Digital Motion Picture Camera

BURANO

Operating Instructions

MPC-2610

Firmware Version 1.0

CineAlta

Table of Contents

System Configuration

UWP-D21
UWP-D22
UWP-D26
(receiver:
URX-P40)
Wireless
Microphone
Package

SMAD-P5
Multi-Interface
Shoe Adaptor

URX-P03D
Wireless
Microphone
Receiver

SMAD-P3D
Multi-Interface
Shoe Adaptor

XLR-K3M
XLR Adaptor Kit

HVL-LBPC
Video Light

ECM-680S*, ECM-678,
ECM-674, ECM-MS2
Microphone
* EC-0.5X5F3M is required

Rod Clamp (A-2182-621-)
Microphone Holder
assembly (X-2596-733-)
Screws P2.6×8 (2)
(7-627-556-98)

S35 PL Lens

Handle equipped with an MI shoe
(A-5012-165-)

Handle

Viewfinder module

PL-mount adaptor

Anamorphic lens
(PL-mount)

Full-frame lens
(PL-mount)

MPC-2610

CFexpress Type B
memory cards

CFexpress Type B card reader/
SD card reader

BP-GL95B
Battery Pack

RM-30BP/1BP
Remote Control Unit

SD card

AC-DN10A
AC Adaptor

E-mount lens

LA-EA4
LA-EA5
A-mount Adaptor

VCT-FSA5
Shoulder Adaptor

GP-VR100
Grip Remote Control

Location and Function of Parts

Operator Switch Side

CFexpress Type B card slot section (page 5)
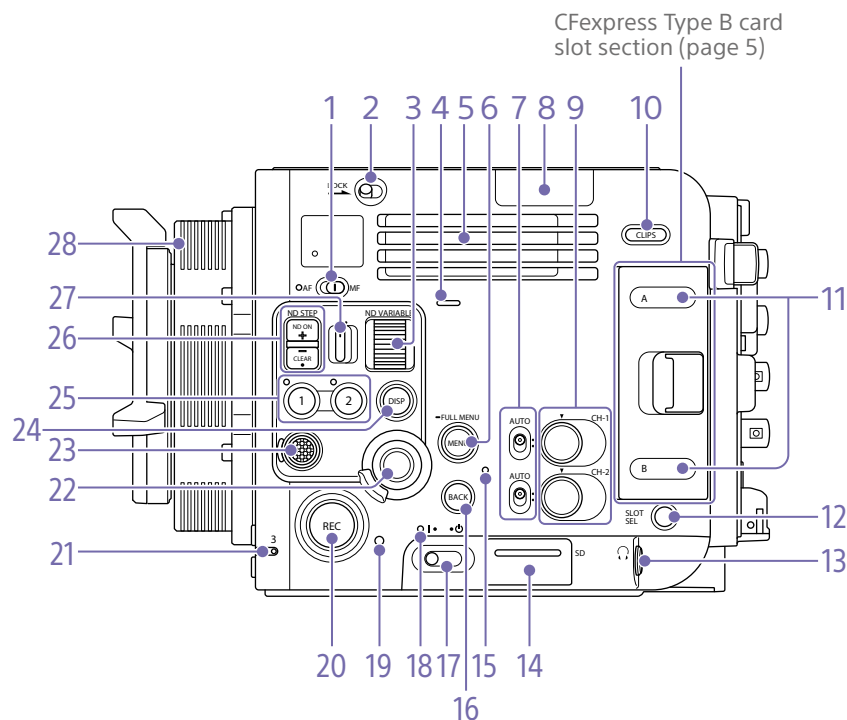
1. **FOCUS switch (page 88)**

2. **LOCK switch**
Locks the operation of the buttons. When locked, the switch background LED lights in orange.

3. **ND VARIABLE dial (page 95)**

4. **Built-in speaker (page 71)**

5. **Air inlet**
[Note]
Do not cover the air inlet.

6. **MENU button (page 28, 33)**
Press the MENU button to display the status screen. Press and hold the MENU button to display the full menu screen.

Press the button during status screen or full menu screen display to return to the previous screen display.

7. **CH1/CH2 (AUTO/MAN) switches (page 98)**

8. **Wi-Fi antenna**
[Note]
Wi-Fi communication may be interrupted if you cover this part with your hand or a metallic object.

9. **AUDIO LEVEL (CH1/CH2) dials (page 98)**

10. **CLIPS button (page 68)**
Press to display the clips on the active playback media on the clips screen and to enable playback operation. Press when the

clips screen is displayed to return to the shooting screen.

11. **Access indicators A/B (page 18)**

12. **SLOT SELECT (CFexpress Type B memory card select) button (page 71)**

13. **Headphones connector (stereo mini jack)**
Connect to earphones for audio monitoring. You can monitor the input audio during shooting/recording and playback sound during playback (page 71).

14. **Utility SD card slot/Access indicator (page 20)**

15. **Internal microphone (page 98)**
Narration microphone for recording ambient sound.

16. **BACK button**
Cancels the menu setting and moves up one level in the menu hierarchy during menu display. Cancels the execution process or pending process during process execution/pending display.

17. **Power switch**
Set to the **I** (ON) position to turn the power on. Set to the (Standby) position to turn the power off.

[Notes]
• This unit uses a small amount of standby power even when the power is switched off. Remove the battery pack if the unit will not be used for a prolonged period.
• When removing the battery pack or the DC IN power, set the power switch to the STANDBY position and check that the power lamp is not lit. Disconnecting with the power switch in the ON position could cause a malfunction of the unit or the memory cards.

18. **Power lamp (page 82)**

19. **REC ACTIVE lamp**
The lamp is lit green when the REC button is enabled.

20. **REC (recording start/stop) button/lamp**
Press to start recording, turning the REC lamp

on. Press again to stop recording, turning the REC lamp off (page 82).

21. **ASSIGN (assignable) lamp 3 (page 100)**
The lamp is lit orange when the assigned function is on (enabled) or activated, and not lit when the function is off (disabled).

22. **Multi-function dial (page 100)**
Press when viewing the image in the viewfinder to display and operate the direct menu.
Turn the dial when a menu is displayed in the viewfinder to move the cursor up/down to select menu items or settings. Press to apply the selected item.
When the menu is not being displayed, the dial can also function as an assignable dial.

[Tip]
By default, you can use the dial to adjust the iris when an E-mount lens is attached.

23. **Multi selector (8-way D-pad and apply buttons)**
Use to select a subject recognition frame during auto focus, move the focus area, and move the magnification position during focus magnifier operation. It can also be used for menu operations when the LCD monitor is in video monitoring mode (page 21).

[Tip]
The multi selector of the grip remote control (option) and LANC remote control (option) function in an equivalent manner to this multi-selector.

24. **DISPLAY (screen display) button (page 22)**

25. **ASSIGN (assignable) buttons/lamps 1/2 (page 100)**
The lamp is lit orange when the assigned function is on (enabled) or activated, and not lit when the function is off (disabled).

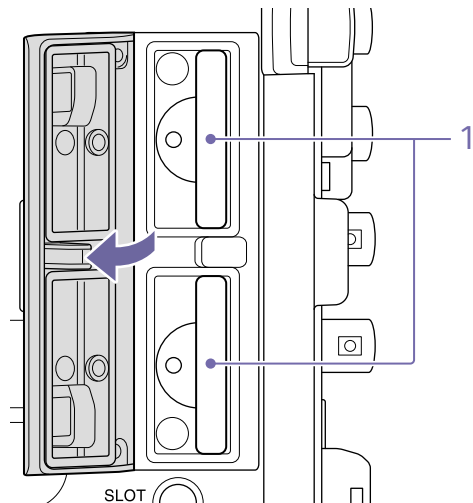26. **ND FILTER POSITION up/down buttons/ND CLEAR lamp (page 95)**
When the ND filter is set to CLEAR, the ND CLEAR lamp turns on.

27. **ND STEP/VARIABLE switch (page 95)**

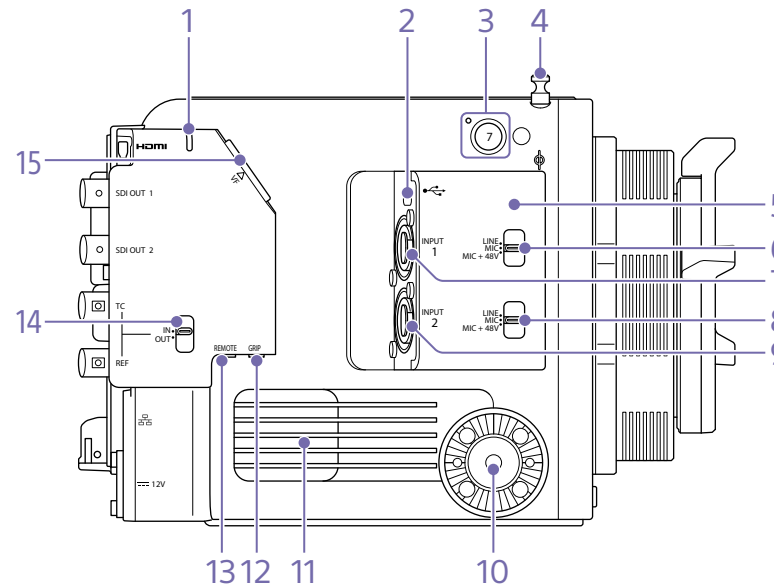28. **PL-mount adaptor (page 15)**

CFexpress Type B card slot section (page 18)

The CFexpress Type B card slots are located behind the cover.

1. **CFexpress Type B slots A/B**

Connector Side

1. **Recording/tally lamp (page 82)**
Lit during recording, and flashes when the remaining capacity on the recording media or battery is low.

2. **USB-C connector (page 75, 79, 107)**

3. **ASSIGN (assignable) button/lamp 7 (page 100)**
The lamp is lit orange when the assigned function is on (enabled) or activated, and not lit when the function is off (disabled).

4. **Tape measure hook**
The tape measure hook is on the same plane as the image sensor. To measure the distance between the unit and the subject accurately, use this hook as a reference point. You can attach the end of a tape measure to the hook to measure the distance from the subject.

5. **Wi-Fi antenna**

[Note]
Wi-Fi communication may be interrupted if you cover this part with your hand or a metallic object.

6. **INPUT 1 switch (LINE/MIC/MIC+48V) (page 98)**

7. **INPUT 1 (audio input 1) connector (page 98)**

8. **INPUT 2 switch (LINE/MIC/MIC+48V) (page 98)**

9. **INPUT 2 (audio input 2) connector (page 98)**

10. **Grip remote control attachment**
Attachment point for the grip remote control (option).

11. **Air outlet**

[Note]
Do not cover the air outlet.

12. **Grip remote control connector**
Connect to the grip remote control (option).

13. **REMOTE connector**
Connect to general-purpose LANC jack accessory.

14. **TC/REF IN/OUT select switch (page 106)**
Switch the function of two connectors on the rear between TC IN/REF IN and TC OUT/REF OUT.

15. **Viewfinder connector (page 10)**

Front
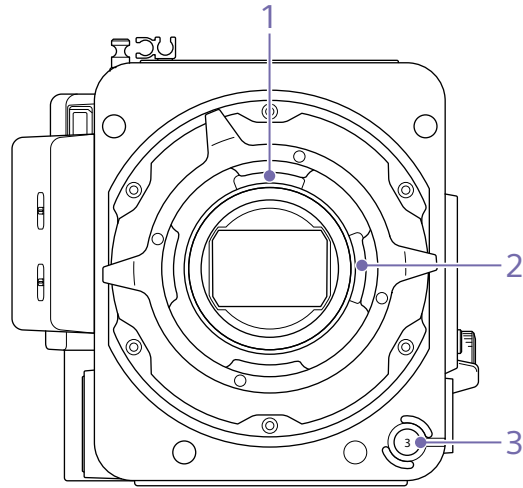
1. **PL lens electrical contact (top)**

2. **PL lens electrical contact (side)**

3. **ASSIGN (assignable) button 3 (page 100)**
The assigned function toggles between on/off (enabled/disabled) or is activated with each press.

Rear
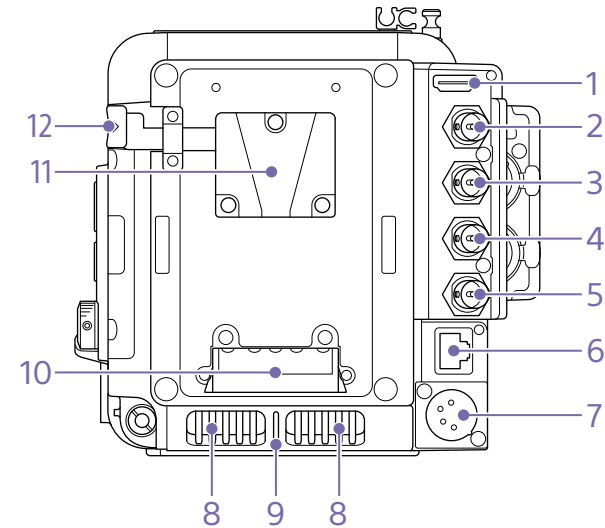
1. **HDMI OUT connector (page 105)**

2. **SDI OUT 1 connector (page 105)**
Supports 12G-SDI output.

3. **SDI OUT 2 connector (page 105)**
Supports 3G-SDI output.

4. **TC IN/TC OUT (timecode input/output) connector (page 106)**

5. **REF IN/REF OUT (sync signal input/ output) connector**
Use for one of the following applications, depending on the TC/REF IN/OUT select switch.
IN: Input an external reference signal to genlock the unit to an external source or to lock the timecode of the unit to an external source.
OUT: Output a sync signal for synchronizing external devices. The REF OUT connector always outputs an HD sync signal.

6. **Network connector (RJ-45)**
Connect to a wired LAN network using a LAN cable (not supplied) for stable network functionality (page 75).

[Note]
Cannot be used at the same time as Wi-Fi.

7. **DC- IN connector (XLR 4-pin) (page 13)**
DC IN (DC power supply input) connector (XLR 4-pin, male) for external power supply to the unit. Supports 12 V (11 V to 17 V) input voltage.
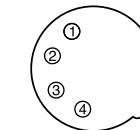
No.	Signal
1	GND
2	NC
3	NC
4	12 V (11 V to 17 V)

8. Air inlet

[Note]
Do not cover the air inlet.

9. Recording/tally lamp
Lit during recording, and flashes when the remaining capacity on the recording media or battery is low.

10. Battery attachment terminal (page 13)

11. Battery pack mount (page 13)

12. Battery release lever (page 13)

Top
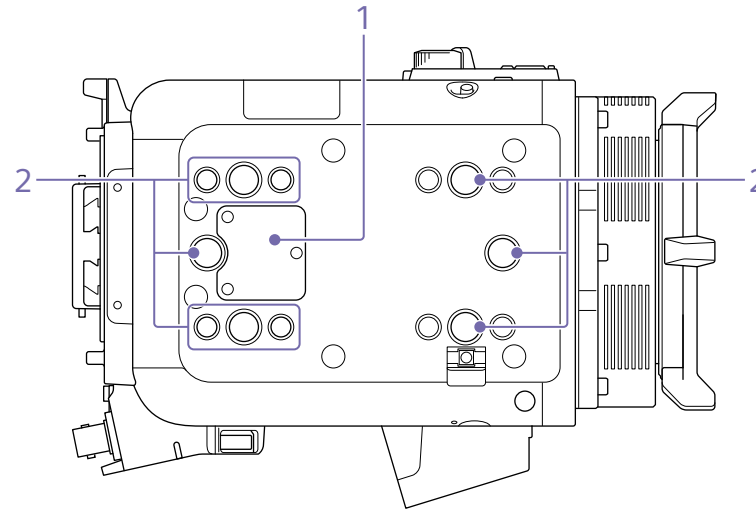
1. Handle connector
Connect to a handle (option) equipped with an MI shoe.

2. Accessory mounting screw holes
Type of screw: 1/4-20UNC (8)
Type of screw: 3/8-16UNC (6)
Length of engagement: 10 mm ($^{13}/_{32}$ inch) or less

Bottom
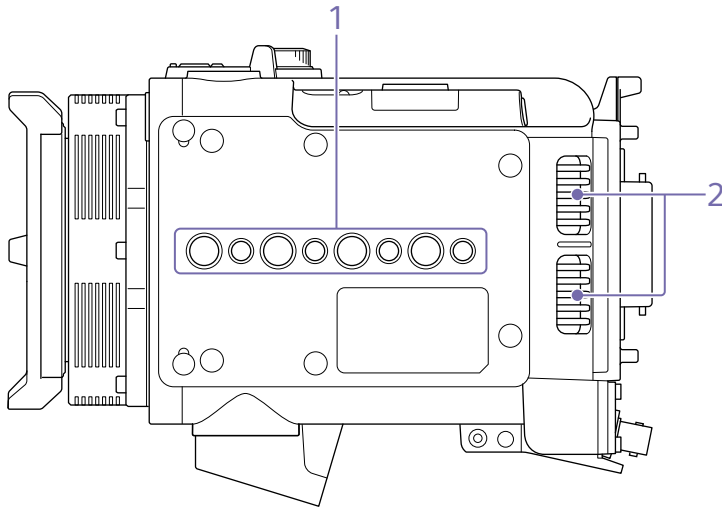
1. Tripod plate attachment holes
Type of screw: 1/4-20UNC (4)
Type of screw: 3/8-16UNC (4)
Length of engagement: 9 mm ($^3/_8$ inch) or less

2. Air inlet

[Note]
Do not cover the air inlet.

LCD Monitor
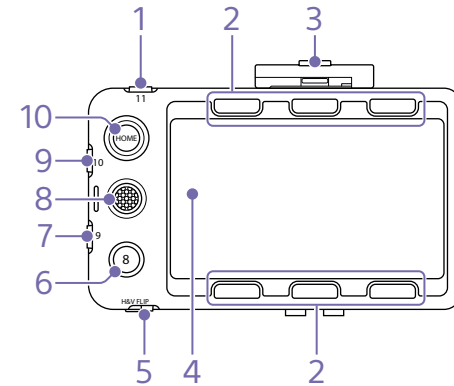
1. ASSIGN (assignable) button 11 (page 100)

2. ITEM buttons 1 to 6 (page 25)
Use to operate the Home screen and playback screen.

3. Loupe lock tab (page 11)

4. Touch panel
Touch operations can be disabled using an assignable button or using the menu (page 9).

5. H&V FLIP switch (ON/OFF)
Switches the screen display between normal (OFF) and flipped up/down/left/right (ON).

6. ASSIGN (assignable) button 8 (page 100)

7. ASSIGN (assignable) button 9 (page 100)

8. Multi selector (8-way D-pad and apply buttons)
Use to control the content displayed on the LCD monitor.

9. ASSIGN (assignable) button 10 (page 100)

10. HOME button (page 21)
Press to display the Home screen.

[Tip]
You can switch between video monitoring mode for controlling various operations from the shooting screen, and information display mode for checking and changing settings on the Home screen.

Using the Touch Panel

Touch Panel Usage Precautions

The LCD monitor of the unit is a touch panel, which you operate directly by touch using your finger.
- The touch panel is designed to be touched lightly with your finger. Do not press the panel with force or touch it using sharp-edged or pointed objects (nail, ballpoint pen, pin, etc.).
- The touch panel may not respond when touched in the following circumstances. Also note that these may cause a malfunction.
  - Operation using the tips of finger nails
  - Operation while other objects are touching the surface
  - Operation with a protective sheet or sticker attached
  - Operation with water droplets or condensation on the display
  - Operation using wet or sweaty fingers

Touch Panel Gestures

Tap
Lightly touch an item, such as an icon or menu item, using your finger and then immediately remove your finger.

Drag
Touch the screen and slide your finger to the desired position of the screen, and then remove your finger.
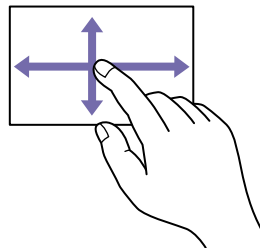
Flick/swipe
Touch the screen and quickly flick/swipe your finger up, down, left, or right.
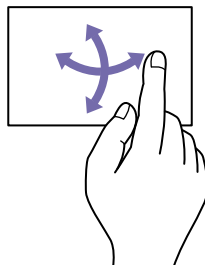
[Tip]
If the display content continues beyond the edges of the screen, you can drag or flick the display content to scroll.

Configuring the Touch Panel

Touch panel operation can be enabled/disabled using Touch Operation (page 58) in the Technical menu.

Attaching the Handle and Viewfinder

Attaching the Handle

1 Align the handle with the four screw holes at the front or rear on the top side.
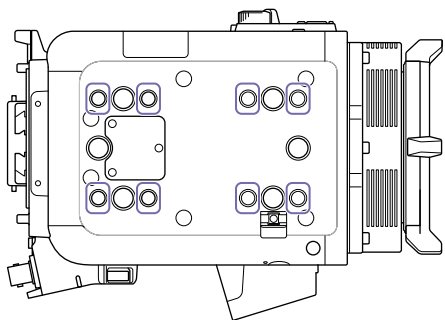
2 Attach using four hex screws and tighten to a torque of 1.4 N·m using a hex wrench ($^3/_{16}$ inch).
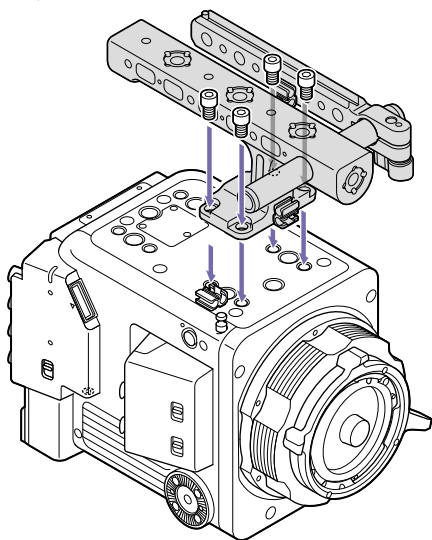
To remove the handle

Unscrew the four hex screws using a hex wrench and remove the handle.

Attaching the Viewfinder

1 With the handle attached to the unit, turn the viewfinder arm locking knob counterclockwise to loosen the arm, and turn the arm 180° toward the front.

[Tip]
If the locking knob is in a position that makes it difficult to turn, pull the locking knob off and rotate it to an angle that will make operation easier. Then place the locking knob back on.

2 Turn the locking knob clockwise to secure it in position.

Locking knob

Arm

Hex socket bolt

[Note]
If the arm attachment rod rotates relative to the handle, tighten the hex socket head bolt (3 mm) on the underside of the handle using a hex wrench (tightening torque: 1.6 N·m).

3 Attach the viewfinder mount adaptor to the rear of the LCD monitor and turn the locking knob clockwise to secure it in position.

Viewfinder mount adaptor

Locking knob

4 Press and hold down the pin on the arm using your finger, attach the viewfinder mount adaptor to the arm, and turn the locking knob clockwise to secure it in position.

Pin   Locking knob

Viewfinder mount adaptor

[Note]
If the arm becomes too loose when loosening the attachment locking knob, adjust the lock screw using a hex wrench (2.5 mm).

Lock screw

5 Align the ▲ mark on the viewfinder connector of the unit with the ▼ mark on cable plug from the LCD monitor, and insert the cable.
Check the orientation to make sure that the ▼ mark is on the outer side before inserting.
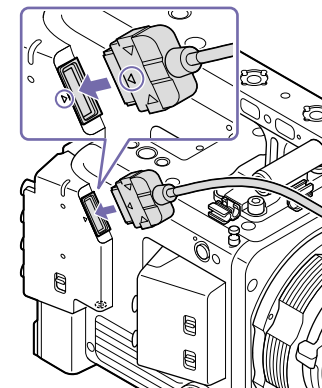
6 Place the cable into the cable holders (three locations).

Cable holder

7 Attach the viewfinder loupe by sliding it into the groove on the top of the LCD monitor as shown in the diagram.
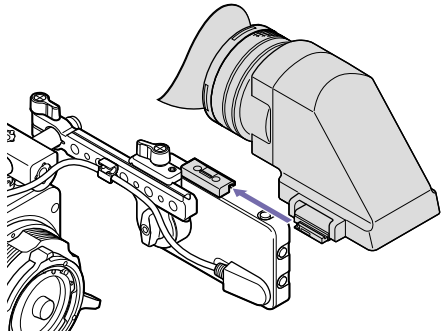
8 Push the viewfinder loupe in the direction of the arrow to close it.

Removing the viewfinder loupe

Press the viewfinder loupe latch, raise the loupe to open it ①, push and hold the viewfinder loupe attachment lock tab in the direction of the arrow ②, and slide the viewfinder loupe in the opposite direction from when it was attached to remove it ③.

Loupe lock tab

Latch
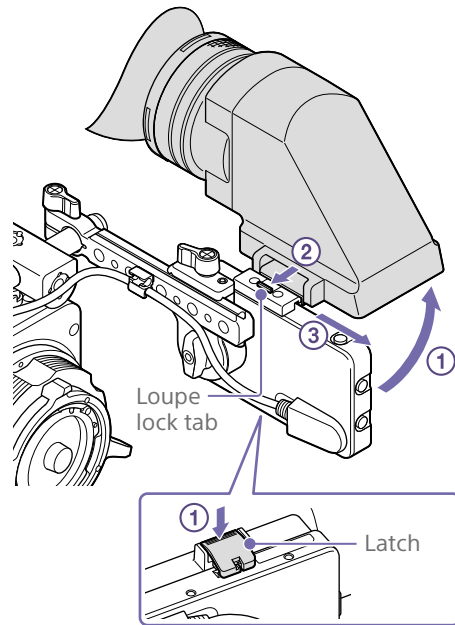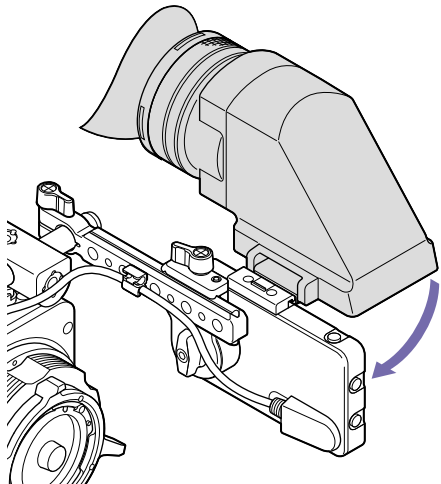
Removing the viewfinder

1 Remove the cable from the cable holders, press in both sides of the connector plug, and disconnect the cable.

2 Loosen the viewfinder locking knob, and use the reverse procedure of attaching the viewfinder to remove it.

Attaching the Viewfinder (when not using the viewfinder loupe)

1 With the handle attached to the unit, turn the arm locking knob counterclockwise to loosen the arm, and turn the arm 180° toward the front.

2 Turn the locking knob clockwise to secure it in position.
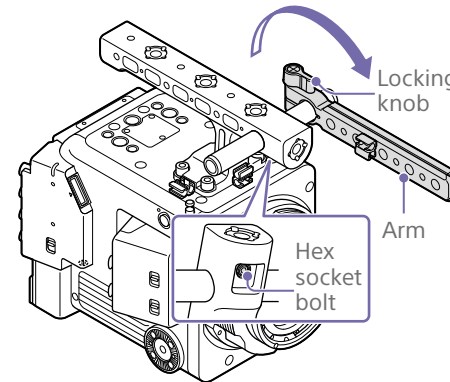
Locking knob

Hex socket bolt

Arm

[Note]
If the arm attachment rod rotates relative to the handle, tighten the hex socket head bolt (3 mm) on the underside of the handle using a hex wrench (tightening torque: 1.6 N·m).
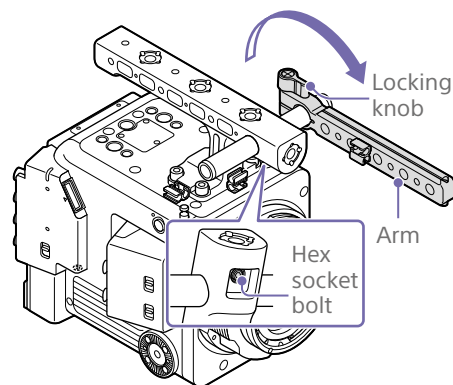
3 Attach the viewfinder mount adaptor to the side of the LCD monitor and turn the locking knob clockwise to secure it in position.
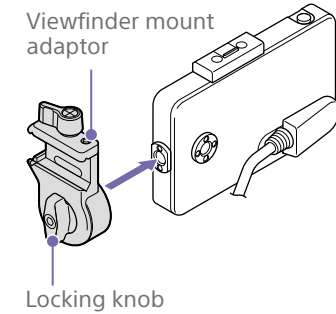
Viewfinder mount adaptor

Locking knob

4 Press and hold down the pin on the arm using your finger, attach the viewfinder mount adaptor to the arm, and turn the locking knob clockwise to secure it in position.

Pin

Locking knob

Viewfinder mount adaptor

[Note]
If the arm becomes too loose when loosening the attachment locking knob, adjust the lock screw using a hex wrench (2.5 mm).

Lock screw

5 Align the ▲ mark on the viewfinder connector of the unit with the ▼ mark on cable plug from the LCD monitor, and insert the cable.
Check the orientation to make sure that the ▼ mark is on the outer side before inserting.

6 Place the cable into the cable holders (three locations).

Cable holder
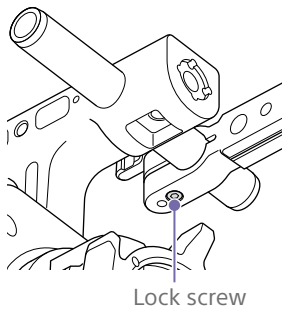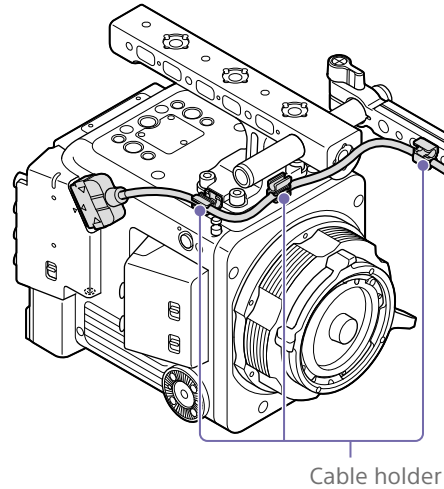
Example setup when using the LCD monitor as a control panel

You can mount the LCD monitor by attaching the side of the viewfinder mount adaptor to the arm as shown below. This setup is convenient when using the LCD monitor as a control panel.

Viewfinder mount adaptor
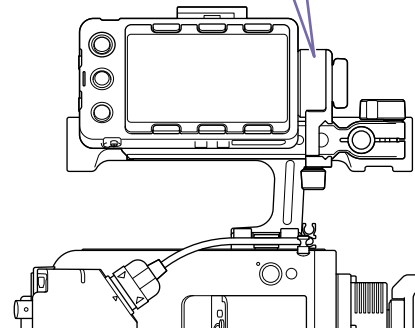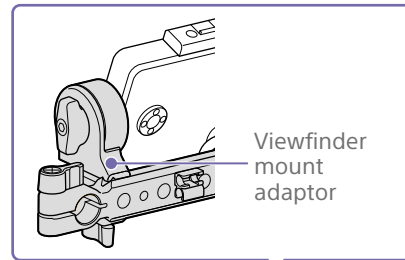
Power Supply

You can use a battery pack or AC power supply from an AC adaptor.
For safety, use only the Sony battery packs and AC adaptors listed below.

Lithium-ion battery packs
BP-GL95B

AC adaptor
AC-DN10A

Using a Battery Pack

Insert the battery pack into the battery pack mount (page 7) of the battery adaptor,
then slide the battery pack down to lock it in place.
To remove it, press and hold the battery release lever (page 7) to unlock the battery pack and slide the battery pack up.

[Notes]
- Before use, charge the battery pack with the battery charger.
- A warm battery pack immediately after use may not be able to be fully recharged.
- Remove the battery adaptor while supporting the unit by hand.

Checking the remaining capacity

When recording or playback is in progress using the battery pack, the current battery remaining time and battery voltage are displayed on the LCD monitor.
The unit indicates the remaining usage time in minutes by calculating the available time with the battery pack if operation is continued at the current rate of power consumption.

If the remaining battery charge becomes low

If the remaining battery charge decreases to a certain level during operation, the remaining battery capacity indicator flashes and the REC lamp flashes to warn you.
If the remaining charge further decreases to a level at which operation cannot be continued, a battery-empty message appears.
Replace the battery pack with one that is fully charged.

