restrictions on GPS and Wi-Fi functions during Live Streaming
The GPS function is disabled automatically during Live Streaming. Also, you cannot monitor images using a smartphone or the Live-View Remote during Live Streaming.

Network connection
Use a smartphone capable of tethering or Wi-Fi router for Live Streaming. However, proper operation with all smartphones or Wi-Fi routers is not guaranteed. Public wireless LANs cannot be used as connections for Live Streaming.

Simultaneous Live Streaming with multiple cameras
You cannot live stream videos simultaneously using the same account on more than 1 camera. You need to connect using another account.

Effects due to wireless communication conditions
When connected using the tethering function of a smartphone or via a Wi-Fi router, images and sounds may be interrupted, or the communication may be cut off due to wireless communication conditions.

Connection for Live Streaming
The communication time you can use for Live Streaming is limited according to the contract of your smartphone or Wi-Fi router. Confirm it in advance.

Continuous streaming time
Continuous Live Streaming using this camera is limited to about 13 hours.

Restrictions of network connections
In some countries, you cannot connect to Live Streaming sites. Use this function in accordance with the laws of that country.
If any trouble occurs when connecting for Live Streaming, the following messages appear. Follow the instructions to resolve the problem.

**Setting**

**NoSET**
Set the necessary settings for USTREAM using “Network Setting Tool.”

**Auth**
Log in to USTREAM again and confirm the settings using “Network Setting Tool.”

**CHANL**
- The channel set by “Network Setting Tool” is incorrect.
- This message also displays if other media starts streaming on the same channel while streaming from your camera is performed.
- Set the channel again.

**DATE**
Set the date and time again on your camera.

**APErr**
Access point has been found but is not connected.
Check the password of the access point and connect again.

**Network**

**PREP**
The network is temporarily unavailable.

**Netwk**
- The saving settings of video cannot be saved to USTREAM because an error has occurred on the network.
- Some other network error has occurred.
- Confirm the setting of the access point or the security of the access point using “Network Setting Tool.”

**NO AP**
Access point cannot be found. Confirm the setting of the access point using “Network Setting Tool.”
**Network Service**

**ERROR**
An unknown error has occurred on USTREAM. Wait a moment and then try confirming the connection again.

**LIMIT**
The total time of saved video on USTREAM has reached the limit. Stop streaming video.

**TWErr**
Twitter post error.
Check the network or log in to Twitter again.

**FBErr**
Facebook post error.
Check the network or log in to Facebook again.

**The camera**

**ERROR**
Turn the power off and then on again.

**HEAT**
- The camera temperature has risen. The power may turn off automatically, or you may be unable to record images. Leave the camera in a cool location until the temperature goes down.
- If you record images for an extended period, the camera temperature rises. In this case, stop recording images.
New functions in still image shooting

Still image mode switching

You can set the mode for still image recording. To make the setting, select [SETUP] first.

1 Press the NEXT button to display [SETUP], then press the ENTER button.
2 Press the NEXT button to display [DRIVE], then press the ENTER button.
3 Press the NEXT button to select the setting, then press the ENTER button.

<table>
<thead>
<tr>
<th>Setting display</th>
<th>Single Shooting: (Image size/13.5M) Shoots one still image.</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅</td>
<td>Burst Shooting: (Image size/13.5M) Shoots at the continuous shooting interval set in the still image shooting interval [FPS].</td>
</tr>
<tr>
<td></td>
<td>Motion Shot LE: (Image size/3.3M) Generates a still image from still images continuously shot at the interval set in the still image shooting interval [FPS].</td>
</tr>
</tbody>
</table>

💡 To shoot successfully in Motion Shot LE mode

Try the following shooting methods.
- Stabilize the camera to prevent camera shake.
- Use the remote control function with a smartphone or Live-View Remote, or the self-timer function to prevent camera shake for better results.
- Make sure that the moving objects are not too large or too many.
- Shoot in a bright location and avoid changes in brightness.

💡 To shoot successfully in Burst Shooting mode

Try the following shooting methods.
- Stabilize the camera to prevent camera shake.
- Use the remote control function with a smartphone or Live-View Remote, or the self-timer function to prevent camera shake for better results.
Notes

- If automatic generation in Motion Shot LE mode fails, [FAIL] is displayed on the display panel. Depending on the display timing of [FAIL], the image may not be saved.
- After shooting with Burst Shooting or Motion Shot LE mode, there is a processing time during which the next operation cannot be operated.
- Only one still image can be transferred to the smartphone. (In Burst Shooting mode, the last still image can be transferred. In Motion Shot LE mode, the generated image can be transferred.)
You can select the continuous shooting setting for using Burst Shooting or Motion Shot LE. To make the setting, select [SETUP] first.

1 Press the NEXT button to display [SETUP], then press the ENTER button.
2 Press the NEXT button to display [FPS], then press the ENTER button.
3 Press the NEXT button to select the setting, then press the ENTER button.

<table>
<thead>
<tr>
<th>Setting display</th>
<th>Still image shooting interval</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Setup Icon" /></td>
<td>Shoots 10 still images in one second. (Suitable for shooting fast-moving objects)</td>
</tr>
<tr>
<td><img src="image2" alt="FPS Icon" /></td>
<td>Shoots 10 still images in 2 seconds. (Suitable for action shots of objects)</td>
</tr>
<tr>
<td><img src="image3" alt="Custom Icon" /></td>
<td>Shoots 10 still images in 5 seconds. (Suitable for shooting slow-moving objects)</td>
</tr>
</tbody>
</table>

**Notes**

- [10f1s], [5f2s], [2f5s] are estimates of the maximum speed. The maximum speed may not be reached depending on the shooting conditions.
You can set the self-timer when shooting a still image. The self-timer is available in all still image modes.
To make the setting, select [SETUP] first.

1 Press the NEXT button to display [SETUP], then press the ENTER button.
2 Press the NEXT button to display [SELF], then press the ENTER button.
3 Press the NEXT button to select the setting, then press the ENTER button.

<table>
<thead>
<tr>
<th>Setting display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="OFF" /></td>
<td>Self-timer is not used.</td>
</tr>
<tr>
<td><img src="image" alt="SEL2" /></td>
<td>Starts shooting after about 2 seconds.</td>
</tr>
<tr>
<td><img src="image" alt="SEL10" /></td>
<td>Starts shooting after about 10 seconds.</td>
</tr>
</tbody>
</table>

**Notes**

- Self-timer does not return to [OFF] after shooting.
Estimated number of recordable photos

<table>
<thead>
<tr>
<th></th>
<th>8 GB</th>
<th>16 GB</th>
<th>32 GB</th>
<th>64 GB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2M (Interval photo recording) (16:9)</td>
<td>7700</td>
<td>15500</td>
<td>31000</td>
<td>40000</td>
</tr>
<tr>
<td>3.3M (Motion Shot LE)</td>
<td>5100</td>
<td>10000</td>
<td>20500</td>
<td>39000</td>
</tr>
<tr>
<td>13.5M (Still images)</td>
<td>1450</td>
<td>3000</td>
<td>6000</td>
<td>12000</td>
</tr>
</tbody>
</table>

- When using a Sony memory card.
- The number of recordable photos for the memory card shown is for the maximum image size for your camera. The actual number of recordable photos is displayed on the LCD screen during shooting.
- The number of recordable photos for a memory card may vary depending on the shooting conditions.