Changing the warning levels

Change levels using Technical >Camera Battery Alarm (page 60) in the full menu.

Using AC Power (DC IN Power)

The unit works with AC power using a 100W AC adaptor.
Supports 11 V to 17 V input voltage range.
An alarm will appear if the input voltage falls below set levels. You can change the levels using Technical >Camera DC IN Alarm (page 60) in the full menu.

[Note]
When switching to the DC IN power supply during battery operation, use a power supply with a voltage in the range 12 V to 17 V for safer power supply switching.

Using a Battery Pack and DC IN Power Supply Together

Whenever an active power supply is applied using a battery pack and a DC IN power supply, the DC IN power supply takes precedence.

[Note]
When the power supply switches from battery operation to the DC IN power supply, operation of the unit may stop if the following occurs.
- Chattering of the connector contacts when inserting the DC connector
- Voltage drops when switching between power supplies (more prevalent when the power consumption is high)

Setting the Clock

When you use the unit for the first time, the initial setup screen appears on the LCD monitor when the power is turned on. Set the date and time of the internal clock using this screen.

Time Zone

The value shows the time difference from UTC (Coordinated Universal Time). Change the setting as required.

[Note]
When Time Zone is changed, the clock setting changes according to the time difference.

Setting the Date and Time

Turn the multi-function dial (page 4) to select items and values, then press the dial to apply the selection. When you press the dial when the cursor is on "Set," the setting display disappears and the clock setting is completed. After the initial setup screen disappears, you can change Time Zone and date/time settings using Maintenance >Clock Set (page 65) in the full menu.

[Notes]
• If the clock setting is cleared because the backup battery fully discharged when no power was supplied (no battery pack and no DC IN connection), the initial setup display will be displayed when you next turn on the power of the unit.
• While the initial setup display is shown, no other operation, except turning the power off, is permitted until you finish the setting on the screen.

[Tip]
You can also use the multi selector.

Mounting a Lens and Adjusting the Flange Focal Length

For details about available lenses for the unit, contact a Sony service representative.

[Caution]
Do not leave the lens facing the sun. Direct sunlight can enter through the lens, be focused in the unit, and may cause a fire.

[Notes]
- Turn the power off before attaching or removing the lens and adaptor.
- A lens is a precision component. Do not place the lens on a surface with the lens mount face down. Attach the supplied lens mount cap.
- The PL lens interface of the unit is configured by factory default for lenses with Cooke type connector. To use lenses that do not have a Cooke type connector, set Technical >Lens >PL-Mt Interface Position (page 59) in the full menu to Off.

Attaching a PL-Mount Lens

1 Remove the PL-mount cap from the lens mount by turning the PL-mount lever counterclockwise.

PL-mount lever

PL-mount cap
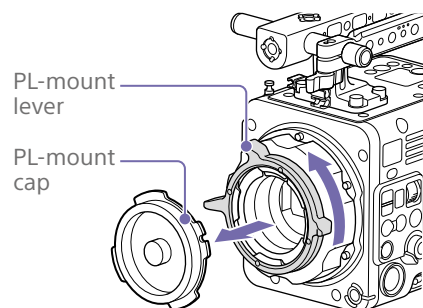
[Note]
Turn the PL-mount lever counterclockwise to the stopper position.

2 Insert the lens into the lens mount by aligning the concave part of the lens with the positioning pin on the upper right of the lens mount.

3 Secure the lens by turning the PL-mount lever clockwise while holding the lens.
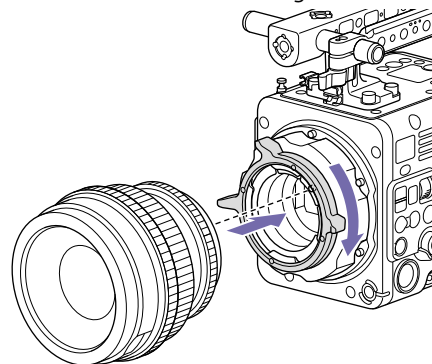
[Note]
Do not turn the lens when attaching a PL-mount lens. Turning the lens may bend the PL lens electrical contact pins.

To attach a Cooke /i lens

Align the contacts on the lens with the PL lens electrical contacts of the unit. There are two connectors on the unit, and either can be used. Set the used connector position using Technical >Lens >PL-Mt Interface Position (page 59) in the full menu.

To remove the lens

1 Turn the PL-mount lever counterclockwise while holding the lens from underneath.

2 Pull the lens forward.

[Note]
If another lens will not be attached soon, carefully align the concave part of the PL mount cap, then secure the PL mount cap by turning the PL-mount lever clockwise.

Adjusting the Flange Focal Length

The unit is shipped with the flange focal length already adjusted. If you need to adjust the flange focal length, remove the PL mount flange, and change the shims with those of the appropriate thickness. You can adjust the thickness by ±0.1 mm in 0.01 mm increments.

Shims

The following shims are supplied with the unit.
0.05 mm × 1 (circular)
0.01 mm × 15 (1/3 arc)
1/3 arc shims should always be used as a set of three shims. Insert shims to increase the flange focal length. The unit is shipped with the flange focal length already adjusted using the following three types of shims.
0.10 mm (circular)
0.05 mm (circular)
0.01 mm (1/3 arc)
A seal is attached showing the shim thickness when shipped.

[Note]
When checking the flange focal length, wait at least 10 minutes after turning on the unit before adjustment for better accuracy.
Furthermore, any error during operation can be minimized by checking and adjusting at an environmental temperature that is closest to the actual shooting conditions.

Adjusting the flange focal length

1 Remove the six Torx screws and remove the PL-mount flange.

PL-mount flange
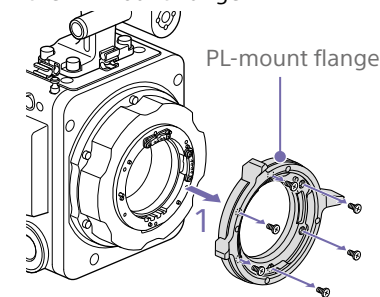
2 Loosen the four Phillips screws on both sides of the PL connectors (two locations), and remove the PL connectors and PL connector plates.

3 Attach shims to the PL-mount adaptor (three locations).

PL connectors

PL connector plates
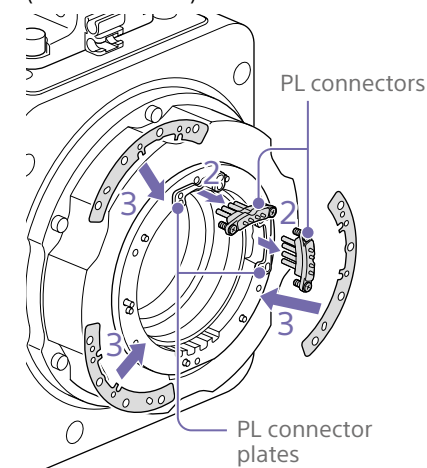
When using 1/3 arc shims
Attach shims so that they have the same thickness in all three locations.
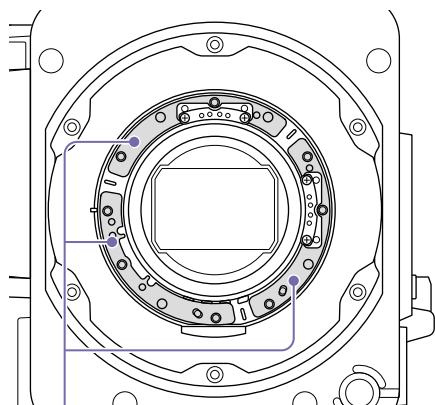
Shims

When using circular shims
Attach with the surface that has markings on it facing the front.
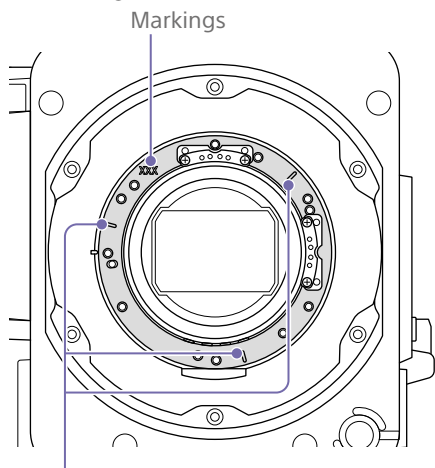
Markings

Markings

4 Reattach the PL connectors (two locations) to their original positions, and tighten the four Phillips screws with 0.18 N·m tightening torque.

5 Reattach the PL-mount flange in its original position, and tighten the six Torx screws to a tightening torque of 0.35 N·m using a T8 torque wrench.

Cleaning the Optical Filter

To clean the optical filter, first remove the adaptor. Exercise care when wiping the adaptor center part (shaded part) with a cloth or other material to prevent fibers adhering to surfaces. If fibers are adhering, wipe off using a soft brush.
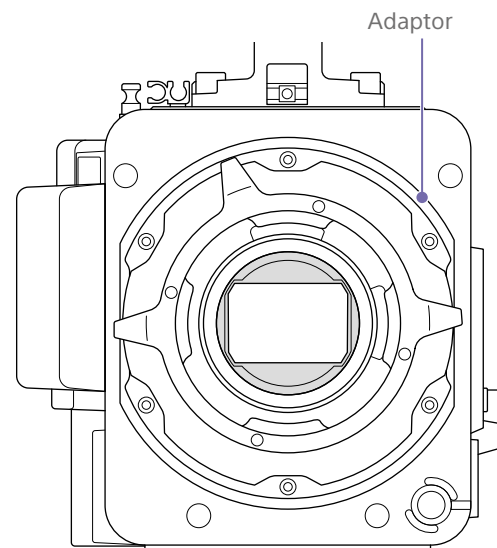
Adaptor

Removing the PL-Mount Adaptor

Remove the PL-mount adaptor when you want to mount an E-mount lens to the unit. Attachment/removal is performed with the rear side of the unit facing down. Loosen the six hex screws (2.5 mm) and remove the PL-mount adaptor.
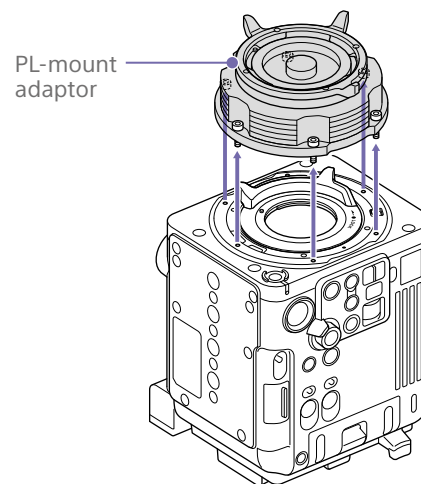
PL-mount adaptor

[Note]
When attaching/removing the adaptor, take care not to touch the connector contacts of the unit and PL-mount adaptor.

[Tip]
Removing the battery and placing the rear side of the unit face down provides stability.

To attach the PL-mount adaptor

1 Check that the E-mount lever is in the locked position.

E-mount lever
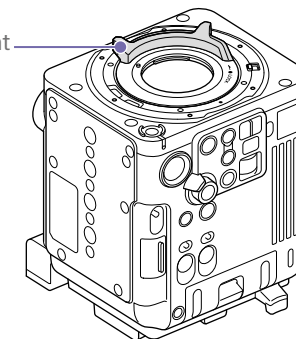
2 Place the PL-mount adaptor back in its original position, insert the six hex screws (2.5 mm), and tighten the screws to a tightening torque of 0.8 ± 0.12 N·m using a hex wrench (2.5 mm).

Attaching an E-mount lens

1 Remove the PL-mount adaptor (page 16).

2 Push the lock switch up, and turn the E-mount lever clockwise to release the lock.

E-mount lever

Lock switch
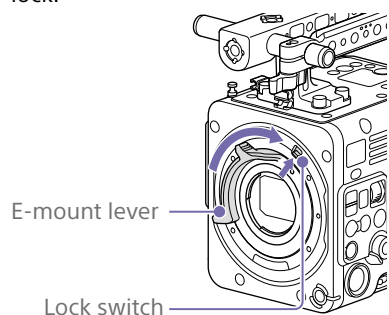
3 Align the mounting marks (white) on the unit and lens mount, and then push the lens into the mount.

4 Secure the lens by turning the E-mount lever counterclockwise while holding the lens.

Mounting marks (white)
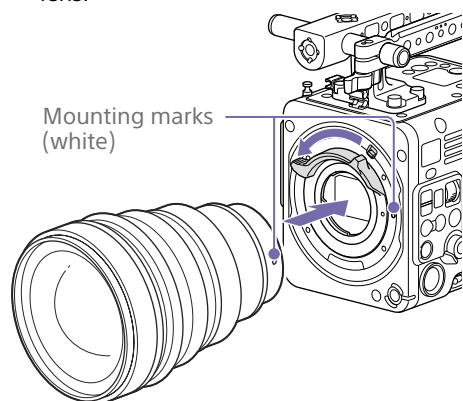
[Note]
Control may not be supported with some E-mount lenses. Use a recommended lens.

For details about available lenses for the unit, contact a Sony service representative.

To remove the lens

1 Push the lock switch up, and turn the E-mount lever clockwise to release the lock.

2 Pull the lens forward.

[Note]
If another lens will not be attached soon, carefully align the concave part of the E-mount cap, then secure the E-mount cap by turning the E-mount lever counterclockwise.

Handling CFexpress Type B Memory Cards

Use the Sony CFexpress Type B memory cards* listed in "Recommended Recording Media" in the unit.
For details on operations with media from other manufacturers, refer to the operating instructions for the media or consult the manufacturer's information.
*   Referred to as "CFexpress cards" in this document.

[Notes]
- CFexpress Type B memory cards with a capacity of 2 TB or higher cannot be used.
- XQD memory cards cannot be used.

Recommended Recording Media

The guaranteed operating conditions will vary depending on the Rec Format and Recording settings.
Yes: Operation supported
No: Normal operation not guaranteed

Recording format		CFexpress Type B (exFAT)		
		Non-VPG	VPG200	VPG400
XAVC H Intra HQ	8192×4320	No	No	Yes
	7680×4320	No	No	Yes
XAVC H Intra SQ	8192×4320	No	No	Yes
	7680×4320	No	No	Yes
XAVC H Long	7680×4320	No	Yes	Yes
XAVC Intra	4096×2160	No	No	Yes
	3840×2160	No	Yes	Yes
	1920×1080	No	Yes	Yes
XAVC Long	3840×2160	No	Yes	Yes
	1920×1080	No	Yes	Yes
X-OCN (LT)	8.6K 17:9	No	No	Yes
	8.6K 16:9	No	No	Yes
	6K 17:9	No	No	Yes
	6K 16:9	No	No	Yes
	5.8K 17:9	No	No	Yes
	5.8K 16:9	No	No	Yes
X-OCN (LT)	4K 17:9	No	No	Yes

Inserting a Memory Card

1 Open the media cover of the card slot section.

2 Insert a CFexpress card with the label facing to the left.

Label
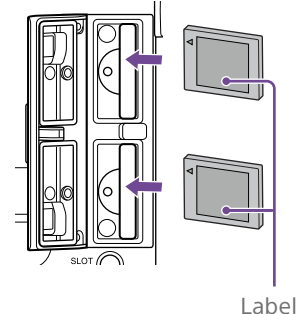
The access indicator (page 4) is lit red, then changes to green if the card is usable.

[Note]
If the access indicator flashes red continuously and does not change to green, temporarily turn off the unit, and remove and reinsert the memory card.

3 Close the media cover.

[Notes]
- The memory card, memory card slot, and image data on the memory card may be damaged if the card is forced into the slot in the incorrect orientation.
- When recording to media inserted in both CFexpress Type B card slots A and B, insert media in both slots that is recommended for operation with the format of the recording.

Ejecting a Memory Card

Open the media cover of the card slot section, and lightly press the memory card in to eject the card.

[Notes]
- If the unit is turned off or the memory card is removed while the memory card is being accessed, the integrity of data on the card cannot be guaranteed. All data recorded on the card may be discarded. Also, the operation of the unit may be affected. Always make sure the access indicator is green or off before turning off the unit or removing the memory card.
- When removing a memory card immediately after recording is finished, the memory card may be hot, but this does not indicate a problem.

Formatting (Initializing) Memory Cards

If an unformatted memory card or a memory card that was formatted in a different specification is inserted, the message "Media Needs to be Formatted" is displayed on the LCD monitor.
Format the card using the following procedure.

1 Select Format Media (page 51) in the TC/Media menu of the full menu.

2 Select Media(A) (slot A) or Media(B) (slot B), then select Full Format.
A confirmation message appears.

3 Select Execute.
A message is displayed while formatting is in progress, and the access indicator is lit red.

When formatting is completed, a completion message is displayed. Press the multi-function dial to dismiss the message.

[Notes]
- To maximize the performance of the recording media, always execute a full format using the unit.
- Formatting a memory card erases all data, including recorded video data and setup files.
- Messages may appear during execution depending on the formatting process duration.

If formatting fails

Memory cards not supported by the unit cannot be formatted.
A warning message is displayed. Follow the instructions to replace the card with a supported memory card.

To use a card formatted on the unit in the slot of another device

First, make a backup of the card, then reformat the card in the device to be used.

Checking the Remaining Recording Time

When shooting (recording/standby), you can monitor the remaining capacity of the memory card in each slot using the slot A/B remaining media indicators on the shooting screen and Home screen (page 22).
The remaining recording time is calculated from the remaining capacity of the media in each slot and the current recording format, and is displayed in units of minutes.

Memory card replacement timing

- When the total remaining recording time on the two memory cards becomes less than 5 minutes, the message "Media Near Full" appears, the recording/tally lamp starts flashing, and a beep sound (headphone output) will warn you.
Replace with media that has free space.
- If you continue recording until the total remaining recording time reaches zero, the message changes to "Media Full" and recording stops.

[Note]
Up to approximately 600 clips can be recorded on one memory card.

Restoring Memory Cards

If for any reason an error should occur in a memory card, the card must be restored before use.
When you load a memory card that needs to be restored, a message appears on the LCD monitor to ask whether you want to restore it.

Restoring a card

Turn the multi-function dial (page 4) to select Execute, then press the multi-function dial.
A message and progress status (%) are displayed while formatting is in progress, and the access indicator is lit red.
When restoration ends, a completion message appears.

If restoration fails

- Memory cards on which memory errors have occurred cannot be restored. A warning message is displayed. Follow the instructions to replace the memory card.
- Memory cards on which memory errors have occurred may become usable if they are reformatted.
- In some cases, some clips can be restored while others cannot. The restored clips can be played normally.

[Notes]
- For restoration of media recorded with this unit, be sure to use this unit.
- Media recorded with a device other than this unit or with another unit of different version (even of the same model) may not be restored using this unit.
- Clips shorter than 2 seconds cannot be restored.
- Restored media may not operate at its original performance. Make a backup of all required clips and then execute a full format before use.

Handling Utility SD Cards

The UTILITY SD card is used for proxy recording and storing/loading settings. It is also used for future upgrades (software update).

Supported SD Cards

SDXC memory cards*
SDHC memory cards*
SD memory cards*
*   Referred to as "SD cards" in this manual.

[Note]
Speed Class 10 is recommended for proxy recording use.

Inserting an SD Card

Insert an SD card into the Utility SD card slot (page 4).
The access indicator (page 4) is lit red,
then goes off when the card is ready for use.

Access status indicator

Indicator	Slot status
Lights in red	Accessing the SD card (writing/reading data)

Removing an SD Card

Press the SD card in slightly, then remove the card.

[Notes]
• If the unit is turned off or the memory card is removed while the memory 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 unit or removing the memory card.
• Make sure that the memory card does not pop out when inserting or removing it.

Formatting (Initializing) an SD Card

SD cards must be formatted the first time they are used in the unit.
SD cards for use in the unit should be formatted using the format function of the unit. It is also necessary to format an SD card if a caution message is displayed when the card is loaded.
If an SD card that was formatted in an unsupported format is loaded in the unit, a file system mismatch message is displayed.

1   Select Format Media (page 51) in the TC/Media menu of the full menu.

2   Select Utility SD, then select the formatting method (Full Format or Quick Format).
A confirmation message appears.
• Full Format: Initializes the media completely, including the data region and data management information.
• Quick Format: Initializes the data management information of the media only.

3   Select Execute.
A message is displayed while formatting is in progress, and the access indicator is lit red.
When formatting is completed, a completion message is displayed. Press the multi-function dial to dismiss the message.

[Note]
All data is erased when an SD card is formatted, and the data cannot be restored.

Difference between quick format and full format

Perform a full format when you feel that the recording/read speed of the card has become slower or when you want to completely erase the data. Full formatting takes longer than quick formatting because it initializes all sectors of the memory card.

To use media formatted with this unit in the slots of other devices

Make a backup of the media, then format it using the other device.

LCD Monitor Screen Structure

The LCD monitor screen operates in two modes centered around the Home screen: video monitoring mode where you can check settings while monitoring the video, and information display mode where you can check and change information and settings. You can switch between modes using the HOME button. The status screen, full menu screen, playback screen, and clips screen can be displayed in each mode.
You can switch between the screens to display on the LCD monitor using the HOME button, MENU button, and CLIPS button.

Video monitoring mode

Information display mode

Status screen

Full menu screen

Shooting screen

Playback screen

Clips screen

Home screen

Playback control screen

HOME button

MENU button

CLIPS button

Select clip (playback)
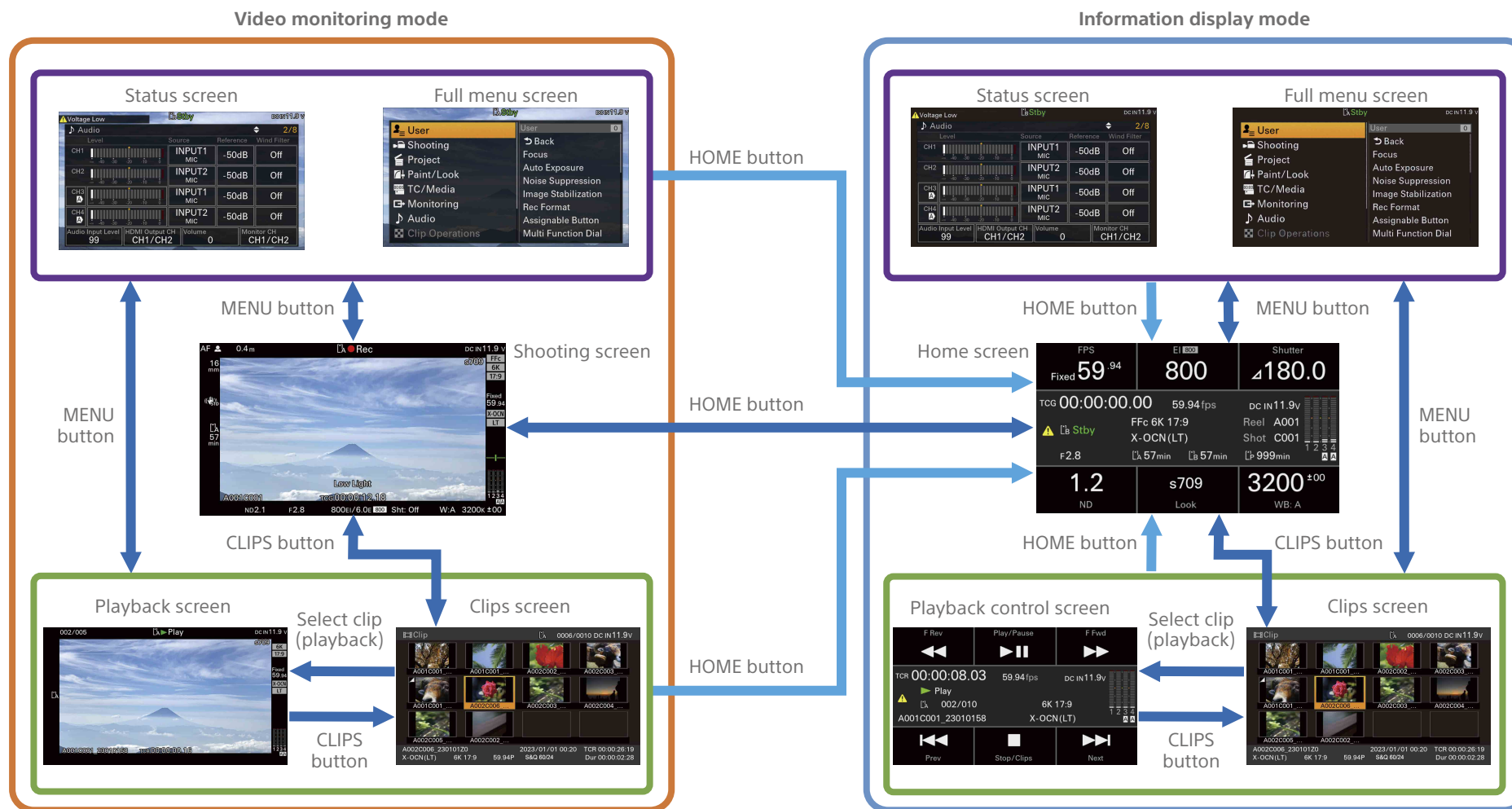
[Tips]
- In video monitoring mode, you can output the same display screen as the LCD monitor to an external monitor.
- Information display mode is designed for LCD monitor use in combination with a connected external monitor for HDMI output. The external monitor should be placed on the operator switch side of the unit for monitoring the video, and the LCD monitor can be placed on either the operator switch side or connector side for configuring settings, depending on the composition of the shooting team. The screen display cannot be superimposed on the SDI output except when the codec is set to X-OCN.
  – The functions displayed on the LCD monitor are operated using the multi selector of the LCD monitor or the multi-function dial on the operator switch side.
  – The functions displayed on the external monitor are operated using the multi selector on the operator switch side. You can select a subject recognition frame, move the focus area, and move the focus magnifier position.
- For X-OCN, the index image is not displayed on the clips screen.

Shooting Screen/Playback Screen

In video monitoring mode, the unit status and settings are displayed around the image on the LCD monitor during shooting (recording/standby) and playback.

In information display mode, the unit status and some settings can be displayed superimposed during shooting and playback on an external HDMI monitor image. Set the HDMI row Info Disp column of the Monitoring status screen (page 28) to On beforehand.

You can show/hide the information using the DISPLAY button. Even when hidden, it will be displayed superimposed during direct menu (page 100) operations.

You can also select to show/hide each item independently (page 52).

Items marked with an asterisk can be displayed on an external HDMI monitor in information display mode.

Information Displayed on the Screen While Shooting
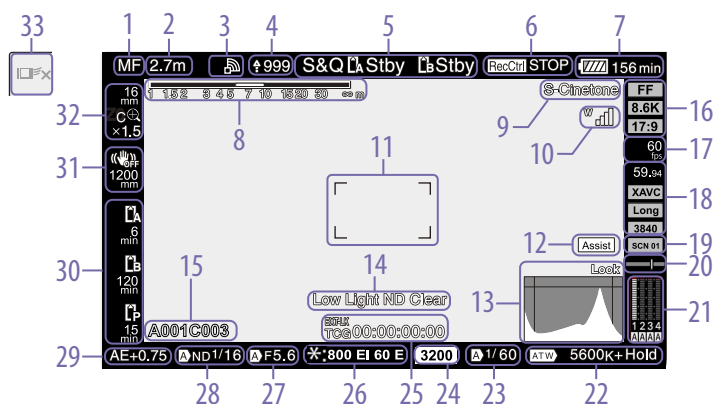
1. Focus mode indicator* (page 92)

Meaning	Display
Focus Hold mode	Focus Hold
MF mode	MF
AF mode	AF
Realtime tracking AF mode	🔲🏃
Subject recognition AF (AF/👤/Only/👤❗)	
Human detection icon	👤
Human only AF icon	Only
AF paused icon[1]	❗

[1] Displayed during AF operation when AF operation cannot continue and temporarily stops. The icon disappears when the cause for stopping AF operation is resolved and then AF operation resumes.

2. Focus position indicator*
Displays the focus position (only when a lens that is compatible with the focus setting display function is attached).

3. Network status indicator* (page 24)
Displays the network connection status as an icon.

4. Upload indicator/Remaining files indicator* (page 77)

5. Recording mode and slot A/B status indicator, Interval Rec recording interval indicator* (page 101)

Display	Meaning
●Rec	Recording
Stby	Recording standby

6. SDI output/HDMI output Rec Control status indicator* (page 105)
Displays the output status of the REC control signal.

7. Remaining battery capacity/DC IN voltage indicator* (page 13)

8. Depth-of-field indicator*

9. Look name display (page 86)

10. UWP-D series status indicator (page 24)
Displays the RF level signal strength as an icon when a UWP-D series device is connected to the MI shoe of a handle (option) equipped with an MI shoe configured for digital audio transfer.

11. Focus area indicator* (page 89)
Displays the focus area for auto focus.

12. Gamma display assist indicator
In Custom mode (page 80), it displays the gamma display assist status. The gamma display assist function can be turned on/off by assigning Gamma Display Assist to an assignable button (page 100).

13. Video signal monitor* (page 102)
Displays a waveform, vectorscope, and histogram.
The orange line indicates the set value of the zebra level.
In Cine EI mode (page 80), the monitor target, SDI system color gamut is displayed above the display.
When LUT On is selected, "Look" is displayed regardless of the type of LUT that is applied.

When LUT Off is selected, the Color Gamut value is displayed.

14. Video level warning indicator

15. Clip name display (page 51)
Displays the name of the clip being recorded or to record next.
The clip name flashes in the following cases.
• When new recording media is inserted
• When the last clip on the recording media does not match the Clip Name Format (page 51) >Camera ID or Reel Number setting in the TC/Media menu of the full menu.

16. Imager scan mode indicator (page 80)

17. Slow & Quick Motion shooting frame rate indicator (page 101)

18. Recording format (frame rate)/Recording format (codec) indicator (page 43)
Displays the name of the format for recording on the memory cards.

19. Recording look indicator (page 86)

20. Spirit level indicator*
Displays the horizontal level in ±1° increments up to ±15°.

21. Audio level meter*
Displays the audio level of CH1 to CH4.

22. White balance mode indicator (page 96)

Display	Meaning
ATW⟩	Auto mode
ATW⟩ Hold	Auto mode paused
W:A	Memory A mode
W:B	Memory B mode
W:C	Memory C mode

23. Shutter indicator (page 95)

Display	Meaning
Ⓐ	Auto mode

24. Base ISO/Base Sensitivity indicator (page 94)

In Cine EI mode (page 80), it displays the Base ISO sensitivity set using Base ISO/Sensitivity on the Main status screen or ISO/Gain/EI >Base ISO in the Shooting menu of the full menu.
In Custom mode (page 80), it displays the base sensitivity set using Base ISO/Sensitivity on the Main status screen or ISO/Gain/EI >Base Sensitivity in the Shooting menu of the full menu.

25. Timecode external lock indicator/Time data display* (page 82)

Displays "EXT-LK" when locked to the timecode of an external device.

26. Exposure index indicator (page 94)

In Custom mode (page 80), it displays the ISO sensitivity or gain.

Display	Meaning
Ⓐ	Auto mode
✻	Temporary adjustment mode
Ⓑ	Bokeh control mode (page 103)

27. Iris indicator

Displays the iris value (T-stop value or F-stop value) (if a lens that supports iris setting display is attached).

Display	Meaning
Ⓐ	Auto mode

[Note]
The F-stop value is displayed instead of the T-stop value if the T-stop value cannot be obtained.

28. ND filter indicator (page 95)
Displays the density of the ND filter.

Display	Meaning
Ⓐ	Auto mode
Ⓑ	Bokeh control mode (page 103)

29. AE mode/AE level indicator (page 49)

30. Media status indicator

Display	Meaning
🗲A	Mounting/mount status (media A)
🗲B	Mounting/mount status (media B)
🗲P	Mounting with proxy recording enabled/mount status (proxy media (SD card))
🗲P (flashing)	Proxy recording enabled but not ready (media not inserted, etc.)
🗲P Stop (flashing)	Proxy recording stopped

A 🔒 icon appears if the memory card is write-protected.

31. Image stabilization mode/Image stabilization focal length indicator (page 97)

Display	Meaning	PL-mount adaptor
〘FL HIGH〙	Image stabilization ON (High)	Attached
〘FL LOW〙	Image stabilization ON (Low)	
〘FL OFF〙	Image stabilization OFF	

Display	Meaning	PL-mount adaptor
〘Act〙	Image stabilization ON (Active)	Not attached
〘STD〙	Image stabilization ON (Standard)	
〘OFF〙	Image stabilization OFF	

When Image Stabilization >Stabilization Adjustment (page 42) in the Shooting menu of the full menu is set to Manual, the image stabilization focal length is displayed below the image stabilization mode icon.

32. Zoom position indicator (page 87)
Displays the focal length of the zoom (displayed only when a lens that supports the zoom setting indicator is attached).
The display can be changed to a bar indicator or numerical indicator (page 59).
Numerical indication of 0 indicates wide angle and 99 indicates telephoto.
The following items are added to the display when Clear Image Zoom is enabled.

Display	Meaning
C🔍	Clear Image Zoom is enabled
Magnification value	When using Clear Image Zoom

33. Realtime tracking AF stop button (page 93)

Information Displayed on the Screen During Playback

The following information is superimposed on the playback picture.
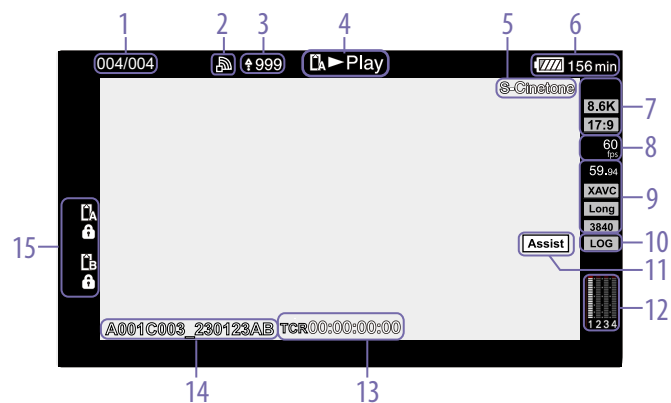
1. **Clip number/Total number of clips***

2. **Network status indicator***

3. **Upload indicator/Remaining files indicator***

4. **Playback status indicator***

5. **Look name display**

6. **Remaining battery capacity/DC IN voltage indicator***

7. **X-OCN image size indicator**
Displays the recorded resolution and aspect ratio of an X-OCN playback clip.

8. **Slow & Quick Motion shooting frame rate indicator**

9. **Playback format**
Displays the frame rate and codec of the playback clip. For XAVC, the image size is also displayed.

10. **Recording look indicator**

11. **Gamma display assist**

12. **Audio level meter***
Displays the playback audio level.

13. **Time data display***

14. **Clip name display**

15. **Remaining media capacity indicator**
A 🔒 icon appears if the memory card is write-protected.

Icon Display

Network connection icon display

Network mode	Connection status	Icon
Access point mode	Operating as an access point	AP
	Access point operation error	AP✕
Station mode	Wi-Fi connection Icon changes according to the signal strength (4 steps)	
	Wi-Fi disconnected (including when establishing connection)	
	Wi-Fi connection error	
USB tethering	USB tethering connected	⏻T
	USB tethering disconnected	⏻T
	USB tethering error	⏻T✕
Wired LAN	Wired LAN connected	
	Wired LAN disconnected	
	Wired LAN error	

UWP-D series icon display

Transmitter status	Receive status	Icon
Power off	Not receiving	W
Normal transmit status	Receiving	W – W (receive level (4 steps))
Muting status	Receiving (muted)	W M
Remaining battery capacity warning status	Receiving	W (Icon flashing)
Muting and remaining battery capacity warning status	Receiving	W M (Icon flashing)

Home Screen

Press the HOME button to display the Home screen. You can check the status of the unit and set basic settings for the unit on the Home screen.

Item name/Setting value/Function display area

Status display area
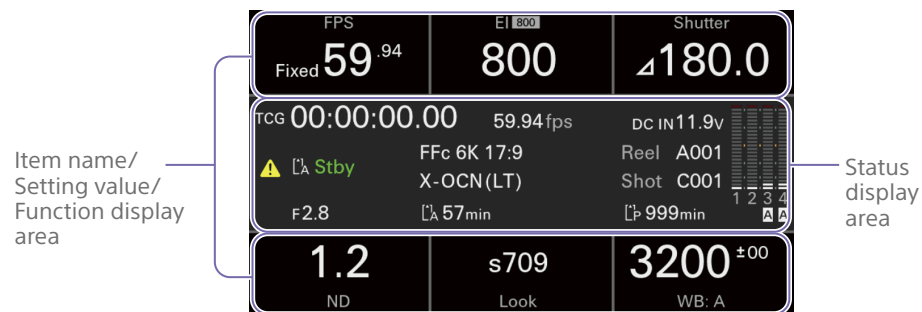
[Notes]
- You cannot switch functions between auto/manual on the Home screen. Configure using the direct menu (page 100) or using the Shooting menu of the full menu.
- In information display mode, the direct menu (page 100) cannot be used. First switch to the shooting screen using the HOME button and then configure.

[Tip]
You can configure items displayed on the Home screen using only the LCD monitor by assigning the following to an assignable button (page 100) on the LCD monitor.
- MENU
- IRIS (when using E-mount lens)

Item Name/Setting Value/Function Display Area
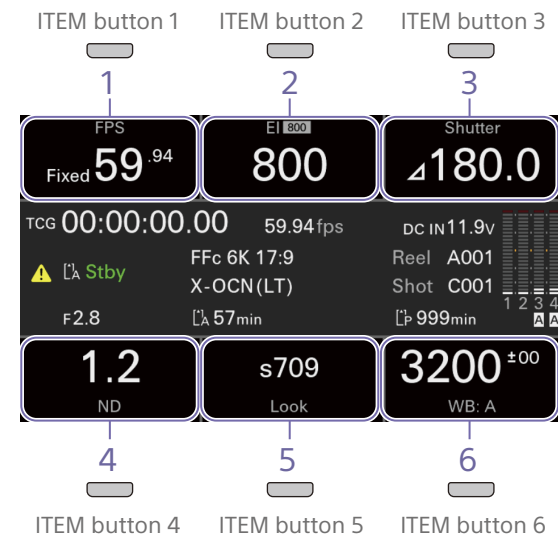
ITEM button 1   ITEM button 2   ITEM button 3

ITEM button 4   ITEM button 5   ITEM button 6

[Note]
The areas labeled 1 to 6 correspond to ITEM buttons 1 to 6. Press an ITEM button to select the corresponding item.

1. FPS
Displays and sets the shooting frame rate.

2. Exposure Index/Base ISO
Displays and sets the exposure index (EI) and Base ISO.

[Tip]
In Custom mode, this displays and sets ISO/Base Sensitivity or Gain/Base Sensitivity.

3. Shutter
Displays and sets the electronic shutter.

4. ND Filter
Displays and sets the ND filter.

[Note]
In VARIABLE mode, the ND filter cannot be configured on the Home screen. Configure using the ND filter buttons and dial on the operator switch side of the unit.

5. Look
Displays and sets the look.

[Tip]
In Custom mode, this displays and sets scene files.

6. WB (White Balance)
Displays and sets the white balance.

Status Display Area
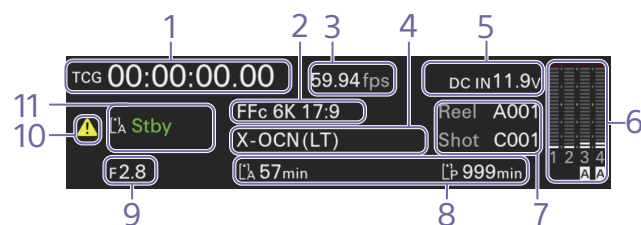
1. Time data display
Displays the duration, user bits, or timecode, depending on the TC Display setting in the TC/Media menu of the full menu (page 51).
Displays the type of data currently shown in the time data display, as follows.

TCG: Recorded timecode
    EXT-LK: External sync lock
UBG: Recorded user bits
TCR: Playback timecode
UBR: Playback user bits
Clk: Clock
Dur: Duration

2. Imager scan mode indicator
Displays the Imager Scan setting on the Project status screen.

3. Frame rate indicator
Displays the Frequency setting on the Project status screen.

4. Recording format (codec)/Image resolution indicator
Displays the name of the format used for recording on an CFexpress card and the image resolution.

5. Power supply voltage/Remaining battery capacity indicator
Displays the power supply voltage or remaining battery capacity.

6. Audio level meters
Displays the audio recording or playback levels. The numbers 1 to 4 indicate channels 1 to 4.

7. Clip name display
Displays "Reel: Camera ID + Reel Number" and "Shot: Camera Position + Shot Number."

8. Remaining media capacity indicator
Displays the status and remaining recording time (when recording in the current recording format) of each recording media.

9. Iris indicator
Displays the iris position (T-stop value or F-stop value).

10. Warning/error icon
Displayed when a warning or error occurs. You can check the content of warnings and errors by displaying the menu. If the screen display is superimposed on an external monitor, you can also check on the external monitor.

11. Recording status indicator
Displays the following recording operation states of the unit.

Display	Description
Stby	Recording standby
●Rec	Recording
●Cache	Picture cache recording standby

Operations on the Home Screen

1
Press the HOME button.
The Home screen appears.
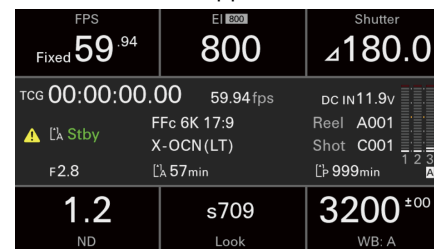
2
Select the item to set using the ITEM buttons 1 to 6.
The following diagram shows an example when ITEM button 3 is pressed.
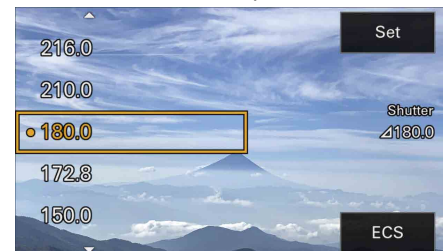
3
Move the cursor to the item or setting value using the △ button (ITEM button 1) or ▽ button (ITEM button 4).

4
Press the Set button (ITEM button 3) to apply the setting.

[Tip]
The multi selector of the LCD monitor or the multi-function dial on operator switch side of the unit can also be used. Press first to display a cursor, and then operate. Touch operation is also supported.

Home Screen Items

The settings that can be configured for each item are given below. For details about items with the same settings in the full menu, refer to the full menu description (page 31).

Item	Description
FPS	Sets whether the shooting frame rate is set to the system frequency or is different from the system frequency. • Fixed When "Fixed" is selected on the screen, the shooting frame rate matches the system frequency, and "Fixed" and the system frequency are displayed. • Variable When "Variable" is selected on the screen, you can set a shooting frame rate that is different from the system frequency. 1fps to 60fps / 100fps / 120fps [Note] The available settings vary depending on the selected system frequency, codec, and video format. [Tip] This setting corresponds to Rec Function >S&Q Motion on the Project status screen and S&Q Motion in the Shooting menu of the full menu.
Exposure Index/Base ISO (In Cine EI mode)	Sets the exposure index (page 37). You can press Base ISO to set the base ISO (page 37). [Tip] Exposure Index corresponds to ISO/Gain/EI >Exposure Index in the Shooting menu of the full menu. Base ISO corresponds to ISO/Gain/EI >Base ISO in the Shooting menu of the full menu.
ISO/Gain / Base Sensitivity (In Custom mode)	Sets the gain (page 37). You can press Base Sensitivity to set the base sensitivity (page 37). [Tip] ISO/Gain corresponds to ISO/Gain/EI >ISO or Gain in the Shooting menu of the full menu. Base Sensitivity corresponds to ISO/Gain/EI >Base Sensitivity in the Shooting menu of the full menu.
Shutter	Sets the electronic shutter (page 38). Press Angle or ECS to switch to setting the shutter by angle or frequency, respectively. [Tips] • Angle corresponds to Shutter >Shutter Angle in the Shooting menu of the full menu. ECS corresponds to Shutter >ECS On/Off and ECS Frequency in the Shooting menu of the full menu. • You can set the shutter speed instead of the angle by setting Shutter >Mode to Speed in the Shooting menu of the full menu.

Item	Description
ND Filter	Sets the ND filter position. Enabled only when the ND STEP/VARIABLE switch is in the STEP position.
Look (In Cine EI mode)	Sets the look (page 49). Press the Edit Look button (ITEM button 4) and select a look. You can set the output systems to which to apply a look using ITEM buttons 1, 5, and 6. Depending on the status, there are combinations that cannot be set or settings that are interdependent. [Tip] This setting corresponds to a setting on the Monitoring status screen, Base Look >Select in the Paint/Look menu of the full menu, and each item under LUT On/Off in the Shooting menu of the full menu.
Scene File (In Custom mode)	Switches to preconfigured image quality settings. In addition to the pre-installed image quality settings, you can save and switch to your preferred image quality settings (page 49). [Tip] This setting corresponds to Scene File >Recall in the Paint/Look menu of the full menu.
WB (White Balance)	Sets the white balance (page 40). Three white memory positions are provided (A/B/C). You can set the value of each position using the following methods. • Setting separate color temperature and tint values • Setting automatically using auto white balance • Selecting specific preset values [Tip] This setting corresponds to the items under White in the Shooting menu of the full menu.

Status Screen

You can check the settings and status of the unit on the status screen. The settings of items marked with an asterisk (*) can be changed. The status screen supports touch operation.

To display the status screen

- Press the MENU button.

[Tip]
You can show/hide each status screen using Menu Page On/Off (page 59) in the Technical menu.

To switch the status screen

- Turn the multi-function dial.
- Push the multi selector up/down.
- Swipe the status screen up/down.

[Note]
When the LCD monitor is in information display mode, operation using the multi selector on the operator switch side of the unit or remote control is not available.

To hide the status screen

- Press the MENU button.

To change a setting

With the status screen displayed, press the multi-function dial or multi selector to enable selection of a setup item within a page. Select a page number and then press to switch pages.
You can also select items directly using touch operation.

[Note]
You can disable changes from the status screen by setting Menu Settings >User Menu Only (page 58) in the Technical menu of the full menu to On.

Project status screen

Displays the basic settings related to the shooting project.

Display item	Description
Frequency/Scan*	System frequency and scanning method settings
Codec*	Codec setting for recording
Rec Function*	Special recording function On/Off setting and main settings
Simul Rec*	2-slot simultaneous recording function On/Off status and setting
Reel	Camera ID and Reel Number set values of clip name
Imager Scan*	Scan mode of the image sensor
Video Format*	Picture size for recording to memory cards
Picture Cache Rec*	Picture cache recording function On/Off and cache size setting
Shot	Camera Position set value and next/current recording Shot Number value of clip name
Shooting Mode*	Shooting mode settings
Proxy Rec*	Proxy recording function On/Off setting
Genlock	Genlock state

Audio status screen

Displays the input setting, audio level meter, and volume monitor setting for each channel.

Display item		Description
CH1	Level Control	Auto adjustment On/Off status
	Level Meter	Audio level meter
	Source*	Input source
	Reference*	Input reference level
	Wind Filter*	Microphone wind noise reduction filter setting
CH2	Level Control	Auto adjustment On/Off status
	Level Meter	Audio level meter
	Source*	Input source
	Reference*	Input reference level
	Wind Filter*	Microphone wind noise reduction filter setting
CH3	Level Control*	Auto adjustment On/Off status
	Level Meter*	Audio level meter
	Source*	Input source
	Reference*	Input reference level
	Wind Filter*	Microphone wind noise reduction filter setting
CH4	Level Control*	Auto adjustment On/Off status
	Level Meter*	Audio level meter
	Source*	Input source
	Reference*	Input reference level
	Wind Filter*	Microphone wind noise reduction filter setting
Audio Input Level*		Audio input level (master volume) setting
HDMI Output CH*		HDMI output audio channel setting
Volume*		Headphone/built-in speaker volume setting

Display item	Description
Monitor CH*	Monitor channel setting

Monitoring status screen

Displays the SDI and HDMI output settings.

Display item		Description
SDI1	Signal*	Output picture size
	Info. Disp.*	Output display On/Off setting
	Gamut/ Gamma*	Monitor LUT application status/color gamut set value
SDI2	Signal*	Output picture size
	Info. Disp.*	Output display On/Off setting
	Gamut/ Gamma*	Monitor LUT application status/color gamut set value
HDMI	Signal*	Output picture size
	Info. Disp.*	Output display On/Off setting
	Gamut/ Gamma*	Monitor LUT application status/color gamut set value
LCD/ Stream	Gamut/ Gamma*	Monitor LUT application status/color gamut set value
Base Look/LUT*		Base Look/LUT setting
Gamma Display Assist*		Gamma Display Assist On/ Off setting

[Tip]
In Custom mode, Color Gamut is displayed instead of Gamut/Gamma.

Assignable Button status screen

Displays the functions assigned to each of the assignable buttons.

Display item	Description
1	Function assigned to the ASSIGN 1 button
2	Function assigned to the ASSIGN 2 button
3	Function assigned to the ASSIGN 3 button
4	Function assigned to the ASSIGN 4 button
5	Function assigned to the ASSIGN 5 button
6	Function assigned to the ASSIGN 6 button
7	Function assigned to the ASSIGN 7 button
8	Function assigned to the ASSIGN 8 button
9	Function assigned to the ASSIGN 9 button
10	Function assigned to the ASSIGN 10 button
11	Function assigned to the ASSIGN 11 button
Focus Hold Button	Function assigned to the Focus Hold button of the lens
Multi Function Dial	Function assigned to the multi-function dial
Grip Dial	Function assigned to the grip assignable dial[1)

1) Grip remote control (option)

Battery status screen

Displays information about the battery and DC IN source.

Display item	Description
Detected Battery	Type of battery
Remaining	Remaining capacity (%)
Charge Count	Number of recharges
Capacity	Remaining capacity (Ah)
Voltage	Battery voltage (V)
Manufacture Date	Date of battery manufacture
Video Light Remaining	Displays the remaining capacity of the video light battery.
Power Source	Power supply source
Supplied Voltage	Supplied power source voltage

Media status screen

Displays the remaining capacity and remaining recording time of recording media.

Display item	Description
Media A information	Displays the media icon when recording media is inserted in slot A.
Media A remaining capacity meter	Displays the remaining capacity of recording media inserted in slot A expressed as a percentage on a bar graph.
Media A remaining recording time	Displays an estimate of the remaining recording time of the recording media inserted in slot A in units of minutes under the current recording conditions.
Media B information	Displays the media icon when recording media is inserted in slot B.

Display item	Description
Media B remaining capacity meter	Displays the remaining capacity of recording media inserted in slot B expressed as a percentage on a bar graph.
Media B remaining recording time	Displays an estimate of the remaining recording time of the recording media inserted in slot B in units of minutes under the current recording conditions.
Utility SD card media information	Displays the media icon when media is inserted in the Utility SD card slot.
Utility SD card protection	Displays the lock icon when the media inserted in the Utility SD card slot is protected (locked).
Utility SD card remaining capacity meter	Displays the remaining capacity of media inserted in the Utility SD card slot expressed as a percentage on a bar graph.
Utility SD card remaining capacity	Displays an estimate of the remaining proxy recording time of the recording media inserted in the Utility SD card slot in units of minutes, or displays the remaining capacity in units of GBs.

Network status screen

Displays the network connection status.

Display item	Description
Wireless LAN	Wireless network settings and connection status
Wired LAN	Wired LAN network settings and connection status
USB Tethering	Network settings and connection status of USB tethering

File Transfer status screen

Displays file transfer information.

Display item	Description
Auto Upload	Original clip auto upload on/off status
Auto Upload (Proxy)	Proxy clip auto upload on/off status
Total Transfer Progress	Transfer progress of all jobs
Default Upload Server	Name of clip auto upload destination server
Job Status (Remain / Total)	Remaining number of jobs and total number of jobs
Current File Transfer Progress	Transfer progress of current file transfer
Current Transferring File Name	Name of file currently being transferred
Server Address	Address of file transfer destination server
Destination Directory	Destination directory of file transfer destination server

Using Touch-enabled Settings Screens

Screen layout

Item   Item name

Set (apply) button

Mark indicating current setting

Setting selection cursor (orange frame)
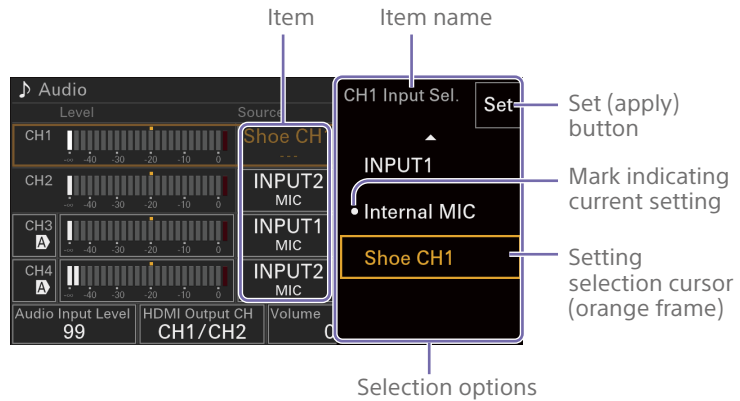
Selection options

Operation

1 Tap a setup item.

Tap
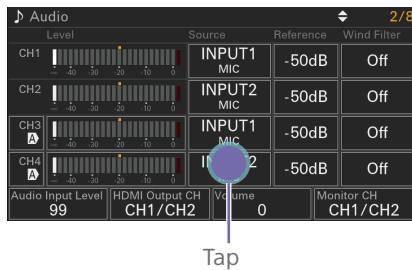
The selection options for the value appear.

2 Drag or flick a setting to select the value.

Flick
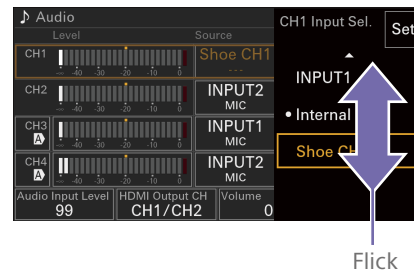
3 Tap the Set button or the value selection cursor.
The value is applied and the display returns to the previous screen.

[Tips]
- Press the BACK button to return to the previous value.
- You can also use the multi-function dial or multi selector.
- Touch operations can also be disabled (page 58).

Full Menu Configuration and Hierarchy

Press and hold the MENU button to display the full menu on the LCD monitor to specify various items for shooting and playback. The full menu comprises the following menus.

Menu Configuration

User menu
Contains menu items configured by the user using Edit User Menu.

Edit User menu
Contains menu items for editing the User menu.

Shooting menu
Contains settings related to shooting.

Project menu
Contains basic project settings.

Paint/Look menu
Contains settings related to image quality.

TC/Media menu
Contains settings related to timecodes and recording media.

Monitoring menu
Contains settings related to video output and the viewfinder display.

Audio menu
Contains settings related to audio.

Clip Operations menu
Contains settings related to clip operations.

Technical menu
Contains settings for technical items.

Network menu
Contains settings related to networks.

Maintenance menu
Contains devices settings, such as the clock and language.

Full Menu Hierarchy

User (Factory settings)	Focus
	Auto Exposure
	Noise Suppression
	Image Stabilization
	Rec Format
	Assignable Button
	Multi Function Dial
	All File
	User File
	Base Look
	Clip Name Format
	Format Media
	De-Squeeze
	Marker
	LCD Monitor Setting
	Peaking
	Zebra
	Menu Settings
	Lens
	APR
Edit User Menu	Add Item
	Customize Reset

Shooting	ISO/Gain/EI
	ND Filter
	Shutter
	Iris
	Auto Exposure
	White
	White Setting
	Focus
	S&Q Motion
	LUT On/Off
	Noise Suppression
	Flicker Reduce
	Image Stabilization
Project	Base Setting
	Rec Format
	Cine EI Setting
	Simul Rec
	Proxy Rec
	Interval Rec
	Picture Cache Rec
	SDI/HDMI Rec Control
	Assignable Button
	Assignable Dial
	Multi Function Dial
	User File
	All File
Paint/Look	Scene File
	Base Look
	Reset Paint Settings
	Black
	Knee
	Detail
	Matrix
	Multi Matrix

TC/Media	Timecode
	TC Display
	Users Bit
	HDMI TC Out
	Clip Name Format
	Update Media
	Format Media
Monitoring	Output Format
	De-Squeeze
	Output Display
	Display On/Off
	Marker
	LCD Monitor Setting
	Gamma Display Assist
	Peaking
	Zebra
	Focus Magnifier
Audio	Audio Input
	Audio Output
Clip Operations	Display Clip Properties
	Set Clip Flag
	Lock/Unlock Clip
	Transfer Clip
	Transfer Clip (Proxy)
	Filter Clips
	Customize View

Technical	Color Bars
	ND Dial
	Rec/Tally
	LOCK Switch Settings
	Touch Operation
	Rec Review
	Zoom
	Handle Zoom
	Menu Settings
	Menu Page On/Off
	Fan Control
	Lens
	Video Light Set
	APR
	Camera Battery Alarm
	Camera DC IN Alarm
Network	Network Setup
	Wireless LAN
	AP Mode Settings
	ST Mode Settings
	Wired LAN
	USB Tethering
	File Transfer
	Network Reset
Maintenance	Language
	Clock Set
	All Reset
	Hours Meter
	Version

Full Menu Operations

Press and hold the MENU button to display the full menu on the LCD monitor to specify detailed settings (menu can also be displayed on an external HDMI monitor in video monitoring mode).

Menu Controls

MENU button (page 4)
Press and hold to display the full menu. Press again while the full menu is displayed to hide the menu.

Multi selector (8-way D-pad and apply buttons) (page 4)
Press the 8-way D-pad buttons to move the cursor up/down/left/right to select menu items or settings.
Press the multi selector apply button to apply the selected item.

Multi-function dial (page 4)
Turn the multi-function dial to move the cursor up/down to select menu items or settings.
Press the multi-function dial to apply the selected item.

BACK button (page 4)
Press to return to the previous menu. Unconfirmed changes are canceled.

[Notes]
- The full menu cannot be operated when in focus magnifier mode (page 88).
- Some items cannot be selected, depending on the state when the menu was displayed.
- When the LCD monitor is in information display mode, operation using the multi selector on the operator switch side of the unit or remote control is not available.

Setting Menu Items

Press the 8-way D-pad buttons or turn the multi-function dial to move the cursor to the menu item to set, then press the apply button or multi-function dial to select the item.
- The menu item selection area displays up to eight lines. If the available options for an item cannot be displayed at the same time, scroll the display by moving the cursor up/down.
- For sub-items with a large settings range (for example, −99 to +99), the settings area is not displayed. The current setting is highlighted to indicate that the value can be changed.
- Selecting Execute for a function will execute the corresponding function.
- Selecting an item that requires confirmation before execution will temporarily hide the menu and display a confirmation message. Check the message, and then select whether to execute or cancel the function.

Entering a Character String

When you select an item, such as a file name, which requires character entry, the character entry screen appears.
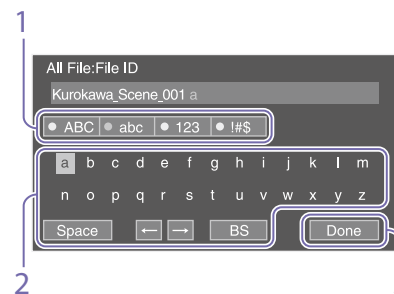
1. Press the 8-way D-pad buttons or turn the multi-function dial to select a character type, then apply the setting.
   ABC: Uppercase alphabetic characters
   abc: Lowercase alphabetic characters
   123: Numeric characters
   !#$: Special characters

2. Select a character from the selected character type, then apply the setting.
   The cursor moves to the next field.
   Space: Enters a space character at the cursor position.
   ←/→: Moves the position of the cursor.
   BS: Deletes the character on the left of the cursor (backspace).

3. When finished, select Done and apply the setting.
   The character string is confirmed and the character entry screen disappears.

Locking and Unlocking the Menu

You can lock the full menu so that only the User menu is displayed.
In this state, settings cannot be changed using the Home screen or status screens.

Locking the menu

1. Press and hold the multi-function dial and press and hold the MENU button.

2. Select Menu Settings >User Menu with Lock in the Technical menu.
   [Note]
   When you press and hold only the MENU button to display the normal full menu, User Menu Only is displayed under Menu Settings in the Technical menu. Press and hold the multi-function dial and press and hold the MENU button to display User Menu with Lock.

3. Set to On, and press the apply button or multi-function dial.
   The LCD monitor display switches to the passcode number input screen.

4. Enter an arbitrary number.
   Enter a 4-digit number in the range 0000 to 9999. The default value is 0000.
   Enter a number and press the apply button or multi-function dial to move the cursor to the next digit.
   When all digits have been entered, move the cursor to SET.

5. Press the apply button or multi-function dial.
   The entry is applied.
   A confirmation message appears, and the screen switches to the User menu display.

Unlocking the menu

1 Press and hold the multi-function dial and press and hold the MENU button.

2 Select Menu Settings >User Menu with Lock in the User menu.

[Note]
When you press and hold only the MENU button to display the normal full menu, User Menu Only is displayed under Menu Settings in the Technical menu. Press and hold the multi-function dial and press and hold the MENU button to display User Menu with Lock.

3 Set to Off, and press the apply button or multi-function dial.
The LCD monitor display switches to the passcode number input screen.

4 Enter the passcode number used to lock the menu.
Enter a number and press the apply button or multi-function dial to move the cursor to the next digit.
When all digits have been entered, move the cursor to Set.

5 Press the apply button or multi-function dial.
The entry is applied.
If the entered passcode number matches the passcode number used to lock the menu, the menu is unlocked and the menu is displayed.

[Notes]
- If the entered passcode number does not match the passcode number used to lock the menu, the menu is not unlocked.
- It is recommended that you leave a record of the passcode nearby, just in case it is forgotten. If you do forget the passcode number, contact your Sony service representative.

- If the menu is locked without registering full menu items from the following table in the User menu, those functions cannot be assigned to assignable buttons.
- If those functions were already assigned to assignable buttons, the assignable setting is forcibly disabled at the point when the menu is locked.

Full menu item	Assignable button selection
Shooting >ISO/Gain/EI >Base Sensitivity, Shooting >ISO/Gain/EI> Base ISO	Base ISO/Sensitivity
Shooting >Auto Exposure >AGC	AGC
Shooting >Auto Exposure >Auto ND Filter	Auto ND Filter
Shooting >Auto Exposure >Auto Iris	Auto Iris
Shooting >Iris >Bokeh Control	Bokeh Control
Shooting >Auto Exposure >Auto Shutter	Auto Shutter
Shooting >Auto Exposure >Level	Auto Exposure Level
Shooting >Auto Exposure >Mode	Backlight
Shooting >Auto Exposure >Mode	Spotlight
Shooting >White >Auto White Balance	Auto White Balance
Shooting >White >ATW	ATW
Shooting >Focus > AF Transition Speed, Shooting >Focus > AF Subj. Shift Sens.	AF Speed/Sens.
Shooting >Focus> Subject Recognition AF	Subject Recognition AF
Monitoring >Focus Magnifier >Focus Mag Button Target	LCD Focus Magnifier

Full menu item	Assignable button selection
Monitoring >Focus Magnifier >Focus Mag Button Target	Output Focus Magnifier
Shooting >S&Q Motion >Setting	S&Q Motion
Shooting >LUT On/Off >**1**SDI/HDMI, Shooting >LUT On/Off >**1**SDI	LUT On/Off**1**
Shooting >LUT On/Off >**2**LCD/Proxy/Stream, Shooting >LUT On/Off >**2**LCD/HDMI/Px/ Stream	LUT On/Off**2**
Monitoring >Display On/Off >Image Stabilization	Image Stabilization
Project >Rec Format >Imager Scan Mode	Crop Select
Project >Picture Cache Rec >Setting	Picture Cache Rec
Technical >Rec Review >Setting	Rec Review
Clip Operations >Set Clip Flag >Add OK	Clip Flag OK
Clip Operations >Set Clip Flag >Add NG	Clip Flag NG
Clip Operations >Set Clip Flag >Add KEEP	Clip Flag Keep
Technical >Color Bars >Setting	Color Bars
TC/Media >TC Display >Display Select	DURATION/TC/U-BIT
Monitoring >Display On/Off >Lens Info	Lens Info
Monitoring >Display On/Off >Video Signal Monitor	Video Signal Monitor
Monitoring >Marker >Setting	Marker

Full menu item	Assignable button selection
Monitoring >LCD Monitor Setting >Color Mode	LCD Monitor Mode
Monitoring >Gamma Display Assist >Setting	Gamma Display Assist
Monitoring >Peaking >Setting	Peaking
Monitoring >Zebra >Setting	Zebra
Audio >Audio Output >Volume	Volume
Technical >Touch Operation >Setting	Touch Operation
Technical >Handle Zoom >Setting	Handle Zoom
Network >File Transfer >Auto Upload (Proxy)	Auto Upload (Proxy)

User Menu

This section describes the function and settings of each menu item (factory default).

User	
Menu item	Description
Focus	Shooting >Focus item
Auto Exposure	Shooting >Auto Exposure item
Noise Suppression	Shooting >Noise Suppression item
Image Stabilization	Shooting >Image Stabilization item
Rec Format	Project >Rec Format item
Assignable Button	Project >Assignable Button item
Multi Function Dial	Project >Multi Function Dial item
All File	Project >All File item
User File	Project >User File item
Base Look	Paint/Look >Base Look item
Clip Name Format	TC/Media >Clip Name Format item
Format Media	TC/Media >Format Media item
De-Squeeze	Monitoring >De-Squeeze item
Marker	Monitoring >Marker item
LCD Monitor Setting	Monitoring >LCD Monitor Setting item
Peaking	Monitoring >Peaking item
Zebra	Monitoring >Zebra item
Menu Settings	Technical >Menu Settings item
Lens	Technical >Lens item
APR	Technical >APR item

[Note]
You can add and remove menu items in the User menu using the Edit User menu. Up to 20 items can be configured.

Edit User Menu

The Edit User menu is displayed at the top level when Edit User Menu is selected in the User menu.

Edit User		
Menu item	Sub-item setting	Description
Add Item Add an item to the User menu		Adds a menu item to the User menu.
Customize Reset Reset the items in the User menu		Restores the menu items registered in the User menu to the factory default.
Menu item selected during editing	Delete	Deletes the registered menu item from the User menu.
	Move	Rearranges the registered menu items within the User menu.
	Edit Sub Item	Edits (register/delete) the registered menu sub-item in the User menu.

Shooting Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Shooting >ISO/Gain/EI Sets gain settings.		
Menu item	Sub-item setting	Description
Mode	**ISO** / dB	Selects the gain setting mode.
ISO/Gain		Sets the gain. Enabled in Custom mode only.

When Mode is set to ISO

Base Look >Select	S-Cinetone / Standard / Still / ITU709		Other than left	
Base Sensitivity	Low	High	Low	High
ISO/Gain	**ISO 320**	**ISO 1250**	**ISO 800**	**ISO 3200**
	ISO 400	ISO 1600	ISO 1000	ISO 4000
	ISO 500	ISO 2000	ISO 1250	ISO 5000
	ISO 640	ISO 2500	ISO 1600	ISO 6400
	ISO 800	ISO 3200	ISO 2000	ISO 8000
	ISO 1000	ISO 4000	ISO 2500	ISO 10000
	ISO 1250	ISO 5000	ISO 3200	ISO 12800
	ISO 1600	ISO 6400	ISO 4000	ISO 16000
	ISO 2000	ISO 8000	ISO 5000	ISO 20000
	ISO 2500	ISO 10000	ISO 6400	ISO 25600

When Mode is set to dB
   –3dB to **0dB** to 18dB (1dB increments)

Shooting >ISO/Gain/EI Sets gain settings.		
Menu item	Sub-item setting	Description
Exposure Index	When Base ISO is set to ISO 800 200EI / 4.0E 250EI / 4.3E 320EI / 4.7E 400EI / 5.0E 500EI / 5.3E 640EI / 5.7E **800EI / 6.0E** 1000EI / 6.3E 1250EI / 6.7E 1600EI / 7.0E 2000EI / 7.3E 2500EI / 7.7E 3200EI / 8.0E When Base ISO is set to ISO 3200 800EI / 4.0E 1000EI / 4.3E 1250EI / 4.7E 1600EI / 5.0E 2000EI / 5.3E 2500EI / 5.7E **3200EI / 6.0E** 4000EI / 6.3E 5000EI / 6.7E 6400EI / 7.0E 8000EI / 7.3E 10000EI / 7.7E 12800EI / 8.0E	Sets the exposure index. Available in Cine EI mode only.
Shockless Gain	On / **Off**	Turns the shockless gain function on/off.
Base Sensitivity	High / **Low**	Sets the base sensitivity for Custom mode.
Base ISO	ISO 3200 / **ISO 800**	Sets the base ISO sensitivity for Cine EI mode.

Shooting >ND Filter
    Sets the display mode used to express the ND filter light transmittance level.

Menu item	Sub-item setting	Description
Display Mode	**Optical Density** / Transmittance	Sets the display mode used to express the ND filter light transmittance level. Display and control are executed using the selected display mode. Optical Density: Displays and controls the amount of light transmitted through the ND filter in terms of optical density (logarithmic notation). Transmittance: Displays and controls the amount of light transmitted through the ND filter in terms of transmittance (fractional display).

Shooting >Shutter
    Sets electronic shutter operation.

Menu item	Sub-item setting	Description
Mode	Speed / **Angle**	Selects the mode of the electronic shutter. Selects the mode for setting the shutter speed in seconds (Speed) or as a shutter angle (Angle).
Shutter Speed On/Off	On / **Off**	Sets whether the exposure time when Speed mode is selected follows the Shutter Speed value or is set for full exposure.

Shooting >Shutter
    Sets electronic shutter operation.

Menu item	Sub-item setting	Description
Shutter Speed	64F to 1/8000 The available settings vary depending on the system frequency of the selected recording format. 59.94P: 64F / 32F / 16F / 8F / 7F / 6F / 5F / 4F / 3F / 2F / 1/50 / **1/60** / 1/100 / 1/120 / 1/125 / 1/250 / 1/500 / 1/1000 / 1/2000 / 1/4000 / 1/8000 50P: 64F / 32F / 16F / 8F / 7F / 6F / 5F / 4F / 3F / 2F / **1/50** / 1/60 / 1/100 / 1/120 / 1/125 / 1/250 / 1/500 / 1/1000 / 1/2000 / 1/4000 / 1/8000 29.97P: 64F / 32F / 16F / 8F / 7F / 6F / 5F / 4F / 3F / 2F / **1/30** / 1/40 / 1/50 / 1/60 / 1/100 / 1/120 / 1/125 / 1/250 / 1/500 / 1/1000 / 1/2000 / 1/4000 / 1/8000 25P: 64F / 32F / 16F / 8F / 7F / 6F / 5F / 4F / 3F / 2F / **1/25** / 1/33 / 1/50 / 1/60 / 1/100 / 1/120 / 1/125 / 1/250 / 1/500 / 1/1000 / 1/2000 / 1/4000 / 1/8000 24P/23.98P: 64F / 32F / 16F / 8F / 7F / 6F / 5F / 4F / 3F / 2F / **1/24** / 1/32 / 1/48 / 1/50 / 1/60 / 1/96 / 1/100 / 1/120 / 1/125 / 1/250 / 1/500 / 1/1000 / 1/2000 / 1/4000 / 1/8000	Sets the shutter speed when Speed mode is selected.
Shutter Angle	64F / 32F / 16F / 8F / 7F / 6F / 5F / 4F / 3F / 2F / 360.0° / 300.0° / 270.0° / 240.0° / 216.0° / 210.0° / **180.0°** / 172.8° / 150.0° / 144.0° / 120.0° / 90.0° / 86.4° / 72.0° / 45.0° / 30.0° / 22.5° / 11.25° / 5.6°	Sets the shutter angle when Angle mode is selected.
ECS On/Off	On / **Off**	Turns the Extended Clear Scan function on/off.

Shooting >Shutter
    Sets electronic shutter operation.

Menu item	Sub-item setting	Description
ECS Frequency	23.99 to 8000 The available settings vary depending on the system frequency of the selected recording format. The default values are given below. 59.94P: **60.00** 50P: **50.00** 29.97P: **30.00** 23.98P: **23.99** 25P: **25.02** 24P: **24.02**	Sets the ECS frequency when ECS mode is selected.

Shooting >Iris
    Sets bokeh control function settings.

Menu item	Sub-item setting	Description
Bokeh Control	On / **Off**	Turns the bokeh control function on/off.

Shooting >Auto Exposure
    Sets automatic exposure adjustment settings.

Menu item	Sub-item setting	Description
Level	+3.0 / +2.75 / +2.5 / +2.25 / +2.0 / +1.75 / +1.5 / +1.25 / +1.0 / +0.75 / +0.5 / +0.25 / **±0** / −0.25 / −0.5 / −0.75 / −1.0 / −1.25 / −1.5 / −1.75 / −2.0 / −2.25 / −2.5 / −2.75 / −3.0	Sets the brightness level for the automatically detected exposure.

Mode	Backlight / **Standard** / Spotlight	Sets the operating mode of auto exposure adjustment.
		Backlight:
		    Backlight mode (mode for reduced darkening of a subject when the subject is backlit)
		Standard:
		    Standard mode
		Spotlight:
		    Spotlight mode (mode for reduced clipped whites when subject is lit by spotlighting)

Speed	−99 to +99 (**±0**)	Sets the adjustment speed of auto exposure adjustment.

Shooting >Auto Exposure
    Sets automatic exposure adjustment settings.

Menu item	Sub-item setting	Description
Auto ND Filter	On / **Off**	Turns the ND filter transmittance level auto adjustment function on/off.
AGC	On / **Off**	Turns the AGC (auto gain control) function on/off.
AGC Limit	Sets the maximum gain of the AGC function.	

When Mode is set to ISO

Base Look >Select	S-Cinetone / Standard / Still / ITU709		Other than left	
Base Sensitivity	Low	High	Low	High
AGC Limit	ISO 400	ISO 1600	ISO 1000	ISO 4000
	ISO 500	ISO 2000	ISO 1250	ISO 5000
	ISO 640	ISO 2500	ISO 1600	ISO 6400
	ISO 800	ISO 3200	ISO 2000	ISO 8000
	ISO 1000	ISO 4000	ISO 2500	ISO 10000
	ISO 1250	ISO 5000	ISO 3200	ISO 12800
	ISO 1600	ISO 6400	ISO 4000	ISO 16000
	ISO 2000	**ISO 8000**	**ISO 5000**	**ISO 20000**
	ISO 2500	ISO 10000	ISO 6400	ISO 25600

When Mode is set to dB
    3dB, 6dB, 9dB, 12dB, **15dB**, 18dB

Menu item	Sub-item setting	Description
AGC Point	**F2.8** / F4 / F5.6	Sets the F-stop value of the iris where AGC operation starts when the AGC function is On.
Auto Shutter	On / **Off**	Turns the auto shutter control function on/off.
A.SHT Limit	1/100 / 1/150 / 1/200 / 1/250 / **1/2000**	Sets the fastest shutter speed of the auto shutter function.
A.SHT Point	F5.6 / F8 / **F11** / F16	Sets the F-stop value of the iris where auto shutter operation starts.
Auto Iris	On / **Off**	Turns auto iris on/off.
Clip High light	On / **Off**	Turns the function that ignores brightest areas to provide a flatter response at high luminance on/off.

Shooting >Auto Exposure
     Sets automatic exposure adjustment settings.

Menu item	Sub-item setting	Description
Detect Window	**1** / 2 / 3 / 4 / 5 / 6 / Custom	Sets the light metering range for automatically adjusting the exposure according to the brightness of the subject. (Not available when adjusting exposure manually)
Detect Window Indication	On / **Off**	Turns the light metering range indication on/off.
Custom Width	40 to 999 (**500**)	Sets the width of the light metering range.
Custom Height	70 to 999 (**500**)	Sets the height of the light metering range.
Custom H Position	−479 to +479 (**±0**)	Sets the horizontal position of the light metering range.
Custom V Position	−464 to +464 (**±0**)	Sets the vertical position of the light metering range.

Shooting >White
     Sets white balance settings.

Menu item	Sub-item setting	Description
White Select	**A** / B / C	Selects the white memory position.
Auto White Balance	Execute / Cancel	Runs auto white balance for the selected white memory position (execute using Execute).
ATW	On / **Off**	Turns the ATW function on/off. [Note] When you switch to a white memory position, the ATW function is set to Off.
Color Temp	2000K to 15000K (**3200K**)	Sets the white balance color temperature to save in the selected white memory position. [Note] Since Color Temp is clipped at 2000K and 15000K during R/B Gain operation, it may not be possible to display the correct Color Temp value corresponding to the R/B Gain value.

Shooting >White
     Sets white balance settings.

Menu item	Sub-item setting	Description
Tint	−99 to +99 (**±0**)	Sets the white balance tint value to save in the selected white memory position. [Note] Since Tint is clipped at ±99 during R/B Gain operation, it may not be possible to display the correct Tint value corresponding to the R/B Gain value.
R Gain	−99.0 to +99.0 (**±0.0**)	Sets the white balance R gain value to save in the selected white memory position.
B Gain	−99.0 to +99.0 (**±0.0**)	Sets the white balance B gain value to save in the selected white memory position.

Preset White Select	In Custom shooting mode
	    3200K ±00
	    4300K ±00
	    5600K ±00
	    6300K ±00
	In Cine EI shooting mode
	    3200K ±00
	    4300K ±00
	    5500K ±00
		Sets the white balance color temperature to save in the selected white memory position using a specified preset value. The tint value is set to ±0.

Shooting >White Setting
     Adjusts white balance settings.

Menu item	Sub-item setting	Description
Shockless White	Off / 1 / **2** / 3	Sets the white balance response speed when switching white balance mode. Off: Switches instantaneously. 1 to 3: Switches more slowly the higher the number.
ATW Speed	1 / 2 / **3** / 4 / 5	Sets the response speed in ATW mode. 1: Fastest response speed

Shooting >Focus
     Sets focus settings.

Menu item	Sub-item setting	Description
AF Transition Speed	1(Slow) / 2 / 3 / 4 / **5** / 6 / 7(Fast)	Sets the speed of the focus drive for when the subject changes during auto focus.

Shooting >Focus
    Sets focus settings.

Menu item	Sub-item setting	Description
AF Subj. Shift Sens.	1(Locked On) / 2 / 3 / 4 / **5(Responsive)**	Sets the sensitivity for changing subject focus during auto focus.

Focus Area	**Wide** / Zone / Flexible Spot	Sets the target area for auto focus and push auto focus (AF) (page 89).
		Wide:
		    Searches for a subject over a wide angle of the image when focusing.
		Zone:
		    Automatically searches for a focus point within the specified zone.
		Flexible Spot:
		    Focuses on a specified position in the image.

Subject Recognition AF	Human Only AF / **Human Priority AF** / Off	Sets the subject recognition AF function operation.
		Human Only AF:
		    The camera detects subjects (people), and focuses on people's eyes, face, and body. When a person is not detected, manual focus is activated.
		Human Priority AF:
		    The camera detects subjects (people), and focuses on people's eyes, face, and body. When a person is not detected, auto focus is activated.

Touch Function in MF	**Tracking AF** / Spot Focus	Sets the action that occurs when the touch panel is tapped during manual focus.
AF Assist	**On** / Off	When set to On, allows you to temporarily override auto focus and set focus manually.

Shooting >S&Q Motion
    Sets Slow & Quick Motion mode settings (page 101).

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns the Slow & Quick motion mode on/off. When set to On, the following functions are disabled. • Auto iris • Auto focus
Frame Rate	1fps to 60fps / 100fps / 120fps	Sets the frame rate for Slow & Quick Motion shooting. [Note] The available settings vary depending on the selected system frequency, codec, and video format.

Shooting >LUT On/Off
    Sets LUT settings.

Menu item	Sub-item setting	Description
1 SDI/HDMI	LUT On / **LUT Off**	Selects whether to apply monitor LUT to the SDI and HDMI output video. [Note] Configurable when Rec Format >Codec (page 43) is set to X-OCN format in the Project menu.
1 SDI	LUT On / **LUT Off**	Selects whether to apply monitor LUT to the SDI output video. [Note] Configurable when Rec Format >Codec (page 43) is not set to X-OCN format in the Project menu.
2 LCD/Proxy/Stream	LUT On / **LUT Off**	Selects whether to apply monitor LUT to the LCD, Proxy, and Stream output video. [Note] Configurable when Rec Format >Codec (page 43) is set to X-OCN format in the Project menu.
2 LCD/HDMI/Px/Stream	LUT On / **LUT Off**	Selects whether to apply monitor LUT to the LCD, HDMI, Proxy, and Stream output video. [Note] Configurable when Rec Format >Codec (page 43) is not set to X-OCN format in the Project menu.

Shooting >Noise Suppression
Sets noise suppression settings.

[Tip]
The Setting(Custom) and Level(Custom) settings are reflected in the Target Display setting (page 66).

Menu item	Sub-item setting	Description
Setting (Custom)	**On** / Off	Turns the noise suppression function on/off in Custom mode.
Level (Custom)	Low / **Mid** / High	Sets the noise suppression level in Custom mode.
Setting (Cine EI)	On / **Off**	Turns the noise suppression function on/off in Cine EI mode.
Level (Cine EI)	Low / **Mid** / High	Sets the noise suppression level in Cine EI mode.

Shooting >Flicker Reduce
Sets flicker correction settings.

Menu item	Sub-item setting	Description
Mode	Auto / On / **Off**	Sets the flicker correction mode.
Frequency	50Hz / **60Hz**	Sets the frequency of the power source supplying the lighting that is causing the flicker.

Shooting >Image Stabilization
Sets image stabilization settings (page 97).

Menu item	Sub-item setting	Description
PL Stabilization	High / **Low** / Off	Sets the image stabilization function. [Note] Configurable only when a PL-mount adaptor is attached.
SteadyShot	Active / **Standard** / Off	Sets the image stabilization function. [Notes] • Configurable only when a PL-mount adaptor is not attached. • If a lens with an image stabilization switch is attached and the switch on the lens is set to the OFF position, the lens setting takes precedence and the setting cannot be changed on the unit.

Shooting >Image Stabilization
Sets image stabilization settings (page 97).

Menu item	Sub-item setting	Description
Stabilization Adjustment	**Auto** / Manual	Sets the image stabilization function appropriate for the attached lens. Auto: Image stabilization is performed automatically based on information obtained from the lens. Manual: Image stabilization corresponding to the focal length set by Focal Length (8 mm to 1000 mm).
Focal Length	**8mm** / 9mm / 10mm / 11mm / 12mm / 13mm / 14mm / 15mm / 16mm / 17mm / 18mm / 19mm / 20mm / 21mm / 24mm / 25mm / 28mm / 30mm / 32mm / 35mm / 40mm / 45mm / 50mm / 55mm / 60mm / 70mm / 75mm / 80mm / 85mm / 90mm / 100mm / 105mm / 120mm / 135mm / 150mm / 180mm / 200mm / 210mm / 250mm / 300mm / 350mm / 400mm / 450mm / 500mm / 600mm / 800mm / 1000mm	Sets the focal length information for the image stabilization function in the camera when the image stabilization adjustment is set to Manual. [Notes] • Image stabilization cannot operate correctly if focal length and other information cannot be acquired from the lens. Set Stabilization Adjustment to Manual and configure Focal Length to match the attached lens. The configured image stabilization focal length value is displayed below the image stabilization icon. • If a converter lens is attached to the SEL16F28 lens (option), set Stabilization Adjustment to Manual and configure Focal Length.

Project Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Project >Base Setting
    Sets base settings.

Menu item	Sub-item setting	Description
Shooting Mode	Custom / **Cine EI**	Sets the shooting mode (page 80).
Target Display	**SDR(BT.709)** / HDR(HLG)	Sets the color gamut of the recording/output in Custom mode.

Project >Rec Format
    Sets recording format settings.

Menu item	Sub-item setting	Description
Frequency	**59.94** / 50 / 29.97 / 25 / 24 / 23.98	Selects the system frequency.
Imager Scan Mode	FF 8.6K 17:9 / FF 8.6K 16:9 / **FFc 6K 17:9** / FFc 6K 16:9 / S35 5.8K 17:9 / S35 5.8K 16:9 / S35c 4K 17:9	Selects the imager size. [Tip] When you want to record 8K, set the system frequency to 29.97 or lower.
Codec	**X-OCN(LT)** / XAVC H-I HQ / XAVC H-I SQ / XAVC H-L / XAVC-I / XAVC-L	Sets the clip recording/playback codec. [Tips] • When you want to record 8K, select X-OCN or XAVC H. • X-OCN can be selected in Cine EI mode only.
Video Format	The available settings vary depending on the Frequency and Codec settings.	Sets the image size and bit rate. [Tip] The X-OCN picture size is determined by the Imager Scan mode. XAVC H supports 8K only.

Frequency	Codec	Selection options
59.94	X-OCN(LT)	–
	XAVC-I	4096×2160P
		3840×2160P
		1920×1080P
	XAVC-L	3840×2160P
		1920×1080P
50	X-OCN(LT)	–
	XAVC-I	4096×2160P
		3840×2160P
		1920×1080P
	XAVC-L	3840×2160P
		1920×1080P

Project >Rec Format
    Sets recording format settings.

Menu item	Sub-item setting		Description
Video Format	29.97	X-OCN(LT)	–
		XAVC H-I HQ	8192×4320P
			7680×4320P
		XAVC H-I SQ	8192×4320P
			7680×4320P
		XAVC H-L	7680×4320P
		XAVC-I	4096×2160P
			3840×2160P
			1920×1080P
		XAVC-L	3840×2160P
			1920×1080P
	25	X-OCN(LT)	–
		XAVC H-I HQ	8192×4320P
			7680×4320P
		XAVC H-I SQ	8192×4320P
			7680×4320P
		XAVC H-L	7680×4320P
		XAVC-I	4096×2160P
			3840×2160P
			1920×1080P
		XAVC-L	3840×2160P
			1920×1080P
	23.98	X-OCN(LT)	–
		XAVC H-I HQ	8192×4320P
			7680×4320P
		XAVC H-I SQ	8192×4320P
			7680×4320P
		XAVC H-L	7680×4320P
		XAVC-I	4096×2160P
			3840×2160P
			1920×1080P
		XAVC-L	3840×2160P
			1920×1080P

Project >Rec Format
    Sets recording format settings.

Menu item	Sub-item setting			Description
Video Format	24	X-OCN(LT)	–	
		XAVC H-I HQ	8192×4320P	
		XAVC H-I SQ	8192×4320P	
		XAVC-I	4096×2160P	

Project >Cine EI Setting
    Sets Cine EI mode settings.

Menu item	Sub-item setting	Description
Color Gamut	S-Gamut3/SLog3 / **S-Gamut3.Cine/SLog3**	Sets the color gamut in Cine EI mode.
Embed LUT File	**On** / Off	Turns 3D LUT file (CUBE file) metadata recording on/off.

Project >Simul Rec
    Sets simultaneous recording mode settings (page 102).

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns the simultaneous recording function on/off and sets the recording destination media.

Project >Proxy Rec
    Sets proxy recording mode settings.

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns proxy recording mode on/off.
Audio Channel	**CH1/CH2** / CH3/CH4	Selects the audio channel to record to proxy data.

Project >Interval Rec
    Sets interval recording mode settings (page 101).

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns interval recording mode on/off. (Setting this mode to On will set all other special modes to Off.)
Interval Time	**1** / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 15 / 20 / 30 / 40 / 50 (s) 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 15 / 20 / 30 / 40 / 50 (min) 1 / 2 / 3 / 4 / 6 / 12 / 24 (h)	Sets the interval between recordings in Interval Rec recording mode (when Interval Rec is set to On).

Number of Frames	1frame / 2frames / 3frames / 6frames / 9frames / 12frames
	The available settings vary depending on the frame frequency of the selected video format.
	59.94P/50P:
	    2frames / 6frames / 12frames
	29.97P/25P/24P/23.98P:
	    1frame / 3frames / 6frames / 9frames
		Sets the number of frames to record per take in Interval Rec recording mode (when Interval Rec is set to On).

Pre-Lighting	**Off** / 2 s / 5 s / 10 s	Sets the number of seconds that the video light turns on before recording starts in Interval Rec recording mode. [Tip] Available only when using the HVL-LBPC (option).

Project >Picture Cache Rec
    Sets picture cache recording mode settings (page 102).

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns picture cache recording mode on/off.
Cache Size	Short / Medium / Long / **Max**	Sets the time for accumulation of images in picture cache memory (picture cache recording time).
Cache Rec Time		Displays the time for accumulation of images in picture cache memory (picture cache recording time).

Project >SDI/HDMI Rec Control Sets SDI/HDMI recording control settings.		
Menu item	Sub-item setting	Description
Setting	**Off** / SDI/HDMI Remote I/F / Parallel Rec	Sets recording start/stop control of an external device via the SDI/HDMI output signal. Off: Do not use remote control. SDI/HDMI Remote I/F: Record stop/start control of an external connected device, when there is no media inserted in the unit. Not synchronized with frame accuracy to media in the unit. Parallel Rec: Record stop/start control of an external connected device, when media is inserted in the unit. Synchronized with frame accuracy to media in the unit. [Notes] • For control using the HDMI output signal, set HDMI TC Out >Setting (page 51) in the TC/Media menu of the full menu to On. • Parallel Rec cannot be selected when X-OCN recording.

Project >Assignable Button Sets function assignments to assignable buttons.		
Menu item	Sub-item setting	Description
<1> to <11>, Focus Hold Button	Off / Base ISO/Sensitivity / AGC / Push AGC / ND Filter Position / Auto ND Filter / Push Auto ND / Iris / Auto Iris / Push Auto Iris / Bokeh Control / Auto Shutter / Auto Exposure Level / Backlight / Spotlight / Auto White Balance / ATW / ATW Hold / AF Speed/Sens. / Focus Setting / Subject Recognition AF / Push AF/Push MF / Focus Hold / LCD Focus Magnifier / Output Focus Magnifier / S&Q Motion / LUT On/Off**1** / LUT On/Off**2** / Image Stabilization / Crop Select / Rec / Picture Cache Rec / Rec Review / Clip Flag OK / Clip Flag NG / Clip Flag Keep / Color Bars / DURATION/TC/U-BIT / Display / Lens Info / Video Signal Monitor / Marker / LCD Monitor Adjust / LCD Monitor Mode / Gamma Display Assist / Peaking / Zebra / Volume / Clips / Touch Operation / Handle Zoom / Auto Upload (Proxy) / Direct Menu / User Menu / Menu	Assigns functions to assignable buttons. Base ISO/Sensitivity: Switches the base sensitivity of the image sensor. AGC: Turns the AGC function on/off. Push AGC: Enables the AGC function while the button is pressed. ND Filter Position: Switches ND filters. Auto ND Filter: Turns the auto ND filter function on/off. Push Auto ND: Enables the auto ND filter function while the button is pressed. Iris: Selects the iris position setting. In video monitoring mode, press and hold to select auto/manual settings. Auto Iris: Turns the auto iris function on/off. Push Auto Iris: Enables the auto iris function while the button is pressed. Bokeh Control: Turns the bokeh control mode on/off. Auto Shutter: Turns the auto shutter function on/off. Auto Exposure Level: Displays/exits the Auto Exposure Level direct menu. Backlight: Switches between Backlight and Standard. Spotlight: Switches between Spotlight and Standard. Auto White Balance: Runs auto white balance. ATW: Turns the ATW function on/off.

Project >Assignable Button Sets function assignments to assignable buttons.		
Menu item	Sub-item setting	Description

<1> to <11>,
Focus Hold
Button
		ATW Hold:
		    Pauses ATW function operation.
		AF Speed/Sens.:
		    Switches the AF transition speed setting and AF subject shift sensitivity setting.
		Focus Setting:
		    Sets the focus area.
		Subject Recognition AF:
		    Switches the Subject Recognition AF setting.
		Push AF/Push MF:
		    In MF focus mode, activates AF while the button is pressed.
		    In AF focus mode, activates MF while the button is pressed.
		Focus Hold:
		    In AF focus mode, focus is fixed while the button is pressed.
		LCD Focus Magnifier:
		Output Focus Magnifier:
		    Switches the focus magnifier ratio for the LCD monitor or external output.
		
		    [Tip]
		    You can select LCD Focus Magnifier when Focus Magnifier >Focus Mag Button Target (page 54) in the Monitoring menu of the full menu is set to LCD Monitor. You can select Output Focus Magnifier when it is set to Output.
		
		S&Q Motion:
		    Turns Slow & Quick Motion on/off. Sets the shooting frame rate when pressed and held.
		LUT On/Off **1**:
		    Switches the LUT On/Off > **1** SDI or **1** SDI/HDMI setting in the Shooting menu.

Project >Assignable Button Sets function assignments to assignable buttons.		
Menu item	Sub-item setting	Description

<1> to <11>,
Focus Hold
Button
		LUT On/Off< **2**:
		    Switches the LUT On/Off > **2** LCD/HDMI/Px/Stream or **2** LCD/Proxy/Stream setting in the Shooting menu.
		Image Stabilization:
		    Switches the operation of the image stabilization function.
		Crop Select:
		    Sets the imager scan mode.
		Rec:
		    Starts/stops recording.
		Picture Cache Rec:
		    Turns picture cache recording mode on/off.
		Rec Review:
		    Turns the Rec Review function on/off.
		Clip Flag OK:
		    Executes the Add OK function. Press twice to execute Delete Clip Flag.
		Clip Flag NG:
		    Executes the Add NG function. Press twice to execute Delete Clip Flag.
		Clip Flag Keep:
		    Executes the Add Keep function. Press twice to execute Delete Clip Flag.
		Color Bars:
		    Turns the color bars on/off.
		DURATION/TC/U-BIT:
		    Switches between Time Code, Users Bit, and Duration.
		Display:
		    Turns the screen indicators on/off.
		Lens Info:
		    Switches the depth-of-field indicator.
		Video Signal Monitor:
		    Switches the video signal monitor (such as a waveform monitor).

Project >Assignable Button Sets function assignments to assignable buttons.		
Menu item	Sub-item setting	Description

<1> to <11>,
Focus Hold
Button
		Marker:
		    Turns the marker function on/off.
		LCD Monitor Adjust:
		    Displays the level bars for adjusting
		    the brightness of the LCD monitor.
		LCD Monitor Mode:
		    Switches the LCD monitor between
		    color and B&W.
		Gamma Display Assist:
		    Switches the gamma display assist
		    function.
		Peaking:
		    Turns the peaking function on/off.
		Zebra:
		    Turns the Zebra function on/off.
		Volume:
		    Adjusts the monitor audio level
		    output to the headphone jack and
		    built-in speaker.
		Clips:
		    Displays/closes the clips screen.
		Touch Operation:
		    Turns touch operation on/off.
		Handle Zoom:
		    Switches the handle zoom operation.
		Auto Upload (Proxy):
		    Turns proxy clip auto upload on/off.
		Direct Menu:
		    Displays/exits the direct menu.
		User Menu:
		    Displays/exits the User menu.
		Menu:
		    Displays/exits the full menu.

Project >Assignable Dial Sets function assignments for assignable dial and sets rotation direction.		
Menu item	Sub-item setting	Description

Grip/Remote Dial	Off / ISO/Gain/EI / ND Filter / **IRIS** /
	Auto Exposure Level / Audio Input Level /
	Multi Function Dial
		Assigns functions to the assignable dial
		of the grip remote control (option) or
		RM-30BP.
		ISO/Gain/EI:
		    Adjusts the gain or EI.
		ND Filter:
		    Adjusts the ND filter.
		IRIS:
		    Adjusts the iris.
		Auto Exposure Level:
		    Adjusts the auto exposure level.
		Audio Input Level:
		    Adjusts the audio recording level.
		Multi Function Dial:
		    Functions as a multi-function dial.

Grip Dial Direction	**Normal** / Opposite	Sets the direction of rotation of the assignable dial of the grip remote control (option) or RM-30BP. Normal: Turn in normal direction. Opposite: Turn in opposite direction.

Project >Multi Function Dial Assigns functions to the multi-function dial.		
Menu item	Sub-item setting	Description

Default Function	Off / ISO/Gain/EI / **IRIS** / Auto Exposure
	Level / Audio Input Level
		Assigns the default function to the
		multi-function dial.
		IRIS:
		    Adjusts the iris.
		ISO/Gain/EI:
		    Adjusts the gain or EI.
		Auto Exposure Level:
		    Adjusts the auto exposure level.
		Audio Input Level:
		    Adjusts the audio recording level.

Project >User File
    Sets settings related to user file operations.

Menu item	Sub-item setting	Description
Load from UTILITY SD	Execute / Cancel	Loads user file settings from an SD card. Execute: Execute function.
Save to UTILITY SD	Execute / Cancel	Saves user file settings to an SD card. Execute: Execute function.
File ID		Displays a screen for displaying/editing the file ID of user files.
Load Customize Data	On / **Off**	Sets whether to load User menu customized information when Load from UTILITY SD is executed.
Load White Data	On / **Off**	Sets whether to load white balance information when Load from UTILITY SD is executed.

Project >All File
    Sets settings related to ALL (all-settings) files.

Menu item	Sub-item setting	Description
Load from UTILITY SD	Execute / Cancel	Loads an ALL file from an SD card. Execute: Execute function.
Load from Cloud(Private)	Execute / Cancel	Loads an uploaded ALL file from the C3 Portal cloud service (private). Execute: Execute function.
Load from Cloud(Share)	Execute / Cancel	Loads an uploaded ALL file from the C3 Portal cloud service (share). Execute: Execute function.
Save to UTILITY SD	Execute / Cancel	Saves an ALL file settings to an SD card. Execute: Execute function.
Save to Cloud(Private)	Execute / Cancel	Saves an ALL file settings to the C3 Portal cloud service (private). Execute: Execute function.
Save to Cloud(Share)	Execute / Cancel	Saves an ALL file settings to the C3 Portal cloud service (share). Execute: Execute function.
File ID		Assigns a name to the file.
Load Network Data	On / **Off**	Sets whether to load Network menu settings information when Load from UTILITY SD, Load from Cloud(Private), or Load from Cloud(Share) is executed.

Paint/Look Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Paint/Look >Scene File
Sets settings related to scene files.

Menu item	Sub-item setting	Description
Recall		Loads a scene file stored in internal memory and applies the settings as the current image quality settings.
Store		Saves the current image quality state as a scene file in internal memory.
Delete		Deletes a scene file stored in internal memory.
Preset Recall	When Shooting Mode is set to Custom and Target Display is set to SDR(BT.709) S-Cinetone / Standard / Still / ITU709 When Shooting Mode is set to Custom and Target Display is set to HDR(HLG) HLG Live / HLG Natural	Applies preset image quality settings (non-rewritable) as the current image quality settings.

Paint/Look >Base Look
Sets settings related to the base look.

Menu item	Sub-item setting	Description
Select	When Shooting Mode is set to Custom and Target Display is set to SDR(BT.709) **S-Cinetone** / Standard / Still / ITU709 / User1 to User16 When Shooting Mode is set to Custom and Target Display is set to HDR(HLG): **HLG Live** / HLG Natural / User1 to User16 When Shooting Mode is set to Cine EI 709(800%) / S-Log3 / **s709** / Warm / Cool / Vintage / Teal and Orange / ACESproxy / ACEScct / ACES 1.0 Output-Rec.709 / User1 to User16	Selects a base look. [Note] You can select the following base looks when Cine EI Setting >Color Gamut (page 44) in the Project menu of the full menu is set to S-Gamut3/SLog3. • ACESproxy • ACEScct • ACES 1.0 Output-Rec.709
Delete		Deletes the selected base look.
Delete All		Deletes all base looks.
Import from Utility SD	Execute / Cancel	Loads a base look file from an SD card. Execute: Execute function.
Import from Cloud(Private)	Execute / Cancel	Imports an uploaded base look file from the C3 Portal cloud service (private). Execute: Execute function.

Paint/Look >Base Look
Sets settings related to the base look.

Menu item	Sub-item setting	Description
Import from Cloud(Share)	Execute / Cancel	Imports an uploaded base look file from the C3 Portal cloud service (share). Execute: Execute function.
Input	S-Gamut3/SLog3 / **S-Gamut3.Cine/SLog3**	Sets the input gamut for the selected base look.
Output	**BT.709** / HLG	Sets the output color gamut for the selected base look.
AE Level Offset	**0EV** / 1/3EV / 2/3EV / 1EV / 4/3EV / 5/3EV / 2EV	Sets the exposure reference value for the selected base look.

Paint/Look >Reset Paint Settings
Resets the Paint/Look menu settings, excluding the base look.

Menu item	Sub-item setting	Description
Reset without Base Look	Execute / Cancel	Resets the Paint/Look menu settings, excluding the base look. Execute: Execute function.

Paint/Look >Black
Sets black settings.

Menu item	Sub-item setting	Description
Master Black	−99.0 to +99.0 (**±0.0**)	Sets the master black level.
R Black	−99.0 to +99.0 (**±0.0**)	Sets the R black level.
B Black	−99.0 to +99.0 (**±0.0**)	Sets the B black level.

Paint/Look >Knee
Sets knee correction settings.

Menu item	Sub-item setting	Description
Setting	When Target Display is set to SDR(BT.709) On / **Off** When Target Display is set to HDR(HLG) On / **Off**	Turns the knee correction function on/off. [Tip] Enabled only when Base Look >Select is set to Standard, ITU709, HLG Live, or HLG Natural.
Auto Knee	When Target Display is set to SDR(BT.709): **On** / Off When Target Display is set to HDR(HLG) On / **Off**	Turns the auto knee function on/off. [Tip] Enabled only when knee correction Setting is set to On and Base Look >Select is set to Standard or ITU709.
Point	75% to 109% (**90%**)	Sets the knee point.
Slope	−99 to +99 (**±0**)	Sets the knee slope.

Paint/Look >Detail
   Sets detail adjustment settings.

Menu item	Sub-item setting	Description
Setting	**On** / Off	Turns the detail function on/off.
Level	−7 to +7 (**±0**)	Sets the detail level.
H/V Ratio	−2 to +2 (**±0**)	Sets the balance between vertical (V) and horizontal (H) detail.
B/W Balance	Type1 / Type2 / **Type3** / Type4 / Type5	Sets the balance between black (B) detail for low-luminance areas and white (W) detail for high-luminance areas.
Limit	**0** to 7	Sets the detail limit level.
Crispening	**0** to 7	Sets the crispening level.
High Light Detail	**0** to 4	Sets the detail level of high-luminance areas.

Paint/Look >Matrix
   Sets matrix correction settings.

Menu item	Sub-item setting	Description
User Matrix	On / **Off**	Turns the user matrix correction function on/off.
User Matrix Level	−99 to +99 (**±0**)	Adjusts the color saturation of the entire image.
User Matrix Phase	−99 to +99 (**±0**)	Adjusts the color tone (phase) of the entire image.
User Matrix R-G	−99 to +99 (**±0**)	Sets a user-defined R-G user matrix.
User Matrix R-B	−99 to +99 (**±0**)	Sets a user-defined R-B user matrix.
User Matrix G-R	−99 to +99 (**±0**)	Sets a user-defined G-R user matrix.
User Matrix G-B	−99 to +99 (**±0**)	Sets a user-defined G-B user matrix.
User Matrix B-R	−99 to +99 (**±0**)	Sets a user-defined B-R user matrix.
User Matrix B-G	−99 to +99 (**±0**)	Sets a user-defined B-G user matrix.

Paint/Look >Multi Matrix
   Sets multi matrix correction settings.

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns the multi matrix correction function on/off.
Reset	Execute / Cancel	Resets the hue and saturation of each axis color to the default values.
Axis	**B** / B+ / MG− / MG / MG+ / R / R+ / YL− / YL / YL+ / G− / G / G+ / CY / CY+ / B−	Selects the axis.
Hue	−99 to +99 (**±0**)	Sets the hue of the color used for multi matrix correction.
Saturation	−99 to +99 (**±0**)	Sets the saturation of the color used for multi matrix correction.

TC/Media Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

TC/Media >Timecode
Sets timecode settings.

Menu item	Sub-item setting	Description
Mode	**Preset** / Regen / Clock	Sets the timecode running mode. Preset: 　Starts running from a preset value. Regen: 　Starts running from the timecode of the end of the previous clip. Clock: 　Uses the internal clock as the timecode.
Run	**Rec Run** / Free Run	Rec Run: Runs only when recording. Free Run: Always running, regardless of whether the unit is recording.
Setting		Sets the timecode to an arbitrary value. SET: Set the value.
Reset	Execute / Cancel	Resets the timecode to 00:00:00:00. Execute: Execute function.
TC Format	DF / **NDF**	Sets the timecode format. DF: Drop frame NDF: Non drop frame

TC/Media >TC Display
Sets time data display settings.

Menu item	Sub-item setting	Description
Display Select	**Timecode** / Users Bit / Duration	Switches the time data display.

TC/Media >Users Bit
Sets settings related to user bits.

Menu item	Sub-item setting	Description
Mode	**Fix** / Time	Sets the user bit mode. Fix: Uses an arbitrary fixed value in user bits. Time: Uses the current hour, minute, and second in user bits.
Setting		Sets the user bits to an arbitrary value.

TC/Media >HDMI TC Out
Sets settings related to timecode output when using HDMI.

Menu item	Sub-item setting	Description
Setting	On / **Off**	Sets whether to output the timecode to devices for other purposes, using HDMI.

TC/Media >Clip Name Format
Sets settings related to clip naming and folders.

Menu item	Sub-item setting	Description
Camera ID	**A** to Z	Sets the camera ID used when generating clip names.
Reel Number	**001** to 999	Sets the numeric portion of the Reel Number used when generating clip names.
Camera Position	**C** / L / R	Sets the first character portion of the Shot Number used when generating clip names.
XAVC Root Folder Name	**XDROOT** / Cam ID + Reel#	Sets the volume label name and root folder name of the recording media.

TC/Media >Update Media
Updates the management file on memory cards.

Menu item	Sub-item setting	Description
Media(A)	Execute / Cancel	Updates the management file on the memory card in slot A. Execute: Execute function.
Media(B)	Execute / Cancel	Updates the management file on the memory card in slot B. Execute: Execute function.

TC/Media >Format Media
Initializes memory cards.

Menu item	Sub-item setting	Description
Media(A)	Full Format / Cancel	Formats the memory card in slot A.
Media(B)	Full Format / Cancel	Formats the memory card in slot B.
Utility SD	Full Format / Quick Format / Cancel	Formats the SD card.

Monitoring Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Monitoring >Output Format
    Sets output format settings.

Menu item	Sub-item setting	Description
SDI1	For details about settings, see "Output Formats and Limitations" (page 110).	Sets the SDI and HDMI output resolution.
SDI2		
HDMI		
REF	HD Sync	Displays the sync signal output format. (HD Sync only)

Monitoring >De-Squeeze
    Sets the de-squeeze settings.

Menu item	Sub-item setting	Description
Ratio	**Off(1.0×)** / 1.3× / 2.0×	Selects the de-squeeze ratio for the image displayed for specified output system when shooting with an anamorphic lens.
SDI (X-OCN)	**On** / Off	Sets whether to de-squeeze the SDI output image display when recording in X-OCN format.
HDMI (FHD Output)	**On** / Off	Sets whether to de-squeeze the HDMI output image display for FHD output picture size.
LCD Monitor	**On** / Off	Sets whether to de-squeeze the LCD monitor output image display.

Monitoring >Output Display
    Sets screen display output settings.

Menu item	Sub-item setting	Description
SDI	On / **Off**	Sets whether the menu, status, and screen display are embedded in the SDI output signal.
HDMI	On / **Off**	Sets whether the menu, status, and screen display are embedded in the HDMI output signal.

Monitoring >Display On/Off
    Sets display item settings.

Menu item	Sub-item setting	Description
Focus Mode	**On** / Off	Selects the items to display on the LCD monitor.
Focus Position	**On** / Off	
Network Status	**On** / Off	
File Transfer Status	**On** / Off	
Rec/Play Status	Always On / **On** / Off	
SDI/HDMI Rec Control	**On** / Off	
Tally	**On** / Off	
Battery Remain	**On** / Off	
Zoom Position	**On** / Off	
Image Stabilization	**On** / Off	
Media Status	**On** / Off	
Lens Info	On / **Off**	
Look Name	**On** / Off	
UWP RF Level	**On** / Off	
Focus Area Indicator	**On** / Off	
Subject Recognition Frame	**On** / Off	
Clip Name	**On** / Off	
Video Level Warning	**On** / Off	
Timecode	**On** / Off	
Gamma Display Assist	**On** / Off	

Monitoring >Display On/Off
Sets display item settings.

Menu item	Sub-item setting	Description
Video Signal Monitor	**Off** / Waveform / Vector / Histogram	
Imager Scan Mode	**On** / Off	
Frame Rate	**On** / Off	
Rec Format	**On** / Off	
Rec Look	**On** / Off	
Level Gauge	**On** / Off	
Audio Level Meter	**On** / Off	
Auto Exposure Mode	**On** / Off	
Auto Exposure Level	**On** / Off	
ND Filter	**On** / Off	
Iris	**On** / Off	
ISO/Gain/EI	**On** / Off	
Base ISO/ Sensitivity	**On** / Off	
Shutter	**On** / Off	
White Balance	**On** / Off	
Clip Number	**On** / Off	
Notice Message	**On** / Off	

Monitoring >Marker
Sets marker display settings.

Menu item	Sub-item setting	Description
Setting	**On** / Off	Turns the display of all markers on/off.
Color	**White** / Yellow / Cyan / Green / Magenta / Red / Blue	Selects the marker signal color.
Center Marker	1 / 2 / 3 / 4 / **Off**	Selects the center marker.
Safety Zone	On / **Off**	Turns the safety zone marker on/off.

Monitoring >Marker
Sets marker display settings.

Menu item	Sub-item setting	Description
Safety Area	80% / **90%** / 92.5% / 95%	Selects the size of the safety zone marker (as a percentage of total screen size).
Aspect Marker	Line / Mask / **Off**	Selects the type of aspect marker.
Aspect Mask	0 to 15 (**12**)	Sets the level of the video signal outside the marker.
Aspect Safety Zone	On / **Off**	Turns the aspect safety zone marker on/off.
Aspect Safety Area	80% / **90%** / 92.5% / 95%	Selects the size of the aspect safety zone marker (as a percentage of total screen size).
Aspect Select	1:1 / 4:3 / 13:9 / 14:9 / 15:9 / 16:9 / 17:9 / 1.66:1 / 1.85:1 / 2.35:1 / **2.39:1** / Custom	Sets the mode when displaying the aspect marker.
Custom Aspect Ratio	Enter arbitrary value (**01.00:01.00**)	Sets the aspect ratio to an arbitrary value. [Note] This setting is enabled when Aspect Select is set to Custom.
Guide Frame	On / **Off**	Turns the guide frame display on/off.
100% Marker	On / **Off**	Turns the 100% marker on/off.
User Box	On / **Off**	Turns the user box marker display on/off.
User Box Width	3 to 479 (**240**)	Sets the user box marker width (distance from the center to the left and right edges).
User Box Height	3 to 269 (**135**)	Sets the user box marker height (distance from the center to the top and bottom edges).
User Box H Position	−476 to +476 (**0**)	Sets the horizontal position of the center of the user box marker.
User Box V Position	−266 to +266 (**0**)	Sets the vertical position of the center of the user box marker.

Monitoring >LCD Monitor Setting
Sets viewfinder settings.

Menu item	Sub-item setting	Description
Brightness	1 to 15 (**8**)	Adjusts the brightness of the viewfinder image.
Color Mode	**Color** / B&W	Selects the display mode of the viewfinder in E-E/recording mode.

Monitoring >Gamma Display Assist
Sets gamma display assist settings.

Menu item	Sub-item setting	Description
Setting	**On** / Off	Turns the gamma display assist function on/off in Custom mode when Target Display is set to HDR(HLG).

Monitoring >Peaking
Sets peaking settings.

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns the peaking function on/off.
Peaking Level	High / **Mid** / Low	Sets the color peaking signal level.
Color	**B&W** / Red / Yellow / Blue	Selects the color of the color peaking signal.

Monitoring >Zebra
Sets zebra pattern settings.

Menu item	Sub-item setting	Description
Setting	**Off** / Zebra1 / Zebra2	Selects the zebra pattern type (Off, Zebra 1, Zebra 2).
Zebra1 Level	0% to 109% (**70%**)	Sets the Zebra 1 display level.
Zebra1 Aperture Level	2% to 20% (**10%**)	Sets the Zebra 1 aperture level.
Zebra2 Level	0% to 109% (**100%**)	Sets the Zebra 2 display level.

Monitoring >Focus Magnifier
Sets focus magnifier settings.

Menu item	Sub-item setting	Description
Focus Mag Button Target	**LCD Monitor** / Output	Sets the focus magnifier target for control using an assignable button.

Audio Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).
Refer to "Block Diagrams" (page 129).

Audio >Audio Input
Sets audio input settings.

Menu item	Sub-item setting	Description
CH1 Input Select	**INPUT1** / Internal MIC / Shoe CH1	Switches the input source for recording on channel 1.
CH2 Input Select	INPUT1 / **INPUT2** / Internal MIC / Shoe CH2	Switches the input source for recording on channel 2.
CH3 Input Select	Off / **INPUT1** / Internal MIC / Shoe CH1	Switches the input source for recording on channel 3.
CH4 Input Select	Off / INPUT1 / **INPUT2** / Internal MIC / Shoe CH2	Switches the input source for recording on channel 4.
INPUT1 MIC Reference	−80dB / −70dB / −60dB / **−50dB** / −40dB / −30dB	Sets the reference recording level for XLR microphone input from INPUT1.
INPUT2 MIC Reference	−80dB / −70dB / −60dB / **−50dB** / −40dB / −30dB	Sets the reference recording level for XLR microphone input from INPUT2.
Line Input Reference	**+4dB** / 0dB / −3dB / EBUL	Selects the reference input level when the INPUT1/INPUT2 switch is set to LINE.
Reference Level	**−20dB** / −18dB / −16dB / −12dB / EBUL	Selects the recording level of the 1 kHz reference tone signal.
CH1 Wind Filter	On / **Off**	Enables/disables the wind reduction filter for channel 1 recording.
CH2 Wind Filter	On / **Off**	Enables/disables the wind reduction filter for channel 2 recording.
CH3 Wind Filter	On / **Off**	Enables/disables the wind reduction filter for channel 3 recording.
CH4 Wind Filter	On / **Off**	Enables/disables the wind reduction filter for channel 4 recording.
CH3 Level Control	**Auto** / Manual	Selects automatic audio input level adjustment or manual adjustment for recording channel 3. [Note] If both CH3 Input Select and CH4 Input Select are set to Internal MIC, CH4 is switched to automatic/manual in conjunction with this setting.

Audio >Audio Input
Sets audio input settings.

Menu item	Sub-item setting	Description
CH4 Level Control	**Auto** / Manual	Selects automatic audio input level adjustment or manual adjustment for recording channel 4. [Note] If both CH3 Input Select and CH4 Input Select are set to Internal MIC, CH4 is switched to automatic/manual in conjunction with the CH3 Level Control setting.
CH3 Input Level	0 to 99 (**49**)	Sets the input level for recording channel 3.
CH4 Input Level	0 to 99 (**49**)	Sets the input level for recording channel 4.
Audio Input Level	0 to **99**	Sets the audio input level. Can be used as the master volume, according to the settings of CH1 Level to CH4 Level.
Limiter Mode	**Off** / −6dB / −9dB / −12dB / −15dB / −17dB	Selects the limiter characteristic for large input signals when adjusting the audio input level manually.
CH1&2 AGC Mode	**Mono** / Stereo	Sets the auto level adjustment mode for recording channel 1 and channel 2. When set to Stereo, the AGC is linked between channels.
CH3&4 AGC Mode	**Mono** / Stereo	Sets the auto level adjustment mode for recording channel 3 and channel 4. When set to Stereo, the AGC is linked between channels.
AGC Spec	**−6dB** / −9dB / −12dB / −15dB / −17dB	Selects the AGC characteristic.
1kHz Tone on Color Bars	On / **Off**	Turns the 1 kHz reference tone signal on/off when displaying color bars. [Note] When set to On, the 1 kHz reference tone signal is set for recording on channel 3 and channel 4, even if CH3 Input Select and CH4 Input Select are set to Off.

Audio >Audio Input
Sets audio input settings.

Menu item	Sub-item setting	Description
CH1 Level	Input without XLR adaptor 　Audio Input Level / Side / **Level+Side** Input with XLR adaptor (page 98) 　**Audio Input Level** / Through	Sets the combination of audio input level adjustments enabled for recording channel 1. [Note] "Side" refers to the AUDIO LEVEL (CH1) dial on the side of the unit. When Level+Side is selected, the audio recording level is determined by the combination of the Audio Input Level and dial settings (page 129).
CH2 Level	Input without XLR adaptor 　Audio Input Level / Side / **Level+Side** Input with XLR adaptor (page 98) 　**Audio Input Level** / Through	Sets the combination of audio input level adjustments enabled for recording channel 2. [Note] "Side" refers to the AUDIO LEVEL (CH2) dial on the side of the unit. When Level+Side is selected, the audio recording level is determined by the combination of the Audio Input Level and dial settings (page 129).
CH3 Level	Input without XLR adaptor 　Audio Input Level / CH3 Input Level / 　**Level+CH3 Input Level** Input with XLR adaptor (page 98) 　**Audio Input Level** / Through	Sets the combination of audio input level adjustments enabled for recording channel 3.
CH4 Level	Input without XLR adaptor 　Audio Input Level / CH4 Input Level / 　**Level+CH4 Input Level** Input with XLR adaptor (page 98) 　**Audio Input Level** / Through	Sets the combination of audio input level adjustments enabled for recording channel 4.

Audio >Audio Output
Sets audio output settings.

Menu item	Sub-item setting	Description
Monitor CH	**CH1/CH2** / CH3/CH4 / MIX ALL / CH1 / CH2 / CH3 / CH4	Selects the audio channel output to the headphone jack and built-in speaker. [Note] If audio for multiple channels is set for simultaneous output, the output level for each channel is reduced for output to prevent clipping.
Volume	**0** to 50	Adjusts the monitor audio level output to the headphone jack and built-in speaker.
Headphone Out	**Mono** / Stereo	Selects whether the headphone jack output is monaural (Mono) or stereo (Stereo).
Alarm Level	0 to 7 (**4**)	Adjusts the volume of the alarm.
HDMI Output CH	**CH1/CH2** / CH3/CH4	Sets the combination of audio channels on the HDMI output.
SDI Output CH (X-OCN)	**CH1/CH2** / CH3/CH4	Sets the combination of audio channels on the SDI output when the recording format is set to X-OCN.

Clip Operations Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Clip Operations

Menu item	Sub-item setting	Description
Display Clip Properties		Displays the clip properties screen.

Clip Operations >Set Clip Flag
Sets clip flag settings.

Menu item	Sub-item setting	Description
Add OK		Adds an OK flag.
Add NG		Adds an NG flag.
Add KEEP		Adds a Keep flag.
Delete Clip Flag		Deletes all flags.

Clip Operations >Lock/Unlock Clip
Sets clip protection settings.

Menu item	Sub-item setting	Description
Select Clip		Selects and locks/unlocks a clip.
Lock All Clips		Locks all clips.
Unlock All Clips		Unlocks all clips.

Clip Operations >Transfer Clip
Transfers clips.

[Note]
Transfer Clip cannot be configured when a password is not configured using Network Setup in the Network menu.

Menu item	Sub-item setting	Description
Select Clip		Transfers selected clips.
All Clips		Transfers all clips.
		[Note] Up to 200 clips can be transferred.

Clip Operations >Transfer Clip (Proxy)
Transfers proxy clips.

[Note]
Transfer Clip (Proxy) cannot be configured when a password is not configured using Network Setup in the Network menu.

Menu item	Sub-item setting	Description
Select Clip		Transfers proxy clips corresponding to the selected clips.
All Clips		Transfers proxy clips corresponding to all the clips.
		[Note] Up to 200 clips can be transferred.

Clip Operations >Filter Clips
Sets settings of clips to display.

Menu item	Sub-item setting	Description
OK		Display only clips that have an OK flag.
NG		Display only clips that have an NG flag.
KEEP		Display only clips that have a Keep flag.
None		Display only clips that have no flag.
All		Displays all clips, regardless of whether there are any flags.

Clip Operations >Customize View
Switches the clips screen view.

Menu item	Sub-item setting	Description
Clips Caption	**Clip Name** / Date Time / Time Code / Duration / Sequential Number	Switches the information displayed below the clip image.

Technical Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Technical >Color Bars
　　Sets color bar settings.

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns the color bars on/off.
Type	**ARIB** / 100% / 75% / SMPTE	Selects the color bar type.

Technical >ND Dial
　　Sets settings related to ND VARIABLE dial operations.

Menu item	Sub-item setting	Description
CLEAR with Dial	**On** / Off	Sets whether to enable ND status switching (CLEAR ⟷ On) by ND VARIABLE dial operation.

Technical >Rec/Tally
　　Sets recording/tally lamp settings.

Menu item	Sub-item setting	Description
Rec/Tally Lamp	**On** / Off	Turns the recording/tally lamp on/off.
Rec Start/ Stop Beep	**0** to 50	Adjusts the volume of the beep sound emitted when recording starts and stops.

Technical >LOCK Switch Settings
　　Sets lock switch settings.

Menu item	Sub-item setting	Description
with Rec Button	**On** / Off	Sets whether to also lock operation of the REC (recording start/stop) button.
with Hand Grip Remote	**On** / Off	Sets whether to lock operation of the grip remote control.
with LCD Monitor	**On** / Off	Sets whether to lock operation of the LCD monitor buttons.

Technical >Touch Operation
　　Sets settings related to touch operations.

Menu item	Sub-item setting	Description
Setting	**On** / Off	Turns touch operation on/off.

Technical >Rec Review
　　Sets recording review settings.

Menu item	Sub-item setting	Description
Setting	3 s / 10 s / **Clip**	Selects the time for playback of clips just recorded for recording review.

Technical >Zoom
　　Sets the zoom settings.

Menu item	Sub-item setting	Description
Zoom Type	**Optical Zoom Only** / On(Clear Image Zoom)	Sets the type of zoom. Optical Zoom Only: 　Optical zoom is adjusted by 　operation of the lens. On(Clear Image Zoom): 　Electronic zoom with little or no 　deterioration in image quality.

Technical >Handle Zoom
　　Sets handle zoom settings for a handle (option) equipped with an MI shoe.

Menu item	Sub-item setting	Description
Setting	Off / Low / High / **Variable**	Sets the speed of the handle zoom.
High	1 to 8 (**8**)	Sets the zoom speed of the handle zoom lever when High handle zoom speed is selected.
Low	1 to 8 (**3**)	Sets the zoom speed of the handle zoom lever when Low handle zoom speed is selected. [Note] Uneven zooming may occur when the zoom speed is set to a low value.

Technical >Menu Settings
　　Sets settings related to the menu.

Menu item	Sub-item setting	Description
User Menu Only	On / **Off**	Sets whether to display the User menu only (On) or display the menu list (Off) when the menu is displayed.
User Menu with Lock	On / **Off**	Sets whether to lock the menu display, showing the User menu only. [Note] In normal menu display operation, this item is not displayed. For details about menu display operation, see page 33.

Technical >Menu Page On/Off
Sets settings related to the status screen display.

Menu item	Sub-item setting	Description
Project	**On** / Off	Turns the Project status screen display on/off.
Audio	**On** / Off	Turns the Audio status screen display on/off.
Monitoring	**On** / Off	Turns the Monitoring status screen display on/off.
Assignable Button	**On** / Off	Turns the Assignable Button status screen display on/off.
Battery	**On** / Off	Turns the Battery status screen display on/off.
Media	**On** / Off	Turns the Media status screen display on/off.
Network	**On** / Off	Turns the Network status screen display on/off.
File Transfer	**On** / Off	Turns the File Transfer status screen display on/off.

Technical >Fan Control
Sets fan control mode settings.

Menu item	Sub-item setting	Description
Setting	**Auto** / Minimum / Off in Rec	Sets the control mode of the fan in the unit. [Note] Even when Off in Rec is selected, the fan will operate if the internal temperature of the unit rises above a certain value.

Technical >Lens
Sets settings related to lenses.

Menu item	Sub-item setting	Description
PL-Mt Interface Position	**Top** / Side / Off	Sets the interface position of the PL-mount lens.
Zoom Ring Direction	**Left(W)/Right(T)** / Right(W)/Left(T)	Sets the direction of zoom ring operation. [Note] Enabled only when using an E-mount lens that supports zoom ring direction switching.

Technical >Lens
Sets settings related to lenses.

Menu item	Sub-item setting	Description
Shading Compensation	**Auto** / Auto(Low) / Off	Sets automatic compensation for peripheral lighting when a compatible lens is attached. [Notes] • Depending on the lens, the peripheral lighting may not be compensated even when Shading Compensation is enabled. • Depending on the lens, there may be no difference in compensation achieved between Auto and Auto(Low).
Chroma Aberration Comp.	**Auto** / Off	Sets automatic compensation for chromatic aberration when a compatible lens is attached.
Distortion Comp.	**Auto** / Off	Sets the automatic distortion compensation. [Note] When Image Stabilization >SteadyShot (page 42) is set to Active in the Shooting menu, Distortion Comp. is set to Auto.
Breathing Compensation	Auto / **Off**	Sets the lens breathing compensation.
Distance Display	**Meter** / Feet	Sets the display units for lens information and focus position.
Zoom Position Display	**Focal Length** / Number / Bar	Sets the display format for the zoom position.

Technical >Video Light Set
Sets the video light lighting method. Available only when using the HVL-LBPC (option).

Menu item	Sub-item setting	Description
Video Light Set	**Power Link** / Rec Link / Rec Link + Stby	Sets the lighting control method for the video light attached to the multi-interface shoe. Power Link: Turns the video light on/off when the unit is turned on/off. Rec Link: Turns the video light on/off when the unit starts/stops recording. Rec Link + Stby: Turns the video light on/standby when the unit starts/stops recording.

Technical >APR
    Executes APR.

Menu item	Sub-item setting	Description
APR	Execute / Cancel	Runs APR (Automatic Pixel Restoration) for image sensor auto adjustment. Execute: Execute function. [Note] Always attach the lens cap before running APR.

Technical >Camera Battery Alarm
    Sets battery low-voltage alarm settings.

Menu item	Sub-item setting	Description
Near End:Info Battery	**5%** to 100% (5% increments)	Sets the threshold value at which the remaining battery capacity indicator starts flashing when using a Sony Info battery.
End:Info Battery	**0%** to 5%	Sets the threshold value for displaying the "Battery End" warning when using a Sony Info battery.
Near End:Sony Battery	**11.5V** to 17.0V (0.1V increments)	Sets the threshold value at which the remaining battery capacity indicator starts flashing when using a Sony non-Info battery.
End:Sony Battery	**11.0V** to 12.5V (0.1V increments)	Sets the threshold value for displaying the "Battery End" warning when using a Sony non-Info battery.
Near End:Other Battery	11.5V to 17.0V (**11.8V**) (0.1V increments)	Sets the threshold value at which the remaining battery capacity indicator starts flashing when using a non-Sony battery.
End:Other Battery	**11.0V** to 14.0V (0.1V increments)	Sets the threshold value for displaying the "Battery End" warning when using a non-Sony battery.
Detected Battery	Sony Info Battery / Sony Battery / Other Battery / DC IN	Displays the result of automatic battery pack type detection.

Technical >Camera DC IN Alarm
    Sets input voltage alarm settings.

Menu item	Sub-item setting	Description
DC Low Voltage1	**11.5V** to 17.0V (0.1V increments)	Sets the voltage to display a DC IN low input voltage alarm.

Technical >Camera DC IN Alarm
    Sets input voltage alarm settings.

Menu item	Sub-item setting	Description
DC Low Voltage2	**11.0V** to 14.0V (0.1V increments)	Sets the voltage to display a DC IN insufficient input voltage alarm.

Network Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Network >Network Setup
Makes settings related to the network.

Menu item	Sub-item setting	Description
Setup for Mobile App		Starts the network setup assist tool.
User Name		Sets the user name for access authentication.
Input Password		Sets the password for access authentication. [Note] 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.
Generate Password	Execute / Cancel	Automatically generates a password for access authentication. Execute: Execute function.
Show Authentication		Displays the user name password for access authentication as text and QR code.
LAN Type Select	WLAN (AP Mode) / WLAN (ST Mode) / Wired LAN / Off	Sets the LAN connection method.

Network >Wireless LAN
Sets settings related to wireless LAN connections.

Menu item	Sub-item setting	Description
WPS	Execute / Cancel	Establishes a connection using WPS (Wi-Fi Protected Setup). Execute: Execute function.
MAC Address		Displays the MAC address of the wireless LAN interface of the unit.

Network >AP Mode Settings
Sets settings related to access point mode connections.

Menu item	Sub-item setting	Description
Channel	Auto(5GHz) / **Auto** / CH1 / CH2 / CH3 / CH4 / CH5 / CH6 / CH7 / CH8 / CH9 / CH10 / CH11	Sets the wireless LAN channel. Auto(5GHz) is available on the WW279317 model only.
Camera SSID & Password		Displays the SSID and password of the unit.

Network >AP Mode Settings
Sets settings related to access point mode connections.

Menu item	Sub-item setting	Description
Regenerate Password	Execute / Cancel	Creates a new password. Execute: Execute function.
IP Address		Displays the IP address of the unit in access point mode.
Subnet Mask		Displays the subnet mask of the unit in access point mode.

Network >ST Mode Settings
Sets settings related to station mode connections.

Menu item	Sub-item setting	Description
Camera Remote Control	Enable / **Disable**	Sets whether to enable remote control from a control device connected to the unit by wireless LAN in station mode.
Connected Network		Displays the connected wireless LAN network (access point).
	SSID	Displays the SSID for the access point to connect.
	Security	Displays the type of security for the access point to connect.
	Password	Displays the password for the access point to connect. When Security is set to WEP or WPA: ******* When Security is set to None: (blank)
	DHCP	Displays whether DHCP is on/off.
	IP Address	Displays the IP address of the unit when DHCP is set to Off.
	Subnet Mask	Displays the subnet mask of the unit when DHCP is set to Off.
	Gateway	Displays the default gateway of the unit when DHCP is set to Off.
	DNS Auto	Displays whether DNS acquisition is on/off.
	Primary DNS Server	Displays the primary DNS server of the unit when DNS Auto is set to Off.
	Secondary DNS Server	Displays the secondary DNS server of the unit when DNS Auto is set to Off.

Network >ST Mode Settings Sets settings related to station mode connections.		
Menu item	Sub-item setting	Description
Scan Networks		Detects wireless LAN networks (access points) and displays a list. Select a destination from the list to connect.
	SSID	Displays the SSID for the access point to connect.
	Security	Displays the type of security for the access point to connect.
	Password	Enter the password for the access point to connect.
	DHCP On / Off	Turns DHCP on/off.
	IP Address	Enter the IP address of the unit when DHCP is set to Off.
	Subnet Mask	Enter the subnet mask of the unit when DHCP is set to Off.
	Gateway	Enter the default gateway of the unit when DHCP is set to Off.
	DNS Auto On / Off	Turns auto DNS acquisition on/off.
	Primary DNS Server	Enter the primary DNS server of the unit when DNS Auto is set to Off.
	Secondary DNS Server	Enter the secondary DNS server of the unit when DNS Auto is set to Off.

Network >ST Mode Settings Sets settings related to station mode connections.		
Menu item	Sub-item setting	Description
Manual Register		Registers settings for manual connection to an access point.
	SSID	Enter the SSID for the access point to connect.
	Security None / WEP / WPA	Set the type of security for the access point to connect. Select WPA if the type of security of the destination access point is WPA or WPA2.
	Password	Enter the password for the access point to connect.
	DHCP On / Off	Turns DHCP on/off.
	IP Address	Enter the IP address of the unit when DHCP is set to Off.
	Subnet Mask	Enter the subnet mask of the unit when DHCP is set to Off.
	Gateway	Enter the default gateway of the unit when DHCP is set to Off.
	DNS Auto On / Off	Turns auto DNS acquisition on/off.
	Primary DNS Server	Enter the primary DNS server when DNS Auto is set to Off.
	Secondary DNS Server	Enter the secondary DNS server when DNS Auto is set to Off.

Network >Wired LAN
Sets settings related to wired LAN connections.

Menu item	Sub-item setting	Description
Camera Remote Control	Enable / **Disable**	Sets whether to enable remote control from a control device connected to the unit by wired LAN.
Detail Settings		Configures properties of the wired LAN connection.
	DHCP **On** / Off	Turns DHCP on/off.
	IP Address	Enter the IP address of the unit when DHCP is set to Off.
	Subnet Mask	Enter the subnet mask of the unit when DHCP is set to Off.
	Gateway	Enter the default gateway of the unit when DHCP is set to Off.
	DNS Auto **On** / Off	Turns auto DNS acquisition on/off.
	Primary DNS Server	Enter the primary DNS server when DNS Auto is set to Off.
	Secondary DNS Server	Enter the secondary DNS server when DNS Auto is set to Off.
MAC Address		Displays the MAC address of the wired LAN interface of the unit.

Network >USB Tethering
Sets settings related to USB tethering.

Menu item	Sub-item setting	Description
Setting	On / **Off**	Turns the smartphone connection on/off.
Camera Remote Control	Enable / **Disable**	Sets the permission for remote control via USB tethering using a smartphone application, such as Monitor & Control or Creators' App for enterprise.
Device Name		Displays the device name of the smartphone.
IP Address		Displays the IP address of the smartphone.
Subnet Mask		Displays the subnet mask of the smartphone.

Network >File Transfer
Sets settings related to file transfers.

Menu item	Sub-item setting	Description
Auto Upload	On / **Off**	Turns original clip auto upload on/off. [Note] When Simul Rec >Setting (page 44) in the Project menu is set to On, the clips recorded on the media in slot B are not automatically uploaded.
Auto Upload (Proxy)	On / **Off**	On: Enables proxy clip auto upload. Off: Disables proxy clip auto upload.
Default Upload Server		Selects the upload server for files. The server selected here becomes the auto upload destination for original clips and proxy clips, and the upload destination for files from the clips screen. Displays the display name configured in Server Settings1 to 3.
Clear Completed Jobs	Execute / Cancel	Clears completed transfer jobs from the list. Execute: Execute function.
Clear All Jobs	Execute / Cancel	Clears all transfer jobs from the list. Execute: Execute function.
View Job List		Displays the transfer job list.

Network >File Transfer
    Sets settings related to file transfers.

Menu item	Sub-item setting	Description
Server Settings1	Display Name	Sets the display name shown in the transfer destination setup menu.
	Service **FTP**	Displays the type of server.
	Host Name	Sets the host name of the transfer destination server.
	Port (1 to 65535 (**21**))	Sets the port number of the transfer destination server.
	User Name	Sets the user name for authentication of the transfer destination server connection.
	Password	Sets the authentication password of the transfer destination server connection.
	Passive Mode On / **Off (Active Mode)**	Turns PASV mode on/off.
	Destination Directory	Enter the name of the transfer destination directory.
	Using Secure Protocol On / **Off**	Sets whether to use (On) or not use (Off) secure FTP transfer (FTPS Explicit Mode: FTPES).
	Root Certificate Load / Clear / **None**	Loads a root certificate for secure FTP transfer and clears settings.
	Root Certificate Status Loaded / **No Certificate**	Displays the root certificate loading status for secure FTP transfer.
	Reset Execute / Cancel	Resets the settings of Server Settings to the defaults. Execute: Execute function.
Server Settings2	Same as Server Settings1.	
Server Settings3	Same as Server Settings1.	

Network >Network Reset
    Resets the network settings.

Menu item	Sub-item setting	Description
Reset	Execute / Cancel	Resets the network settings. Execute: Execute function.

Maintenance Menu

This section describes the function and settings of each menu item.
Factory default settings are shown in bold (for example, **18dB**).

Maintenance >Language
Sets the display language.

Menu item	Sub-item setting	Description
Select		Sets the display language. SET: Set language.

Maintenance >Clock Set
Sets internal clock settings.

Menu item	Sub-item setting	Description
Time Zone	UTC − 12:00 to UTC + 14:00	Sets the time difference from UTC in 30-minute units.
Date Mode	**YYMMDD** / MMDDYY / DDMMYY	Selects the display format for dates. YYMMDD: Year, month, day MMDDYY: Month, day, year DDMMYY: Day, month, year
12h/24h	12h / **24h**	Selects the clock display format. 12h: 12-hour mode 24h: 24-hour mode
Date		Sets the current date. SET: Set the value.
Time		Sets the current time. SET: Set the value.

Maintenance >All Reset
Resets settings to factory defaults.

Menu item	Sub-item setting	Description
Reset	Execute / Cancel	Resets all settings to their factory defaults. Execute: Execute function. [Note] A 3D LUT file imported using Base Look >Import from Utility SD, Import from Cloud(Private), or Import from Cloud(Share) (page 49) in the Paint/Look menu cannot be deleted. To delete all imported 3D LUT files, select Base Look >Delete All (page 49) in the Paint/Look menu.

Maintenance >All Reset
Resets settings to factory defaults.

Menu item	Sub-item setting	Description
Reset without Network	Execute / Cancel	Resets the menu settings, excluding Network menu settings, to the factory default state.

Maintenance >Hours Meter
Displays the accumulated running time.

Menu item	Sub-item setting	Description
Hours(System)		Displays the accumulated hours of use (cannot be reset).
Hours(Reset)		Displays the accumulated hours of use (can be reset).
Reset	Execute / Cancel	Resets the Hours(Reset) display to 0. Execute: Execute function.

Maintenance >Version
Displays version information.

Menu item	Sub-item setting	Description
Version Number	Vx.xx	Displays the software version of the unit.
Version Up	Execute / Cancel	Updates the unit.[*] Execute: Execute function. * This function updates the software of the unit.
Lens Version Number	Vxx	Displays the software version number of an E-mount lens.

Image Quality Settings Saved for Each Shooting Mode

The current status of some configuration items related to image quality are saved in the following shooting modes. Common items are saved in all shooting modes. For items saved separately, when you change the shooting mode, the corresponding settings that are saved are applied for the target shooting mode.
- Cine EI mode
- Custom mode SDR(BT.709)
- Custom mode HDR(HLG)

The configuration items related to image quality which are saved for each shooting mode are shown below.
✔: Saved (common settings when straddling between shooting modes)
–: Disabled in corresponding shooting mode

Configuration item			Shooting mode		
			Cine EI mode	Custom mode	
				SDR(BT.709)	HDR(HLG)
Shooting menu	ISO/Gain/EI	ISO/Gain	–	✔[1]	
		Exposure Index	✔	–	
		Base Sensitivity	–	✔	
		Base ISO	✔	–	
	White		✔		
	White Setting		✔		
	LUT On/Off		✔	–	
	Noise Suppression	Setting(Custom)	–	✔	✔
		Level(Custom)	–	✔	✔
		Setting(Cine EI)	✔	–	
		Level(Cine EI)	✔	–	
Paint/Look menu	Base Look	Select	✔	✔	✔
		Input[2]		✔	
		Output[2]		✔	
		AE Level Offset[2]		✔	
	Black		–	✔	✔
	Knee	Auto Knee	–	✔	✔
		Other than above	–	✔	✔
	Detail		–	✔	✔
	Matrix		–	✔	✔
	Multi Matrix		–	✔	✔

1) Separate ISO sensitivity settings are saved for both Custom mode SDR(BT.709) and HDR(HLG).
2) Settings are saved for each Base Look, and do not depend on the shooting mode.

Saving and Loading Configuration Data

Configuration Data

You can save the full menu settings to an SD card. You can also save an ALL file to a cloud service. This allows you to quickly recall an appropriate set of menu settings for the current situation.
Configuration data is saved in the following categories.

User files

User files save the setting items and data of the customizable User menu.
You can save up to 64 files on an SD card. By loading this file into the memory of the unit, you can customize the setup of the User menu.

All files (ALL file)

ALL files save the configuration data of all menus. You can save up to 64 files on an SD card. Up to 120 files can be saved to C3 Portal (cloud service), comprising up to 60 private files and 60 share files.

[Note]
For details about the content saved in an ALL file, see "Items Saved in Files" (page 121).

Saving a User File / ALL File

Saving to an SD card

1 Insert an SD card into the Utility SD card slot (page 4).

2 For a user file, select User File >Save to UTILITY SD (page 48) >Execute in the Project menu of the full menu.
For an ALL file, select All File >Save to UTILITY SD (page 48) >Execute in the Project menu of the full menu.
A file save destination screen appears.

3 Select a "No File" row on the save destination screen.
Selecting a row with a File ID entry will overwrite the selected file.
The File ID assigned when saving can be changed using the menu. For details about configuration, see "Changing the File ID" (page 67).

4 Select Execute on the confirmation screen.

Saving an ALL file to a cloud service

1 Connect to the unit from the "Creators' App for enterprise" smartphone application (page 79).

2 Select All File >Save to Cloud(Private) or Save to Cloud(Share) (page 48) >Execute in the Project menu of the full menu.
A file save destination screen appears.

3 Select a "No File" row on the save destination screen.
Selecting a row with a File ID entry will overwrite the selected file.
The File ID assigned when saving can be changed using the menu. For details about configuration, see "Changing the File ID" (page 67).

4 Select Execute on the confirmation screen.

Loading a User File / ALL File

Loading from an SD card

1 Insert the SD card on which a file is saved into the Utility SD card slot (page 4).

2 For a user file, select User File >Load from UTILITY SD (page 48) >Execute in the Project menu of the full menu.
For an ALL file, select All File >Load from UTILITY SD (page 48) >Execute in the Project menu of the full menu.
A file list screen appears.

3 Select a file to load.
A confirmation screen appears.

4 Select Execute.

[Notes]
• The unit will reboot automatically after loading configuration data.
• When All File >Load Network Data in the Project menu of the full menu is set to Off, all settings in the ALL file are loaded except Network menu settings.

Loading an ALL file from a cloud service

1 Connect to the unit from the "Creators' App for enterprise" smartphone application (page 79).

2 Select All File >Load from Cloud(Private) or Load from Cloud(Share) (page 48) >Execute in the Project menu of the full menu.
A file list screen appears.

3 Select a file to load.
A confirmation screen appears.

4 Select Execute.

[Notes]
• The unit will reboot automatically after loading configuration data.
• When All File >Load Network Data in the Project menu of the full menu is set to Off, all settings in the ALL file are loaded except Network menu settings.

Changing the File ID

1 For a user file, select User File >File ID (page 48) in the Project menu of the full menu.
For an ALL file, select All File >File ID (page 48) in the Project menu of the full menu.
A screen for editing the File ID appears.

2 Select a character using the multi selector (page 8) or the multi-function dial (page 4), then press the multi selector apply button or multi-function dial.

3 Repeat step 2 as required.

4 When finished entering characters, select Done.

Clip Operations

When you press the CLIPS button (page 4), clips recorded on the memory card are displayed on the clips screen.
You can select a clip on the clips screen and play that clip. On the clips screen, you can operate the clips or check clip properties using the Clip Operations menu of the full menu. In information display mode, you can control playback on the LCD monitor (playback control screen).
Pressing the CLIPS button again closes the clips screen and returns to the camera image.

[Notes]
- Only the clips recorded in the currently selected recording format are displayed on the clips screen. If an expected recorded clip is not displayed, check the recording format. Take special note of this fact before formatting (initializing) media.
- Note that the menu page will be displayed on an external monitor if you open a password-related setting in the full menu while the clips screen is open.

Clips Screen

Information for the clip at the cursor position is displayed at the bottom of the screen.

Currently selected memory card indicator (A lock icon is displayed if the card is protected.)

Clip number/Total number of clips

Cursor (yellow)
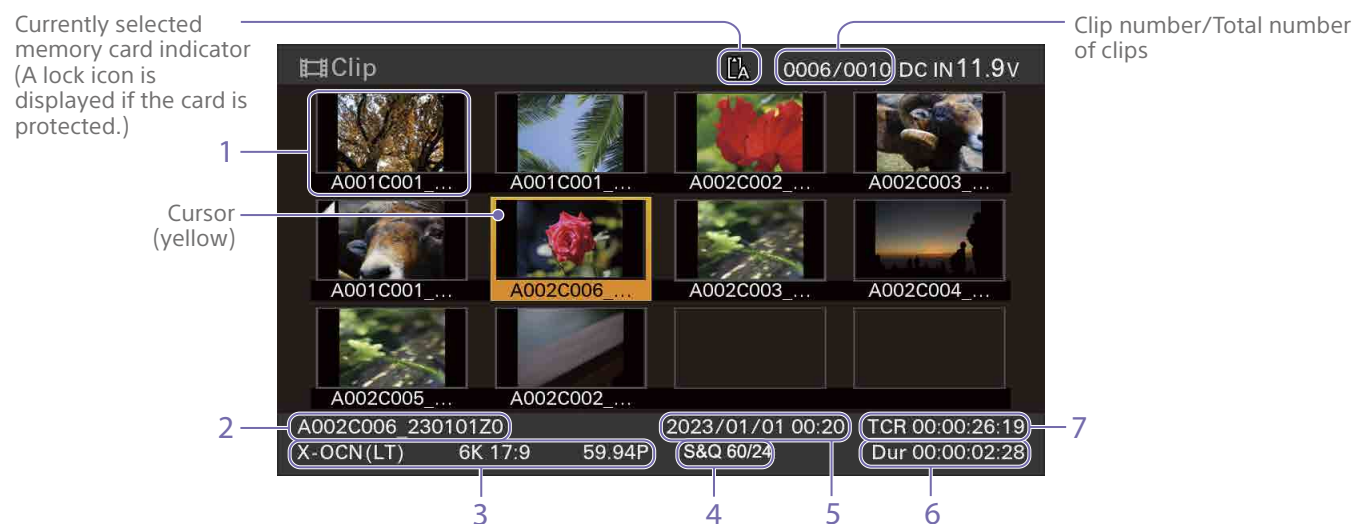
1. **Thumbnail (index picture)**
Displays the index image of a clip. When a clip is recorded, its first frame is automatically set as the index picture.
Clip/frame information is displayed below the thumbnail. You can change the information displayed using Customize View (page 57) >Clips Caption in the Clip Operations menu of the full menu. It also displays the clips status using icons.

Icon	Meaning
🔖 (Non-playable)	Clip cannot be played

[Note]
In X-OCN(LT) format, the character string "X-OCN" is displayed instead of the thumbnail index image.

2. **Clip name**
Displays the name of the selected clip.

3. **Recording video format**
Displays the file format of the selected clip.

4. **Special recording information**
Displays the recording mode only if the clip was recorded using a special recording mode. For Slow & Quick Motion clips, the frame rate is displayed on the right.

5. **Creation date**

6. **Clip duration**

7. **Timecode**

Playback Control Screen

When the LCD monitor is in information display mode, you can select a clip on the clips screen to display the playback control screen. The function display area supports touch operation.

Function display area

ITEM button 1   ITEM button 2   ITEM button 3

ITEM button 4   ITEM button 5   ITEM button 6

[Note]
The areas labeled 1 to 6 correspond to ITEM buttons 1 to 6. Press an ITEM button to select the corresponding item.

1. F Rev button
Play back at high speed in the reverse direction.
Press the button repeatedly to switch between three speeds.

2. Play/Pause button
Play a clip or pause playback.

3. F Fwd button
Play back at high speed in the forward direction.
Press the button repeatedly to switch between three speeds.

4. Prev button
Skip to the start of the previous clip.

5. Stop/Clips button
Stop playback and return to the clips screen.

6. Next button
Skip to the start of the next clip.

Status display area
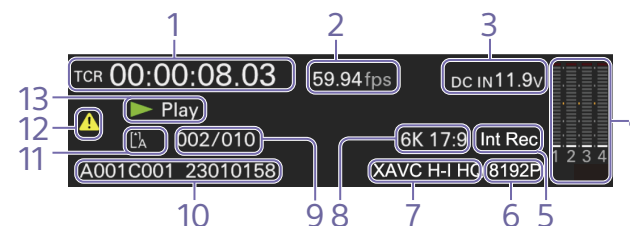
1. Time data display
Displays the timecode of the playback position.

2. Frame rate indicator
Displays the frame rate of the playback clip.

3. Power supply voltage/Remaining battery capacity indicator
Displays the power supply voltage or remaining battery capacity.

4.   Audio level meters
Displays the playback audio level.

5. Special recording mode indicator
Displays the special recording mode information of the playback clip.

6. Image resolution indicator
Displays the image resolution.

7. Codec name display
Displays the name of the codec.

8. Picture size indicator
Displays the picture size.

9. Clip number/Total number of clips indicator
Displays the Current playback clip number/ Total number of playable clips.

10. Clip name display
Displays the name of the clip.

11. Media indicator
Displays the media being played.
A 🔒 (protect) icon appears on the right if the memory card is write-protected.

12. Warning/error icon
Displayed when a warning or error occurs. You can check the content of warnings and errors by displaying the menu. If the screen display is superimposed on an external monitor, you can also check it on the external monitor.

13. Playback status indicator
Displays the playback operating status.

Clip Operations Menu Operation

The Clip Operations menu (page 57) appears when you press and hold the MENU button and select Clip Operations.
Use the multi selector (page 4) or the multi-function dial (page 4) to select a function, then press the multi selector apply button or multi-function dial.
Press the BACK button (page 4) to return to the previous screen.

[Note]
Some items cannot be selected, depending on the state when the menu was displayed.

Displaying clip properties

Select Display Clip Properties (page 57) in the Clip Operations menu to display the clip properties screen.
Press the multi selector left/right button to jump to the previous/next clip.

Adding clip flags

You can add clip flags (OK, NG or KP marks) to clips to filter the display of clips based on the clip flags.
Select the clip to which you want to add a clip flag, then select the clip flag using Set Clip Flag (page 57) in the Clip Operations menu of the full menu.

Setting	Added clip flag
Add OK	OK
Add NG	NG
Add KEEP	KP

Displaying the filtered clips screen

Select Filter Clips (page 57) in the Clip Operations menu of the full menu, and select a clip flag type to display only those clips that have the specified flag.
To display all clips, select All.

[Tip]
You can also switch filters in sequence using the DISPLAY button.

Changing the information on the clips screen

You can change the clip/frame information displayed below the thumbnail.
Select Customize View >Clips Caption in the Clip Operations menu of the full menu, and select the information to display.
Clip Name:
　　Displays the name of the clip.
Date Time:
　　Displays the date and time the clip was created and last modified.
Time Code:
　　Displays the timecode.
Duration:
　　Displays the duration of the clip.
Sequential Number:
　　Displays a sequential number on each thumbnail.

Playback

You can play recorded clips when the unit is in recording standby (Stby) mode.

1   Insert the memory card to play.

2   Press the CLIPS button (page 4).
The clips screen for the active playback media is displayed on the LCD monitor.

3   Use the multi selector (page 4) or multi-function dial (page 4) to move the cursor to the clip you want to play.

4   Press the multi selector apply button or multi-function dial.
Playback begins from the start of the selected clip.

[Note]
The unit does not perform continuous playback.

Playback operations

You can control playback by pressing the following buttons.
Press the multi selector apply button or multi-function dial: Pauses playback. Press again to return to normal playback.
Press the multi selector left/right buttons: Jumps to start of clip or previous/next clip.
Press and hold the multi selector left/right buttons: Fast reverse/forward. Returns to normal playback when you release the button.
BACK button: Stops playback, and returns to recording standby mode. The shooting screen or Home screen appears.
To control using the playback control screen buttons
When the LCD monitor is in information display mode, you can control playback using the playback control screen buttons.
Play/Pause button: Pause playback. To resume playback, press this button again.
Prev/Next button: Jumps to start of clip or previous/next clip.

F Fwd button/F Rev button: Fast forward/reverse. To return to normal playback, press the Play/Pause button.
Stop/Clips button: Stop playback and return to the clips screen.

[Tip]
You can also operate items directly using touch operation.

Monitoring audio

In normal playback mode, you can monitor the recorded audio through the built-in speaker (page 4) or connected headphones.
When headphones are connected to the headphones connector (page 4), the built-in speaker is turned off.
You can select the channel to monitor and adjust the volume using Audio Output >Monitor CH and Volume (page 56) in the Audio menu of the full menu.

Cueing up

To play from the start of a clip, press the Prev button on the playback screen.
You can skip clips and cue-up another clip by pressing the Prev button or Next button repeatedly.

Switching between memory cards

When two memory cards are inserted, press the SLOT SELECT button (page 4) to switch cards on the clips screen.

[Note]
You cannot switch memory cards during playback. Continuous playback of cards in slots A and B is not possible.

Connecting to Other Devices via LAN

The unit can connect to smartphones, tablets, and other control devices via LAN connection using the LAN function of the unit.
Making a LAN connection between a device and the unit enables the following using the "Monitor & Control" application.

- Remote control
  You can control the unit from a smartphone or tablet that is connected to the unit via a LAN.
- File transfer
  You can transfer a proxy clip (low resolution) or original clip (high resolution) that is recorded on a memory card in the unit to a server via a LAN.
- Video monitoring
  You can monitor the camera image or playback video of the unit using the "Monitor & Control" application on a device.

[Notes]
- Monitoring of the video is not supported with the following settings.
  – Slow & Quick Motion mode
  – System frequency of 24
  – Interval Rec mode
  – When Codec is set to XAVC H-I or XAVC H-L
- Wireless LAN and wired LAN cannot be used at the same time on the unit.

"Monitor & Control" application

You can use this application to operate the unit remotely and configure settings of the unit while monitoring the video from the unit on the device screen.

For details about the "Monitor & Control" application, contact your Sony sales or service representative.

Setting the User Name and Password

Set the user name and password of the unit in order to use the network function.

1 Set Network Setup >User Name (page 61) in the Network menu of the full menu.

2 Set Network Setup >Input Password (page 61) in the Network menu of the full menu.

[Tips]
- You can also generate a password automatically. Execute Generate Password instead of Input Password.
- The user name and password can be viewed as text and QR code using Show Authentication.

[Note]
Take care that the QR code and password cannot be viewed by other people. Specifically, during X-OCN recording, note that the menu page will be displayed on an SDI monitor as well as on an HDMI monitor if you display the QR code or password in the full menu while the clips screen is open.

Connecting using Wireless LAN Access Point Mode

The unit functions as an access point, and connects to a control device via a wireless LAN.

Smartphone/Tablet
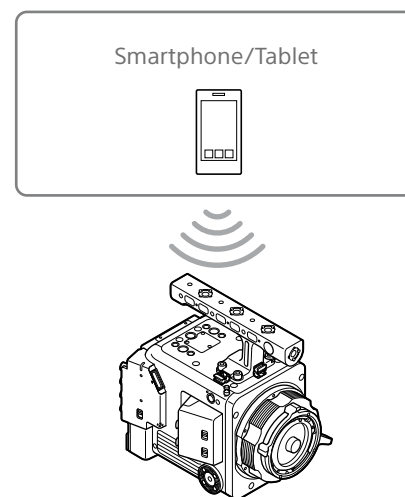
Connecting to a WPS-compatible device

Devices that support WPS can be connected using WPS.

1 Select Network Setup >LAN Type Select >WLAN (AP Mode) in the Network menu of the full menu.

2 Select Wireless LAN >WPS >Execute in the Network menu of the full menu.

3 Open the device Network Settings or Wi-Fi Settings, and turn Wi-Fi on.

4 Select the unit SSID from the SSID list in Wi-Fi Network on the device, then select WPS Push Button in Option on the device to connect.

[Notes]
- The operation method differs depending on the device.
- For the SSID and password of the unit, check AP Mode Settings >Camera SSID & Password (page 61) in the Network menu of the full menu.

5 Connect using the Monitor & Control application.

[Tip]
You can check the information required for connecting to the unit using Network Setup >Show Authentication (page 61) in the Network menu of the full menu.

Connecting by entering an SSID and password on a device

You can connect the unit to a device by entering the SSID and password of the unit on a device.

1 Select Network Setup >LAN Type Select >WLAN (AP Mode) in the Network menu of the full menu.

2 Open the device Network Settings or Wi-Fi Settings, and turn Wi-Fi on.

3 Connect the device to the unit by selecting the unit SSID from the SSID list in Wi-Fi Network and entering the password.
For the SSID and password of the unit, check AP Mode Settings >Camera SSID & Password (page 61) in the Network menu.

[Note]
The operation method differs depending on the device.

4 Connect using the Monitor & Control application.

[Tip]
You can check the information required for connecting to the unit using Network Setup >Show Authentication (page 61) in the Network menu of the full menu.

Connecting using Wireless LAN Station Mode

The unit connects to an existing access point of the wireless LAN as a client. The control device connects via the access point.
The 10 most recently connected access points are displayed in the history.
The connection history is saved in an ALL file, but the access passwords are not saved. Password entry is required the next time you connect after loading the ALL file.

Smartphone/ Tablet   Computer
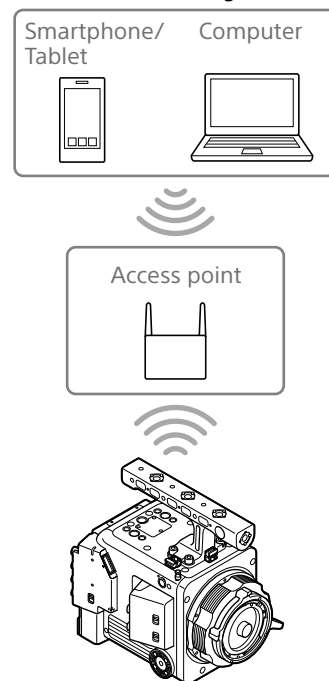
Access point

Connecting to an access point using WPS

If the access point is compatible with the WPS function, you can connect to the access point with simple settings.

1 Turn the access point on.

2 Turn the unit on.

3 Select Network Setup >LAN Type Select >WLAN (ST Mode) in the Network menu of the full menu.

4 Select ST Mode Settings >Camera Remote Control (page 61) >Enable in the Network menu of the full menu.

5 Select Wireless LAN >WPS >Execute in the Network menu of the full menu.

6 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 network status indicator icon will show a strength of 1 or higher on the LCD monitor.

[Note]
If the connection fails, perform steps from step 1 again.

7 Connect the device to the access point.
For details about connecting, refer to the operating instructions of the device.

8 Launch the Monitor & Control application on a device and select the unit.

[Tip]
You can check the information required for connecting to the unit using Network Setup >Show Authentication (page 61) in the Network menu of the full menu.

Connecting using the access point auto detection function

1 Perform steps 1 to 3 in "Connecting to an access point using WPS" (page 73).

2 Select ST Mode Settings >Scan Networks (page 62) >Execute in the Network menu of the full menu.
The unit starts detection of connection destinations.
Possible destinations that are found are displayed in a list.

3 Select a destination from the list.
The network (access point) details screen appears. The selected connection is displayed in SSID.

4 Select Password and enter the password for the access point to connect on the password input screen.
Selecting an SSID in the connection history automatically configures settings, including the password.
Set the password to return to the network (access point) details screen.

5 Configure the following connection settings.
• DHCP
  Set the DHCP setting.
  When you set to On, the IP address is assigned to the unit automatically.
  To assign the 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 automatically acquired. This setting is
  available only when DHCP is set to On.
- 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.

6 When finished, select Connect to connect
to the access point.

7 Connect the device to the access point.
For details about connecting, refer to the
operating instructions of the device.

8 Launch the Monitor & Control application
on a device and select the unit.

[Tip]
You can check the information required for
connecting to the unit using Network Setup >Show
Authentication (page 61) in the Network menu
of the full menu.

Connecting manually by entering access point information

1 Perform steps 1 to 3 in "Connecting to an
access point using WPS" (page 73).

2 Select ST Mode Settings >Manual Register
(page 62) >Execute in the Network
menu of the full menu.
Momentarily, the network (access point)
details screen appears.

3 Configure the following connection
settings.
- SSID
  Enter the SSID for the connection access
  point.
- Security
  Select the encryption method.
- Password
  Enter the password for the connection
  access point.
- DHCP
  Set the DHCP setting.
  When you set to On, the IP address is
  assigned to the unit automatically.
  To assign the 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 address of the gateway.
  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 automatically acquired. This setting is
available only when DHCP is set to On.
- Primary DNS Server
  Enter the address of the primary DNS
  server.
  This setting is available only when DNS
  Auto is set to Off.
- Secondary DNS Server
  Enter the address of the secondary DNS
  server.
  This setting is available only when DNS
  Auto is set to Off.

4 When finished, select Connect to connect
to the access point.

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

6 Launch the Monitor & Control application
on a device and select the unit.

[Tip]
You can check the information required for
connecting to the unit using Network Setup >Show
Authentication (page 61) in the Network menu
of the full menu.

Connecting to the Internet

You can connect the unit to the Internet using USB tethering, wired LAN, or wireless LAN. Set the user name and password of the unit beforehand (page 72).

Connecting using USB Tethering

You can connect the unit to a smartphone via a USB cable, and then connect to the Internet using the smartphone.

Configuring smartphone communication

Enable tethering communication on the smartphone.
For details, refer to the operation manual for the smartphone.

Attaching a smartphone to the unit

Connect a USB cable to the USB-C connector (page 5) of the unit, and then connect the smartphone.

[Notes]
• Attach/remove the smartphone while the unit is turned off.
• USB tethering cannot be used if the smartphone is connected via a USB hub.

Connecting to a network

1 Turn the unit on.

2 Set USB Tethering >Setting (page 63) in the Network menu of the full menu to On.

Enabling operation from a smartphone

You can control the unit remotely using the Monitor & Control application on a smartphone connected using a USB cable.

1 Set USB Tethering >Camera Remote Control (page 63) in the Network menu of the full menu to Enable.

2 Launch the Monitor & Control application on a smartphone and select the unit.

[Tip]
You can check the information required for connecting to the unit from the Monitor & Control application using Network Setup >Show Authentication (page 61) in the Network menu of the full menu.

Connecting using Wireless LAN Station Mode (Wi-Fi Station Mode)

You can connect the unit to the Internet in Wi-Fi station mode using an optional Wi-Fi router or by Wi-Fi tethering on a smartphone. Connect to the Wi-Fi router or device as described in "Connecting using Wireless LAN Station Mode" (page 73).
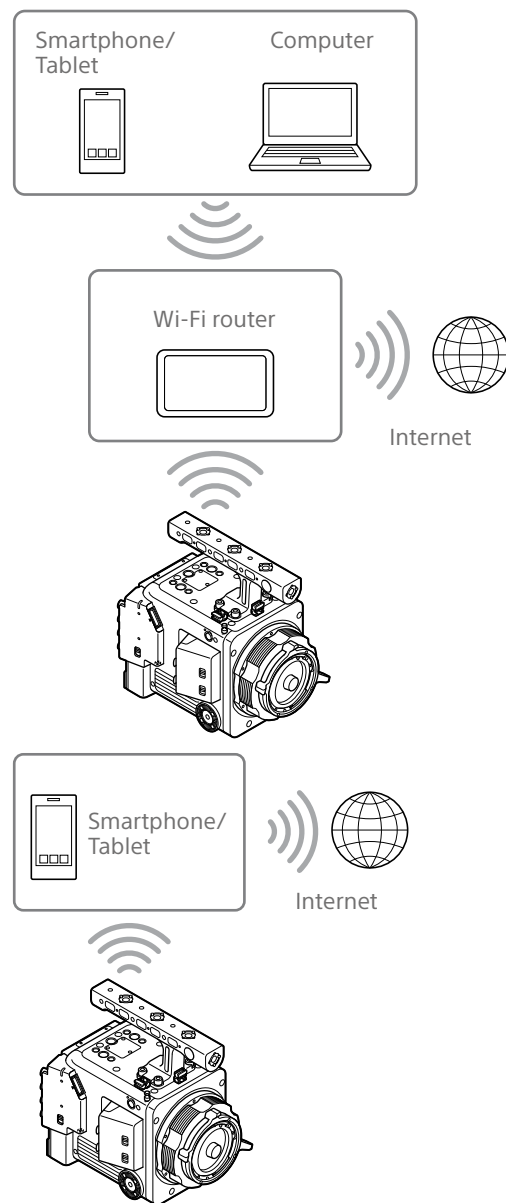
Connecting using a LAN Cable

You can connect to the Internet by connecting the network connector of the unit to a Wi-Fi router (option) using a LAN cable.
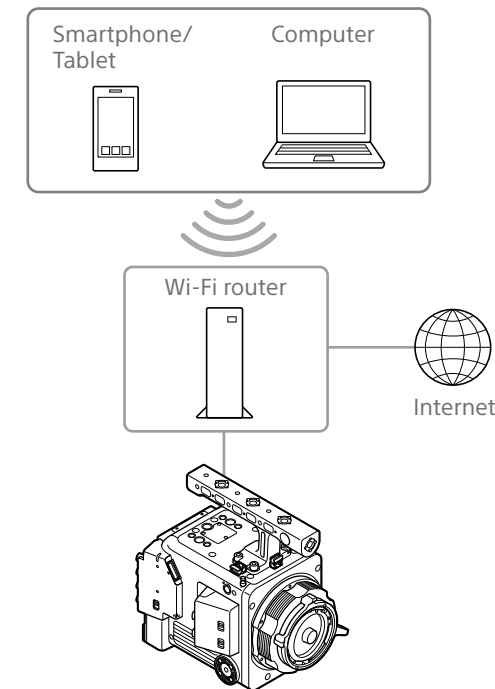
LAN cable connections and wired LAN settings

1 Connect the network connector of the unit and Wi-Fi router using a LAN cable.

2 Turn the unit on.

3 Set Network Setup >LAN Type Select to Wired LAN in the Network menu of the full menu.

4 Configure connection settings using Wired LAN >Detail Settings (page 63) in the Network menu.
   - DHCP
     Set the DHCP setting.
     When you set to On, the IP address is assigned to the unit automatically.
     To assign the 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 address of the gateway.
     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 automatically acquired. This setting is available only when DHCP is set to On.
   - Primary DNS Server
     Enter the address of the primary DNS server.
     This setting is available only when DNS Auto is set to Off.
   - Secondary DNS Server
     Enter the address of the secondary DNS server.
     This setting is available only when DNS Auto is set to Off.

5 When finished, select Set to apply the settings.

[Note]
Always select Set after changing the connection settings. The settings are not applied if Set is not selected.

Enabling operation from a smartphone via wired LAN

To operate the unit remotely using the Monitor & Control application on a smartphone via Wi-Fi using a Wi-Fi router connected by wired LAN, set Wired LAN >Camera Remote Control (page 63) in the Network menu of the full menu to Enable.

Uploading Files

You can upload a proxy clip or original clip that is recorded on the unit to a server on the Internet or a server on a local network via a smartphone or access point.

Preparations

Connecting to a network

Connect the unit to the Internet or local network as described in "Connecting to the Internet" (page 75) or "Connecting to Other Devices via LAN" (page 72).

Registering a file transfer destination

Register the server for uploading in advance.

1 Select File Transfer >Server Settings1 (or Server Settings2, Server Settings3) in the Network menu of the full menu.
The transfer destination setup screen appears.

2 Set each item on the transfer destination setup screen.
Display Name
Enter the name of the server to display in the transfer destination list.
Service
Displays the server type.
"FTP": FTP server
Host Name
Enter the address of the server.
Port
Enter the port number of the server to connect.
User Name
Enter the user name.
Password
Enter the password.

Passive Mode
Turn passive mode on/off.
Destination Directory
Enter the name of the directory on the destination server.

[Notes]
• Original clips are uploaded to the "Main" folder within the directory specified as the transfer destination.
• When editing, "□" indicates characters that cannot be changed. Correct operation is not guaranteed when editing a directory name that contains these characters.
If you need to edit, delete all the characters and re-enter a value.
• If characters that are invalid on the destination server are entered in Destination Directory, files will be transferred to the user's home directory. Invalid characters will vary depending on the server.
Using Secure Protocol
Set whether to perform secure FTP uploading.
Root Certificate
Load/clear a certificate.
• Load
Select Set in step 3 to import a CA certificate.
* The certificate to be loaded must be in PEM format, and should be written to the root directory of the SD card inserted in the Utility SD card slot with "certification.pem" file name.

[Tip]
The certificate validation verification method is OCSP. The certificate structure is given below.
-----BEGIN CERTIFICATE-----
(Your Root certificate)
-----END CERTIFICATE-----
• Clear
Select Set in step 3 to clear a CA certificate.
• None
Do not load or clear a certificate.

[Notes]
• Set the clock of the unit to the correct time before importing a CA certificate.
• When recording in XAVC-I 4096×2160P/3840×2160P, XAVC H-I HQ/SQ, or X-OCN, Load cannot be selected.

• In low voltage state, Load/Clear cannot be selected for a CA certificate.
Root Certificate Status
Displays the load status of the certificate.
Reset
Reset the settings of Server Settings to the defaults.

3 When finished, select Set to apply the settings.
Always select Set after changing the settings. The settings are not applied if Set is not selected.

Selecting and Uploading Clips

You can upload proxy clips and original clips on memory cards to a server.

Uploading a proxy clip on a memory card from the clips screen

1 Connect the unit and device using a LAN connection (page 72).

2 Select Transfer Clip (Proxy) >Select Clip in the Clip Operations menu of the full menu.
The display changes from the full menu to the clips screen.
Clips can be transferred from the clips screen or the filtered clips screen.

3 Select the clip you want to transfer, then press the MENU button.
A transfer confirmation screen appears.

4 Select Execute.
The group of files corresponding to the selected proxy clips is registered as a transfer job, and uploading begins.
When the transfer job is successfully registered, the transfer result screen appears.

5 Select OK.

To transfer all clips

Select All Clips instead of Select Clip in step 2 to transfer the group of files corresponding to all the proxy clips.

[Note]
Up to 200 transfer jobs can be registered.

Uploading an original clip on a memory card from the clips screen

[Note]
Original clips are uploaded to the "Main" folder within the directory specified as the transfer destination.

1 Connect the unit and device using a LAN connection (page 72).

2 Select Transfer Clip >Select Clip in the Clip Operations menu of the full menu.
The display changes from the full menu to the clips screen.
Clips can be transferred from the clips screen or the filtered clips screen.

3 Select the clip you want to transfer, then press the MENU button.
A transfer confirmation screen appears.

4 Select Execute.
The group of files corresponding to the selected clips is registered as a transfer job, and uploading begins.
When the transfer job is successfully registered, the transfer result screen appears.

5 Select OK.

To transfer all clips

Select All Clips instead of Select Clip in step 2 to transfer all the files.

[Note]
Up to 200 transfer jobs can be registered.

Checking the file transfer

You can check the status of file transfer by selecting File Transfer >View Job List (page 63) in the Network menu of the full menu.
You can also check the status of file transfer from the Monitor & Control application screen.

[Tip]
If File Transfer >Auto Upload (page 63) or Auto Upload (Proxy) (page 63) in the Network menu of the full menu is set to On and a network connection exists, original clips and proxy clips are automatically uploaded to the server specified using Default Upload Server (page 63) when recording ends. If both original clips and proxy clips are configured for auto upload, the auto upload of proxy clips takes precedence.

[Notes]
• Up to 200 transfer jobs can be registered.
• The job list is retained when the unit is turned off, but up to 10 minutes of recent progress information may be lost if the battery pack is removed or the unit is powered off without first setting the power switch to STANDBY.
• Jobs added after the battery low voltage state are not saved in the job list.
• If an error occurs during file transfer, the transfer of a clip with the same name as a transferred clip may not be resumed depending on the settings and status of the transfer destination server. In this case, check the transfer destination server settings and status.

Uploading Clips Automatically

Uploading original clips automatically

Original clips can be uploaded to the specified server when recording ends. To enable this function, set File Transfer >Auto Upload (page 63) in the Network menu of the full menu to On.

Uploading proxy clips automatically

Proxy clips can be uploaded to the specified server when recording ends. To enable this function, set File Transfer >Auto Upload (Proxy) (page 63) in the Network menu of the full menu to On.

Uploading using Secure FTP

You can upload files with encryption using FTPS in Explicit mode (FTPES) for the connection with the destination file server.

Setting secure FTP transfer

For secure FTP transfer, set Using Secure Protocol in the destination file server settings to ON and import a certificate.
For details about configuration, see "Registering a file transfer destination" (page 77).

Using Creators' App for enterprise

You can easily transfer files to the C3 Portal cloud service by linking the unit with the "Creators' App for enterprise" smartphone application.
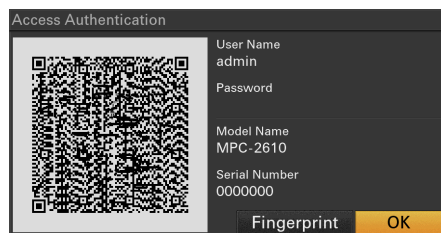First, obtain a C3 Portal account and install Creators' App for enterprise on a smartphone. For details about obtaining a C3 Portal cloud service account, contact the administrator of your organization.

[Notes]
- The service may not be available, depending on the region in which you live.
- For details about how to operate Creators' App for enterprise, see the Help Guide for Creators' App for enterprise.

Uploading Files to C3 Portal

1 Select Network Setup >Setup for Mobile App (page 61) in the Network menu of the full menu.
A confirmation screen appears for items that will be updated automatically.
The following settings in the Network menu are selected automatically.
- USB Tethering >Setting: On
- USB Tethering >Camera Remote Control: Enable
- Network Setup >Input Password: (Automatically generated if not specified)

2 Check the settings and select OK.
The configuration starts. A "Now changing" message appears while configuration is in progress.
When the configuration is completed, the following screen appears in the viewfinder.

Access Authentication
User Name
admin
Password
Model Name
MPC-2610
Serial Number
0000000
Fingerprint   OK

The following information for access authentication is displayed.
User name, password, fingerprint, camera model name, serial number

[Tip]
This screen is not output to the video output.

[Note]
Take care that the password cannot be viewed and the QR code image cannot be copied by others. Specifically, during X-OCN recording, note that the menu page will be displayed on an SDI monitor as well as on an HDMI monitor if you display the QR code or password in the full menu while the clips screen is open.

3 Launch Creators' App for enterprise on a smartphone and sign in to the cloud service.

4 Connect the smartphone via a USB cable to the USB-C connector of the unit.

5 Enable USB tethering on the smartphone screen.
For details about configuration, see "Connecting using USB Tethering" (page 75).
The operation will differ depending on your smartphone. Refer to the operation manual for the smartphone.

6 Scan the QR code displayed in the viewfinder according to the instructions on the Creators' App for enterprise screen.

File transfer setup information is sent from the smartphone to the unit, and the following message appears.

Network File received.
Load File?
Cancel   OK
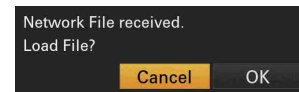
7 Select OK.
The setup information starts loading. When the setup is loaded successfully, a "Network File loaded." message appears.

[Notes]
- Creators' App for enterprise overwrites the File Transfer (page 63) setting in the Network menu of the unit.
- Root Certificate cannot be set automatically. Configure manually.

Uploading original clips

Set File Transfer >Auto Upload (page 63) in the Network menu to On to enable uploading of original clips to C3 Portal.
Each time a recording finishes, the file is uploaded to the location associated with your C3 Portal account.

Uploading proxy clips

Set File Transfer >Auto Upload (Proxy) (page 63) in the Network menu to On to enable uploading of proxy clips to C3 Portal.
Each time a recording finishes, the file is uploaded to the location associated with your C3 Portal account.

Uploading selected clips

See "Selecting and Uploading Clips" (page 77).

[Tips]
- Files sent by the unit are cached in Creators' App for enterprise and transferred to C3 Portal. The file transfer status display on the unit indicates the transfer status to Creators' App for enterprise.

- When the file transfer from the unit to Creators' App for enterprise on the smartphone is completed, you can turn off the unit but note that file transfer from the smartphone may be continuing. Be aware of the remaining battery charge on the smartphone.

Other Functions that use C3 Portal

Managing 3D LUT files

You can import 3D LUT files stored in C3 Portal into the unit. See "Importing from a cloud service" (page 84).

Managing ALL files

You can save an ALL file created by the unit in C3 Portal and load an ALL file from C3 Portal. See "Saving an ALL file to a cloud service" (page 67) and "Loading an ALL file from a cloud service" (page 67).

Configuring Basic Operation

Before shooting, configure the basic operation of the unit on the Project status screen to suit the application.

Shooting Mode

You can switch the shooting mode between "Cine EI" where the unit is operated similarly to a film camera with footage developed in post-production, and "Custom" for creating images flexibly on-site.
Set the shooting mode using Shooting Mode (page 28) on the Project status screen.

[Tip]
You can also set the shooting mode using Base Setting >Shooting Mode (page 43) in the Project menu of the full menu.

Cine EI

When the shooting mode is set to Cine EI, select the base color gamut for the recording signal and output signal. The color gamut selected here is the color gamut of the recorded video and the video output when the monitor LUT is set to Off.
You can set the color gamut using Cine EI Setting >Color Gamut (page 44) in the Project menu of the full menu.
- S-Gamut3.Cine/SLog3: Easy to adjust color gamut for digital cinema (DCI-P3).
- S-Gamut3/SLog3: Sony wide color gamut that covers the ITU-R BT.2020 color gamut.
For details, see page 84.

[Notes]
- Cine EI shooting mode has the following limitations.
  - Functions that cannot be adjusted automatically (tracking)
    - White balance
    - Gain
    - Shutter
  - Functions that cannot be configured
    - ISO sensitivity/gain (set to base ISO sensitivity (fixed))

    - Paint/Look menu settings (excluding Base Look)
    - Scene File (disabled)
- The following functions are available in Cine EI shooting mode only (page 84).
  - Exposure Index
  - Monitor LUT
- When recording in Cine EI, it is recommended that you keep the Exposure Index setting constant. If you change the Exposure Index setting, brightness correction may be very difficult to achieve in post-production, which may make it impossible to reproduce the state when the image was originally shot.

Custom

When the shooting mode is set to Custom, you can select the video standard.
You can set the video standard using Base Setting >Target Display (page 43) in the Project menu of the full menu.
- SDR(BT.709): Shooting according to HD broadcast standard
- HDR(HLG): Shooting according to next generation 4K broadcast standard
For details, see page 86.

System Frequency

Set the system frequency using Frequency/Scan (page 28) on the Project status screen.
The unit may reboot automatically after switching, depending on the selected value.

[Tip]
You can also set the system frequency using Rec Format >Frequency (page 43) in the Project menu of the full menu.

[Note]
You cannot switch the system frequency during recording or playback.

Imager Scan Mode

You can set the effective picture size and resolution of the image sensor.
Set the scan mode using Imager Scan (page 28) on the Project status screen.
- FF 8.6K 16:9, FF 8.6K 17:9, FFc 6K 16:9, FFc 6K 17:9: Use for full size.
- S35 5.8K 16:9, S35 5.8K 17:9, S35c 4K 17:9: Use for Super 35mm size.

[Tip]
You can also set the scan mode using Rec Format >Imager Scan Mode (page 43) in the Project menu of the full menu.

[Note]
You cannot switch the imager scan mode during recording or playback.

Effective Picture Size

The unit supports shooting in the following effective picture sizes. (Unit: mm)

FF 8.6K 16:9
(35.9x20.2)

FFc 6K 16:9
(33.6x18.9)

FFc 6K 17:9
(33.6x17.7)

FF 8.6K 17:9
(35.9x18.9)

S35 5.8K 16:9
(24.0x13.5)

S35 5.8K 17:9
(24.0x12.6)

S35c 4K 17:9
(17.0x9.0)
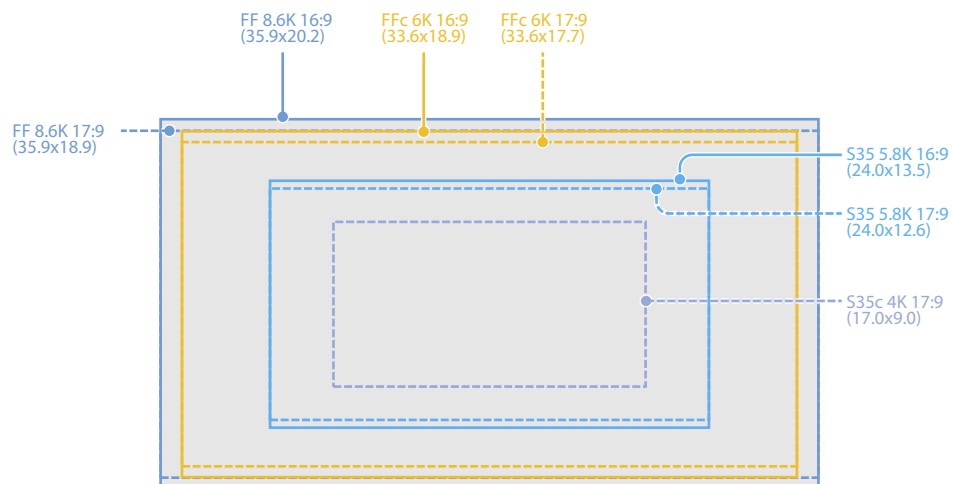
Codec

Set the codec using Codec (page 28) on the Project status screen. The unit may reboot automatically after switching, depending on the selected value.

[Tip]
You can also set the codec using Rec Format >Codec (page 43) in the Project menu of the full menu.

[Notes]
- You cannot switch the codec during recording or playback.
- The unit will reboot when switching to or from X-OCN or XAVC.
- In X-OCN format, there are limitations on the video output signal. For details, see page 110.
- To switch to X-OCN, you must first set the shooting mode to Cine EI.

Video Format

You can set the video format for recording. Set the video format using Video Format (page 28) on the Project status screen.

[Tip]
You can also set the video format using Rec Format >Video Format (page 43) in the Project menu of the full menu.

[Notes]
- Cannot be configured in X-OCN format.
- You cannot switch the video format during recording or playback.
- Restrictions may apply to the signal from the SDI OUT and HDMI OUT connectors, depending on the video format setting.

Basic Operation Procedure

Basic shooting is conducted using the following procedure.

1 Attach the necessary devices, and check that power is being supplied.

2 Insert the memory card(s).

[Note]
Before shooting, make a backup of clips then perform a full format of the recording media using Format Media (page 51) in the TC/Media menu of the full menu.

3 Turn the unit on.
The power lamp turns on, and the camera image appears on the LCD monitor.

4 Press the REC (recording start/stop) button (page 4).
The REC lamp lights and recording begins.

5 To stop recording, press the REC (recording start/stop) button again.
Recording stops and the unit enters STBY (recording standby) mode.

[Note]
If the REC (recording start/stop) button is pressed within a few seconds after turning the unit on, the REC lamp lights up to indicate the unit is in the recording state, but recording to media may not occur for the first few seconds, depending on the selected recording format.

Switching Between Memory Cards

When two memory cards are inserted, press the SLOT SELECT button (page 4) to switch cards.
Recording automatically switches to the second memory card just before the remaining capacity on the first card is reduced to zero (relay recording). You can continue recording continuously when switching memory cards by replacing the memory card that is full with a new memory card.

[Note]
You cannot switch between memory cards during playback mode. Also, continuous playback of a clip spanning media in slot A and slot B is not supported.

Clips (recorded data)
When you stop recording, the video, audio, and accompanying data from the start to the end of the recording are saved as a single "clip" on a memory card.

Clip names
The name of each clip recorded by the unit is automatically assigned using the format set using Clip Name Format (page 51) in the TC/Media menu of the full menu.

Maximum clip duration
Up to 6 hours per clip.
The maximum duration of continuous recording is the same as the maximum duration of a clip. If the recording time exceeds the maximum duration of a clip, a new clip is created automatically and recording continues. The new clip appears as a separate clip on the clips screen.

Multiple clips are recorded in succession during relay recording, but recording will stop automatically after approximately 24 hours.

[Notes]
- Do not eject a memory card while recording to it is in progress. When recording, only change memory cards in slots for which the slot access indicator is off.
- When the remaining capacity on the memory card being recorded becomes less than one minute and a recordable memory card is inserted in the other slot, a "Will Switch Slots Soon" message appears. The message disappears after switching memory card slots.
- Relay recording may not operate if recording is started when the remaining memory card capacity is less than one minute. For correct relay recording, check that the remaining memory card capacity is more than one minute before starting recording.
- Video created using the relay recording function of the unit cannot be played back seamlessly on the unit.
- To combine video created using the relay recording function of the unit, use "Catalyst Browse" software.

Monitoring Audio

You can monitor the audio that is being recorded using headphones.
Connecting a set of headphones to the headphone jack (page 4) enables you to monitor the audio being recorded. You can also monitor the playback audio (page 71) using the built-in speaker (page 4) or headphones.
You can adjust the volume of the audio to monitor using Volume (page 28) on the Audio status screen or Audio Output >Volume (page 56) in the Audio menu of the full menu.
You can select the channel to monitor using Monitor CH (page 28) on the Audio status screen or Audio Output >Monitor CH (page 56) in the Audio menu of the full menu.

Specifying Time Data

Setting the timecode
Set the timecode to record using Timecode (page 51) in the TC/Media menu of the full menu.

Setting user bits
You can add an 8-digit hexadecimal number to the recorded image as user bits. You can also set the user bits to the current time. Set using Users Bit (page 51) in the TC/Media menu.

Displaying time data
Set the timecode to display using TC Display (page 51) >Display Select in the TC/Media menu.
Pressing an assignable button (page 100) with DURATION/TC/U-BIT assigned will switch the display between the timecode, user bits, and duration in sequence.

Switching the timecode input/output
You can switch the timecode input/output using the TC/REF IN/OUT select switch (page 5).
For details, see page 106.

Reviewing the Recording (Rec Review)

You can review the last recorded clip on the screen (recording review).

[Note]
Rec Review is not supported if the video format is changed after recording a clip.

Recording review method

Assign Rec Review to one of the assignable buttons beforehand.
When recording is stopped, press the assignable button (page 100) with Rec Review assigned. Playback of the last recorded clip begins.
The clip is played to the end, Rec Review ends, and the unit returns to STBY (standby) mode.

To stop Rec Review

Press the assignable button assigned with Rec Review or press the BACK button.

Recording review settings

You can set the playback start position to one of the following using the Rec Review setting (page 58) in the Technical menu.
• Last 3 seconds of the clip
• Last 10 seconds of the clip
• Start of the clip

[Tip]
If you want to review a specific clip after recording multiple clips, press the CLIPS button to display clips screen, and select the clip to start playback.

# Shooting with Look Adjustment in Post-Production

By using the unit in Cine EI mode and recording gradations evenly from dark areas to bright areas, you can make fine adjustments, such as locally restoring the gradations of dark areas and bright areas, in post-production. However, when viewing the recorded images on a conventional monitor, the overall contrast will appear low, making focus and exposure adjustments difficult.

You can apply a LUT to the monitor target on the unit to assist various adjustments during shooting. You can also apply a LUT to the playback video to check the finished result. LUTs are applied by the following systems. However, only one LUT can be applied.

- During X-OCN recording:
  - SDI output or HDMI output (only one output)
  - LCD monitor, proxy, streaming
- Other than X-OCN recording:
  - SDI output
  - HDMI output, LCD monitor, proxy, and streaming

Applying a LUT to the LCD Monitor Image

1 Press the MENU button to display the Monitoring status screen.

2 Select the Gamut/Gamma column in the LCD/Stream row.
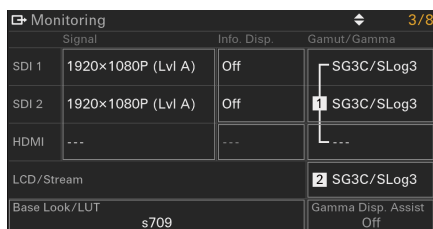
3 Select On or Off.

[Notes]
- The LUT On/Off setting of the LCD monitor is also applied to proxy files and streaming video during X-OCN recording. For formats other than X-OCN recording, it is also applied to HDMI output, proxy files, and streaming video.
- Gamma display assist is available during focus magnifier operation.

[Tips]
- You can also set the LUT using LUT On/Off (page 41) in the Shooting menu of the full menu.
- SDI/HDMI can be set similarly to the LCD monitor.

Changing a LUT

1 Press the MENU button to display the Monitoring status screen.

2 Select the Base Look/LUT field.

3 Select the LUT to apply from the base look list.

[Tips]
- The unit supplies s709, 709(800%), S-Log3, Warm, Cool, Vintage, Teal and Orange, ACESproxy, ACEScct, and ACES 1.0 Output-Rec.709 as preset LUTs.
- You can also import and apply a 3D LUT file. For details, see "Importing a Desired Base Look" (page 84) and "Deleting a Base Look" (page 85).
- The base look can also be set using Base Look >Select (page 49) in the Paint/Look menu of the full menu.

Importing a Desired Base Look

You can import a 3D LUT file, created on a computer or other device, as a base look from a memory card or cloud service. Up to 16 files can be imported.
- File format: CUBE file (*.cube) for a 17-grid or 33-grid 3D LUT created using Catalyst Browse or RAW Viewer
- Input color gamut/gamma: S-Gamut3. Cine/S-Log3 or S-Gamut3/S-Log3

Importing from a memory card

You can import a 3D LUT file from a memory card.

1 On the computer or other device, save the 3D LUT file in the specified folder or the recording media.

Recording media	Folder path
SD card	/PRIVATE/SONY/PRO/LUT/

2 Insert the recording media on which 3D LUT files are saved into the Utility SD card slot.

3 Select Base Look >Import from Utility SD (page 49) in the Paint/Look menu of the full menu.

4 Select an import destination.

5 Select a 3D LUT file to import.
Follow the on-screen instructions. The unit handles a 3D LUT file as a base look.

6 Select the imported 3D LUT file using Base Look >Select (page 49) in the Paint/Look menu of the full menu.

7 Configure Base Look >Input and Output (page 49) in the Paint/Look menu of the full menu to match the attributes of the imported 3D LUT file.

Importing from a cloud service

You can import a 3D LUT file from a cloud service.

1 Connect to the unit from the "Creators' App for enterprise" smartphone application (page 79).

2 Select Base Look >Import from Cloud(Private) or Import from Cloud(Share) (page 49) in the Paint/Look menu of the full menu.

3 Select an import destination.

4 Select a 3D LUT file to import.
Follow the on-screen instructions. The unit handles a 3D LUT file as a base look.

5 Select the imported 3D LUT file using Base Look >Select (page 49) in the Paint/Look menu of the full menu.

6 Configure Base Look >Input and Output (page 49) in the Paint/Look menu of the full menu to match the attributes of the imported 3D LUT file.

Adjusting for underexposure

If there is a tendency for underexposure when auto exposure is selected when using the imported base look, adjust Base Look >AE Level Offset (page 49) in the Paint/Look menu.

[Notes]
- Just importing a 3D LUT file does not affect the image. Load the imported 3D LUT file using Base Look >Select (page 49) in the Paint/Look menu of the full menu.
- If Input is not set correctly, the proper look will not be obtained.
- The Input, Output, and AE Level Offset menu item settings are applied to the base look selected using Select. If multiple 3D LUT files are imported, select Select for each 3D LUT file, and configure Input, Output, and AE Level Offset individually for each file.
- The configured Input, Output, and AE Level Offset settings are saved for each 3D LUT file.
- The base look/LUT selection options for imported 3D LUT files are common to Custom/Cine EI modes, but color gamut and gamma conversion is not performed according to these modes.
- 3D LUT files are not deleted when All Reset >Reset is executed in the Maintenance menu of the full menu.

Deleting a Base Look

You can delete an imported 3D LUT file using Base Look >Delete (page 49) in the Paint/Look menu of the full menu.
You can delete all imported 3D LUT files using Base Look >Delete All (page 49) in the Paint/Look menu of the full menu.

[Notes]
- Before deleting, check that the base look is not being used in any scene files. If a base look that is being used is deleted, the look of the corresponding scene files will be incorrect.
- A deleted base look can no longer be used in Custom mode (page 84).
- Imported 3D LUT files are not deleted when All Reset >Reset (page 65) is selected in the Maintenance menu of the full menu.

Recording a 3D LUT File as Metadata

You can record a 3D LUT file (CUBE file) that is applied to the monitor image when shooting as metadata for the clip.
To enable this function, set Cine EI Setting >Embed LUT File (page 44) in the Project menu of the full menu to On.
The 3D LUT file (CUBE file) that is selected when recording starts is recorded as metadata. However, recording as metadata is not possible in the following circumstances.
- When a 3D LUT file (CUBE file) cannot be saved in the camera, for example because the size of the imported 3D LUT file exceeds 1.25 MB ("!" is displayed in front of the file name when Base Look is selected)
- When a 3D LUT file that can be saved is selected but then the LUT data to use is changed and recording is started immediately

[Notes]
- Only one metadata item can be recorded per clip.
- During X-OCN recording, recording a 3D LUT file as metadata is not supported.

Shooting with the Desired Look

When the unit is in Custom mode, you can add adjustments to the black, matrix, and other parameters to create a "look" based on the base look.
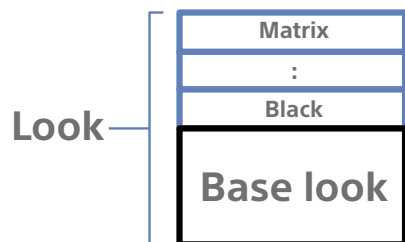
You can also quickly select a different look by saving different combinations of settings in scene files.
The unit is provided with a total of six preset looks.

Selecting a Look

1 With the shooting screen displayed, press the multi-function dial.

2 Select the [SCN]1 (scene file) icon.
The number in the icon is the file number.

3 Press the multi-function dial.

4 Select the desired look from the menu, and press the multi-function dial.

[Tips]
• The following presets are configured by factory default.

Shooting Mode	Custom	
Target Display	SDR(BT.709)	HDR(HLG)
Scene file 1	S-Cinetone	HLG Live
Scene file 2	Standard	HLG Natural
Scene file 3	Still	(Not registered)

Shooting Mode	Custom	
Target Display	SDR(BT.709)	HDR(HLG)
Scene file 4	ITU709	(Not registered)
Scene files 5 to 16	(Not registered)	(Not registered)

• You can also select a look using Scene File >Recall (page 49) in the Paint/Look menu of the full menu. You can also recall a preset look using Scene File >Preset Recall.

Customizing a Look

When you want to shoot with a look other than the preset looks, you can customize a look based on any base look using the Black, Knee, Detail, Matrix, and Multi Matrix items in the Paint/Look menu of the full menu. For details about each setup item, see page 49.
Connect the unit to a TV or monitor, and adjust the picture quality while observing the picture on the TV or monitor screen.

[Note]
When you import a 3D LUT file and apply it to the image, the desired look defined in the 3D LUT file will not be obtained if Matrix and settings other than base look settings in the Paint/Look menu are changed. You can reset all customized settings using Reset Paint Settings >Reset without Base Look (page 49) in the Paint/Look menu of the full menu.

Saving a Look

You can save the current look as a scene file in internal memory using Scene File >Store (page 49) in the Paint/Look menu of the full menu.
You can quickly save using operations in the direct menu from the shooting screen.

[Notes]
• If you select another look without saving the current look, the current look is discarded.
• Scene files are not deleted when All Reset >Reset (page 65) is executed in the Maintenance menu of the full menu.

[Tip]
You can overwrite the preset scene files.
To restore a preset scene file, load the look to be restored using Scene File >Preset Recall (page 49) in the Paint/Look menu of the full menu, and then save the scene file using Scene File >Store.

Deleting a saved look

You can delete a scene file saved in internal memory using Scene File >Delete (page 49) in the Paint/Look menu of the full menu.

[Tip]
When deleted, it is no longer displayed in the direct menu.

Adjusting the Zoom

You can adjust the zoom according to the shooting conditions.

When an E-mount power zoom lens is attached, you can adjust the zoom using the zoom lever on the grip remote control or a handle (option) equipped with an MI shoe. The zoom speed varies with the pressure applied to the lever.
The camcorder is equipped with a zoom function that uses image signal processing called Clear Image Zoom. When Clear Image Zoom is enabled, zoom is supported even for fixed focal distance (prime) lenses. It can be used to extend the range beyond the optical range on a power zoom lens.
The maximum zoom ratio using Clear Image Zoom varies depending on the recording resolution.
- For QFHD/4K recording resolution: 1.5×
- For HD recording resolution: 2×

[Notes]
- Clear Image Zoom can be used only when the imager scan mode (page 80) is set to S35.
- When a PL-mount lens is attached, optical zoom operation using the zoom lever is not supported. Clear Image Zoom is supported.

Selecting the Type of Zoom

Set the type of zoom using Zoom >Zoom Type (page 58) in the Technical menu of the full menu.
The type of zoom will vary depending on the type of lens that is attached.

Attached lens	Zoom Type setting	
	Optical Zoom Only	On(Clear Image Zoom)
Fixed focal length lens/ Manual zoom lens	Zoom operation using the lever is not supported.	Clear Image Zoom is supported.
Power zoom lens	Optical zoom only	Optical zoom and Clear Image Zoom are supported.

[Notes]
- Clear Image Zoom is not available when S&Q Motion >Frame Rate (page 41) is higher than 60fps in the Shooting menu of the full menu.
- Operating the SERVO/MANUAL select switch on a lens resets the magnification of Clear Image Zoom to 1×.

Setting the Handle Zoom

Set the zoom lever setting of a handle (option) equipped with an MI shoe using Handle Zoom (page 58) in the Technical menu of the full menu.

Setting the Direction of the Zoom Ring

On some E-mount lenses, the direction of rotation of the zoom ring can be reversed. Set the direction of rotation using Lens >Zoom Ring Direction (page 59) in the Technical menu of the full menu.

Adjusting the Focus

You can adjust focus automatically or manually according to the shooting conditions.

[Notes]
- When a PL-mount lens is attached, focus operation from the unit and grip remote control is not supported.
- When the LCD monitor is in information display mode, you cannot operate the screen displayed on an external monitor using the multi selector on the LCD monitor.

Adjusting the Focus Manually (Manual Focus)

To adjust the focus manually, set the FOCUS switch (page 4) to the "MF" position.
This allows you to adjust the focus manually according to the shooting conditions.
Manual focusing is useful for the following types of subjects.
- Subjects on the far side of a window covered in water droplets
- Subjects with low contrast against the background
- Subjects further away than nearby subjects

[Tips]
- Stable focus can be maintained by waiting at least 10 minutes after turning on the unit before adjusting the focus.
  Also, if the environmental temperature changes significantly, you can maintain optimal shooting conditions by refocusing.
- You can also use auto focus in the following cases when manual adjustment is the main method of operation.
  – When the AF subject shift sensitivity is set to 1(Locked)
  – When the FOCUS switch is set to the "AF" position
  – When operating the focus ring (AF Assist, page 91)

Focusing using touch operation (Spot Focus)

In manual focus mode, you can specify the position where you want to adjust the focus by touch operation.
To use spot focus, set Focus >Touch Function in MF (page 41) in the Shooting menu to Spot Focus.
A spot focus mark is displayed when you tap the position where you want to adjust the focus.

AF
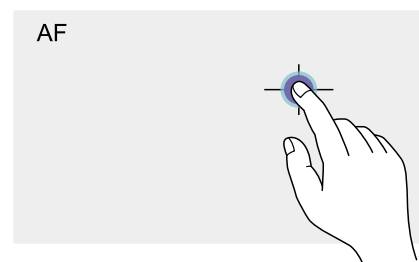
[Tips]
- In spot focus mode, you can press an assignable button (page 100) assigned with Push AF/Push MF to temporarily stop spot focus and enable auto focus while the button is pressed. The focus returns to manual focus when you release the button.
- The Spot Focus function does not operate if the lens is set for manual focusing.
- The spot focus position cannot be specified while using focus magnifier or when Touch Operation (page 58) in the Technical menu is set to Off.

Using auto focus temporarily (Push Auto Focus (AF))

In manual focus mode, you can press an assignable button (page 100) assigned with Push AF/Push MF to temporarily enable auto focus while the button is pressed.
Focusing occurs within the focus area set using Focus >Focus Area (page 41) in the Shooting menu of the full menu.
The focus returns to manual focus when you release the button.

This is useful when you want to move the focus slowly from one subject to another subject during manual focus.

[Note]
The Push Auto Focus function does not operate if the lens is set for manual focusing.

Focusing using magnified view (Focus Magnifier)

You can select the target output for focus magnification using Focus Magnifier (page 54) in the Monitoring menu of the full menu. The name of the function assigned to an assignable button used for focus magnification will change according to this setting.
You can switch the focus magnifier magnification of the LCD monitor by pressing an assignable button (page 100) assigned with LCD Focus Magnifier. The magnification at the center of the screen changes as follows each time you press the button.

Codec setting	Recorded picture size	Magnification
X-OCN	8K	3×, 6×
	Other than 8K	
Other than X-OCN	8K	4×
	Other than 8K	3×, 6×

This function is useful for checking the focus. After reaching the maximum magnification, pressing the button again returns to the original view.
You can move the position to be magnified during focus magnification using the multi selector (page 4). Pressing the multi selector returns to the center of the image.
You can also switch the focus magnifier magnification of the SDI output and HDMI output as shown below by pressing an assignable button (page 100) assigned with Output Focus Magnifier.

Codec setting	Recorded picture size	Magnification	
		SDI (FHD)	HDMI (FHD)
X-OCN	–	2×, 4×	2×, 4×
Other than X-OCN	8K	–	4×
	Other than 8K	–	2×, 4×

[Notes]
- The image is not magnified on SDI outputs, except during X-OCN recording, nor on non-FHD SDI/HDMI outputs.
- A LUT cannot be applied to the output image if focus magnification is used on the HDMI output image, except during X-OCN recording.
- The magnified position returns to the center of the screen when the unit is turned off.
- A LUT may be applied to the LCD monitor image if focus magnification is used on the image when LUT Off is selected during X-OCN recording.
- Log format video will be output if focus magnification is used on the HDMI output image during X-OCN recording.

Adjusting the Focus Automatically (Auto Focus)

The unit uses phase detection AF for high-speed focusing and contrast AF for high-accuracy focusing.
The combination of these two AF methods provides auto focus with both high speed and high accuracy.
To adjust the focus automatically, set the FOCUS switch (page 4) of the unit to the "AF" position. If the lens is fitted with a focus selector switch, set the switch to the "AF/MF" or "AF" position. If the switch is set to the "Full MF" or "MF" position, lens focusing cannot be operated from the unit.

[Tip]
When Focus >AF Assist (page 41) in the Shooting menu of the full menu is set to On, you can still use the focus ring on the lens during auto focus to adjust the focus.

[Notes]
- A lens that supports auto focus is required.
- Accuracy may not be obtained depending on the shooting conditions.
- The focus cannot be adjusted automatically on a PL-mount lens.
- Auto focus cannot be used when De-Squeeze >Ratio (page 52) is set to a value other than Off(1.0×) in the Monitoring menu of the full menu.

Setting the auto focus area/position (Focus Area)

You can set the target area for auto focus using Focus >Focus Area (page 41) in the Shooting menu of the full menu.

Flexible Spot:
Focuses on a specified position in the image. When selected, specify the position using the multi selector (page 4).
You can return to the center position by pressing and holding the multi selector.

AF

Zone:
Automatically searches for a focus position within the specified zone.
When selected, specify the position using the multi selector (page 4).
You can return to the center position by pressing and holding the multi selector.

AF
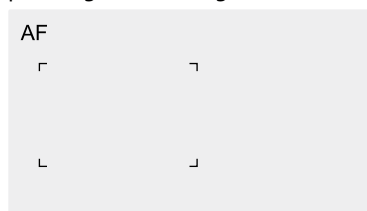
Wide:
Searches for a subject over a wide angle of the image when focusing. A frame is not displayed.

AF
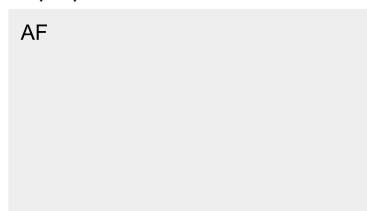
[Tip]
You can display/hide the focus area frame using Display On/Off >Focus Area Indicator (page 52) in the Monitoring menu of the full menu.

[Note]
The focus area frame is not hidden when using the DISPLAY button.

Changing the focus area quickly (Focus Setting)

You can change the position and size of the auto focus area quickly during shooting by assigning Focus Setting to an assignable button (page 100).
The operation varies depending on the focus area setting.

When Focus >Focus Area (page 41) in the Shooting menu of the full menu is set to Flexible Spot or Zone
You can change the position of the focus area by pressing an assignable button assigned with Focus Setting and adjusting using the multi selector (page 4).
You can return the position of the focus area to the center while adjusting the position by pressing the multi selector.
You can change the size of the focus area by pressing and holding an assignable button assigned with Focus Setting.
After changing the size, set the position of the focus area by pressing the multi selector. When finished, press the assignable button assigned with Focus Setting to return to the original screen.

When Focus >Focus Area (page 41) in the Shooting menu of the full menu is set to Wide
You can only change the size of the focus area by pressing and holding an assignable button assigned with Focus Setting. The position can be also be changed by first changing the type to Flexible Spot or Zone.

[Tip]
The focus area frame is displayed orange when the position of the focus area can be changed.

Moving the focus area frame using touch operation (touch focus area)

You can change the position of the focus area by pressing an assignable button (page 100) assigned with Focus Setting to change the focus area display to orange, and then move it using touch operation.
Tap the screen to move the focus area, with the focus area centered on the tapped position. Drag on the screen to move the focus area to the position traced by your finger (page 9).

[Tip]
You can enable/disable touch focus operation on the shooting screen using an assignable button assigned with Focus Setting.

Tap any position
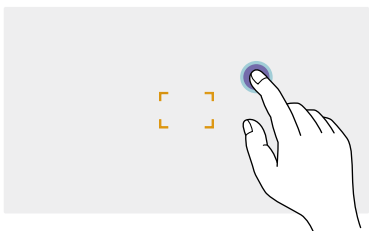
Focus area moves, with the focus area centered on the tapped position.
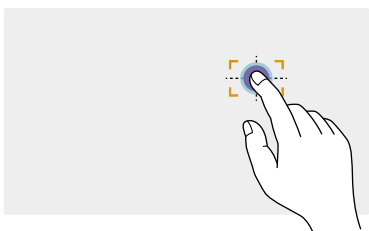
Drag to move the focus area, tracing your finger position
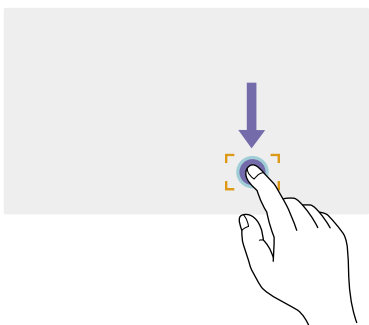
[Notes]
- If you tap a position or drag the focus area to a position that exceeds the setting range, the focus area is set to the top/bottom/left/right edge of the setting range.
- This function is not available in the following circumstances.
  – When Touch Operation (page 58) in the Technical menu of the full menu is set to Off
  – When the focus area is displayed in gray or is not displayed at all

Adjusting the auto focus action (AF transition speed, AF subject shift sensitivity)

AF transition speed
You can set the speed of the focus drive for when the subject changes using Focus >AF Transition Speed (page 40) in the Shooting menu of the full menu.
When set to low speed, the focus moves slowly when the subject to be focused changes, enabling the shooting of impressive images.
When set to high speed, the focus switches between subjects quickly. The subject that enters the frame is immediately focused, making this setting ideal for documentary shooting which requires quick focusing.

Focused on far subject

During the change:
1(Slow): Focus operates slowly
.
.
.
7(Fast): Focus operates rapidly

Focused on near subject

AF subject shift sensitivity
You can set the sensitivity for changing between subjects using Focus >AF Subj. Shift Sens. (page 41) in the Shooting menu of the full menu.
When set to a low sensitivity, the focus does not readily shift even if another subject moves in front of the in-focus subject. When set to a high sensitivity, the focus shifts to give priority to the subject that moves in front.

[Tip]
If AF Speed/Sens. is assigned to an assignable button, the level bars for adjusting values are displayed in the following order each time the button is pressed, allowing you to change the AF transition speed and AF subject shift sensitivity settings.
AF transition speed → AF subject shift sensitivity → No display ...

AF Subj. Shift Sens.: 1(Locked On)

Change focus to another subject slowly

AF Subj. Shift Sens.: 5(Responsive)
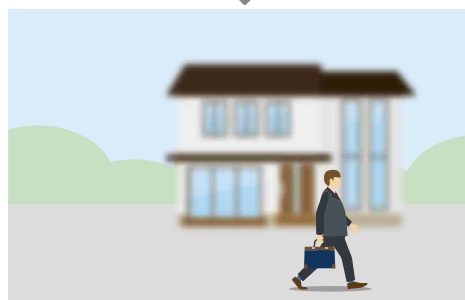
Change focus to another subject rapidly

Changing the focus target manually (AF Assist)

When Focus >AF Assist (page 41) in the Shooting menu of the full menu is set to On, you can still use the focus ring on the lens during auto focus to adjust the focus on a subject.

When you stop using focus ring operation, auto focus continues to focus on the subject focused using the focus ring (AF assist state). After operating the focus ring, moving the focus to another subject is slightly more difficult, regardless of the Focus >AF Subj. Shift Sens. (page 41) setting in the Shooting menu of the full menu.

The AF assist state is canceled by the following.

- When the subject focused using the focus ring is no longer visible
- When switching to manual focus
- When realtime tracking AF is started

[Tips]
- The AF assist state can be canceled quickly by using an assignable button (page 100) assigned with Push AF/Push MF.
- Realtime tracking AF stops when the focus ring is operated.
- In Human Only AF mode, auto focus focuses on the face closest to the focus position of the focus ring.

Using manual focus temporarily (Push Manual Focus)

In auto focus mode, you can press an assignable button (page 100) assigned with Push AF/Push MF to temporarily enable manual focus while the button is pressed. The focus returns to auto focus when you release the button.

This allows you to temporarily stop auto focus and focus manually when something that is not the subject of shooting crosses in front of the subject.

Tracking using Human Detection (Subject Recognition AF)

The unit can detect people as a target to track, and then adjust the focus on the eyes, face, and body within the focus area.
This function is available only when the focus mode is AF mode or during push auto focus.
When a person is detected, a gray subject recognition frame is displayed. When an auto focus target is identified, the frame changes to white and tracking starts.
If a more pinpoint identifying feature (such as eyes) is recognized, that part is automatically prioritized and a recognition frame is displayed.
When multiple individuals are detected, the main subject is automatically determined.

[Tip]
When the focus area is set to Zone or Flexible Spot, recognition frames are displayed around the recognized parts of the subject (face/eyes/head/body) when a person enters the configured focus area range.

Set the subject recognition AF action using Focus >Subject Recognition AF (page 41) in the Shooting menu.

Human Only AF:

The camera detects subjects (people), and focuses and tracks their face/eyes, head, and body. While a face/eye, head, or body is not detected, AF is temporarily stopped and the ⚠ (AF paused) icon (page 22) is displayed. This mode is effective when you want to auto focus and track faces/eyes, heads, and bodies only.

Human Priority AF:

The camera detects the faces/eyes, head, and body of subjects (people), and prioritizes the focusing/tracking on the faces/eyes, head, and body of people. When a face/eye, head, or body is not detected, focusing is in AF mode (default setting).

Off:

The subject recognition AF function is disabled.

[Notes]
- During push auto focus operation, Human Priority AF is activated even if Human Only AF is currently selected.
- When the FOCUS switch is set to MF, subject recognition AF is disabled (excluding during push auto focus operation).
- If you turn the unit off while Human Only AF is selected, the mode automatically switches to Human Priority AF when the unit is next turned on.

Hiding subject recognition frames

You can show/hide subject recognition frames using Display On/Off >Subject Recognition Frame (page 52) in the Monitoring menu of the full menu.

Switching subject recognition AF operation using an assignable button

Assign Subject Recognition AF to an assignable button (page 100). You can then switch subject recognition AF operation in the order Human Priority AF, Human Only AF, and Off each time you press the button.

Setting using the direct menu

You can also set the subject recognition AF operation using the direct menu (page 100).

Tracking a Specified Subject (Realtime Tracking AF)

You can maintain focus on a subject by specifying the subject by touch operation or by selecting a subject recognition frame. When a subject is selected, a white tracking frame is displayed and tracking starts.

[Tips]
- Tracking occurs over the entire image area, regardless of the focus area setting.
- When Focus >Touch Function in MF (page 41) in the Shooting menu is set to Tracking AF, realtime tracking AF is supported even when the focus mode is MF mode.

The following actions occur for the tracking target, depending on the subject recognition AF operating mode.

Human Only AF / Human Priority AF:

Focuses and tracks a specified subject. If the tracking target is a person and a face/eye/head/body is detected, the camera focuses on that face/eye/head/body.

Off:

Focuses and tracks a specified subject. Face/eye/head/body detection does not occur, even if the tracking target is a person.

[Note]
The Realtime Tracking AF function does not operate if the lens is set for manual focusing.

Starting realtime tracking AF

When a specific subject is specified as the tracking target, tracking of that target starts.

Specifying by touch operation

Tap the target subject to track in one of the following states:
- When the focus mode is MF mode or during push manual focus, and Focus >Touch Function in MF (page 41) in the Shooting menu is set to Tracking AF
- When the focus mode is AF mode or during push auto focus (AF)

[Note]
Specifying a target by touch operation is not available when Touch Operation (page 58) in the Technical menu is set to Off.

Specifying by subject recognition frame selection

Move the subject selection cursor (orange underline) to the target subject to track using the multi selector (page 4), and press the multi selector.

Other subject recognition frames (gray)　　Tracking frame

Subject selection cursor (orange)

[Tips]
- You can also change the target to track during realtime tracking AF.
- If an assignable button (page 100) assigned with the LCD Focus Magnifier function is pressed during realtime tracking AF, the tracking status is maintained and the focus is magnified. However, you cannot specify a target to track during focus magnification.

[Note]
During manual focus, tracking cannot be started by subject recognition frame selection.

Stopping realtime tracking AF

Stopping by touch operation

Tap the ⬜📷✕ (Realtime tracking AF stop) button displayed at the top left of the touch panel.

[Tip]

Realtime tracking AF will stop in the following cases:
– When the FOCUS switch or AUTO/MAN control on the lens is switched
– When the focus mode is changed
– When auto focus assist is executed
– When the focus area setting or subject recognition AF action is changed
– When an assignable button assigned with Push AF/Push MF is pressed
– When the tracking target is not within the shooting screen or when the subject is out of focus for a few seconds

Notes When Shooting

- It may be difficult to focus on the subject in the following situations:
  - In low-light or back-lit conditions
  - When the subject is in shadow
  - When the subject is very out of focus

  It may be difficult to focus on eyes in the following situations even when the camera recognizes eyes:
  - When the eyes are closed
  - When the eyes are covered by hair, etc.
  - When the person is wearing spectacles (sunglasses)

  There are also other situations in which it may not be possible to focus on the subject.
- When the camera cannot focus on the part you want to prioritize, such as the eyes of the subject, the camera may automatically focus on other recognized parts such as the head or body of the subject.

- Even when a white subject recognition frame is displayed around the subject's face, etc., the camera may automatically focus on the part you want to prioritize, such as the subject's eyes.
- The subject may not be recognized when only a part of the subject is within the angle of view.
  – When only the hands and feet of a person or animal are visible
  – When a part of the subject is hidden and cannot be seen, etc.
- The camera may accidentally recognize other objects as the designated subject under some conditions.

Adjusting the Brightness

You can adjust the brightness by adjusting the iris, gain, shutter speed, and by adjusting the light level using ND filters. You can also make adjustments automatically.

The target level for automatic brightness adjustment is set using Auto Exposure >Level (page 39) in the Shooting menu of the full menu. You can also assign Auto Exposure Level to an assignable button or assignable dial (page 100).

[Note]
The gain cannot be adjusted in Cine EI mode. The base sensitivity is fixed. Also, the brightness cannot be adjusted automatically using the shutter speed. Brightness auto adjustment using the iris and ND filter is supported.

Selecting the Base Sensitivity

You can select from two types of base sensitivity on the unit.
In Cine EI mode, you can set the base ISO to ISO 3200 or ISO 800 using ISO/Gain/EI >Base ISO (page 37) in the Shooting menu of the full menu.
Selecting ISO 800 in normal lighting conditions and selecting ISO 3200 in low lighting conditions is recommended.
In Custom mode, you can set the base sensitivity to High or Low using ISO/Gain/EI >Base Sensitivity (page 37) in the Shooting menu of the full menu.
Selecting Low in normal lighting conditions and selecting High in low lighting conditions is recommended.

[Tip]
You can also assign Base ISO/Sensitivity to an assignable button (page 100).

Adjusting the Iris

You can adjust the iris to adjust the brightness.

[Note]
When a PL-mount lens is attached, iris control from the unit and remote control is not supported.

Adjusting the iris automatically

This function adjusts the brightness according to the subject. A lens that supports auto iris is required.

1 If a lens with Auto Iris switch is attached, set the switch to AUTO.

2 Display the Auto Iris direct menu (page 100) and select Auto.

   [Note]
   When a PL-mount lens is attached, Auto Iris is set to Off.

   [Tip]
   You can also assign Auto Iris to an assignable button (page 100).

Adjusting the iris manually

1 Display the Auto Iris direct menu (page 100) and select Manual.

2 Display the Iris direct menu (page 100) so that the iris value is displayed on a white background.

3 Turn the multi-function dial to adjust the value.

   [Tips]
   • You can also operate the multi-function dial as an IRIS dial (page 100) by assigning the IRIS function to the multi-function dial.
   • You can also assign the IRIS function to the assignable dial of the remote control (page 100).
   • For a lens with an iris ring, you can make manual adjustments using the iris ring of the lens.

Temporarily adjusting automatically

Press the assignable button (page 100) assigned with the Push Auto Iris function to automatically adjust the iris temporarily while the button is pressed.
The iris returns to the previous setting when you release the button.

[Notes]
• When the Auto Iris switch of the lens is set to MANUAL, the Auto Iris and Push Auto Iris functions on the unit have no effect. Manual iris adjustments on the unit also have no effect.
• Push Auto Iris cannot be executed when Iris >Bokeh Control (page 39) in the Shooting menu is set to On.

Adjusting the Exposure Index

In Cine EI mode, it is assumed that video output with monitor LUT set to Off is recorded as the main signal. By changing the brightness of the image with monitor LUT set to On to match an EI value, you can check the result of post-production exposure sensitivity adjustment while shooting.
You can change the EI value using ISO/Gain/EI >Exposure Index (page 37) in the Shooting menu of the full menu.

[Note]
When recording in Cine EI, it is recommended that you keep the Exposure Index setting constant. If you change the Exposure Index setting, brightness correction may be very difficult to achieve in post-production, which may make it impossible to reproduce the state when the image was originally shot.

Adjusting the Gain

In Custom mode, you can adjust the gain to adjust the brightness.

Adjusting the gain automatically

Display the AGC direct menu (page 100) and select Auto.

[Tips]
• You can also perform the same adjustment by setting Auto Exposure >AGC (page 39) in the Shooting menu to On.
• You can also assign AGC to an assignable button (page 100).

Adjusting the gain manually

You can control the gain when you want to adjust the exposure while using a fixed iris setting or when you want to prevent the gain increasing due to AGC.

1 Display the AGC direct menu (page 100) and select Manual.

2 Display the Gain Value direct menu (page 100) and set the gain.

[Tips]
• You can change the gain preset value using ISO/Gain/EI >ISO/Gain (page 37) in the Shooting menu of the full menu.
• You can also assign Push AGC to an assignable button, and set AGC to On temporarily by pressing and holding the button.

[Note]
Push AGC cannot be executed when Iris >Bokeh Control (page 39) in the Shooting menu of the full menu is set to On.

Adjusting the Shutter

You can adjust the shutter to adjust the brightness.

Adjusting the shutter automatically

Display the Auto Shutter direct menu (page 100) and select Auto to adjust the shutter speed or shutter angle automatically in response to the image brightness.

[Tip]
You can also perform the same adjustment by setting Auto Exposure >Auto Shutter (page 39) in the Shooting menu of the full menu to On.

Adjusting the shutter manually

1 Display the Shutter Speed Value or Shutter Angle Value direct menu (page 100) so that the shutter value is displayed on a white background.

2 Turn the multi-function dial to adjust the shutter value.

[Tips]
• To adjust the exposure time to match the frame interval, select Off in step 1.
• You can also set the angle and adjust the frequency (page 38).

Adjusting the Light Level (ND Filter)

In conditions where the lighting is too bright, you can set the appropriate brightness by changing the ND filter.
The unit features two ND filter modes. You can switch between the two modes using the ND STEP/VARIABLE switch.
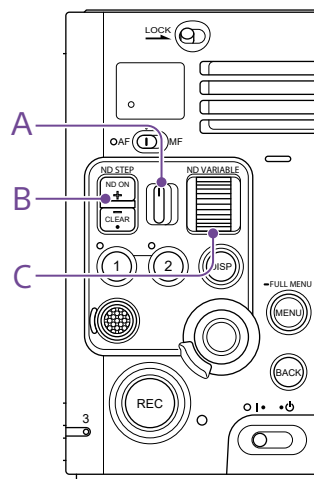
Adjusting in step mode

Set the ND STEP/VARIABLE switch (A) to the STEP position, and set the filter to one of the following settings using the ND FILTER POSITION up/down buttons (B).
You can set the display mode used to express the transmittance of light through the ND filter using ND Filter >Display Mode (page 38) in the Shooting menu of the full menu.
• When set to Optical Density:
  Clear (no ND filter), 0.6, 0.9, 1.2, 1.5, 1.8, or 2.1.
• When set to Transmittance:
  Clear (no ND filter), 1/4, 1/8, 1/16, 1/32, 1/64, or 1/128.

Adjusting in variable mode

Set the ND STEP/VARIABLE switch (A) to the VARIABLE position. Switch the filter between CLEAR and on using the ND FILTER POSITION up/down buttons (B).

Adjusting the light level automatically
You can set Auto ND Filter to On to enable auto exposure adjustment using the ND filter.

1 Press the [+] button of the ND FILTER POSITION up/down buttons (B) to turn ND filter operation on.

2 Display the Auto ND Filter direct menu (page 100) and select Auto.

Adjusting the light level manually
1 Press the [+] button of the ND FILTER POSITION up/down buttons (B) to turn ND filter operation on.

2 Display the Auto ND Filter direct menu (page 100) and select Manual.

3 Turn the ND VARIABLE dial (C) to adjust the transmittance of the filter.

[Tip]
You can also assign the ND Filter function to an assignable dial (page 100).

Temporarily adjusting automatically
You can assign Push Auto ND to an assignable button (page 100), and temporarily set Auto ND Filter to On by pressing and holding the button. Releasing the button sets Auto ND Filter back to Off.
Press the [+] button of the ND FILTER POSITION up/down buttons (B) to turn ND filter operation on.

[Notes]
• Changing the Display Mode setting may change the current density of the ND filter.
• When the ND filter is switched passing through CLEAR during shooting, the ND filter frame is displayed, a reflection of the purple detection sensor light may appear on the image, and the operating sound may be included in the audio. The sensor light and operating sounds will not be reflected in the video once switching is completed.
• Push Auto ND cannot be executed when Iris >Bokeh Control (page 39) in the Shooting menu is set to On.

[Tips]
• You can set the filter to CLEAR by turning the ND VARIABLE dial (C) down from ND 0.6. Turning the dial up from CLEAR sets ND 0.6. You can disable this action using ND Dial >CLEAR with Dial (page 58) in the Technical menu of the full menu.
• You can also assign ND Filter Position to an assignable button (page 100), and press the button instead of using the ND FILTER POSITION up/down buttons to change the setting.
  Step mode: Clear → 0.6 → 0.9 → ... → Clear ...
  Variable mode: Clear → On → Clear ...
• You can also assign Auto ND Filter to an assignable button (page 100), and press the button to switch Auto ND filter between On and Off.
• When shooting a brightly lit subject, closing the iris too much may cause diffraction blur, producing an image starting to go out of focus (typical phenomena in video cameras). You can suppress this effect to obtain better shooting results using the ND filter.

Adjusting for Natural Colors (White Balance)

You can select the adjustment mode to suit the shooting conditions.

ATW (Auto Tracing White Balance)

This function adjusts the white balance automatically to an appropriate level.
The white balance is automatically adjusted when the color temperature of the light source changes.
Display the white balance direct menu (page 100) and set ATW to On.
You can select the speed of adjustment (five steps) using White Setting >ATW Speed (page 40) in the Shooting menu of the full menu.

[Tips]
- You can also set White >ATW (page 40) to On in the Shooting menu of the full menu or using an assignable button (page 100) assigned with the ATW function.
- You can freeze the current white balance setting by assigning the ATW Hold function to an assignable button (page 100), and pressing the assignable button to temporarily pause ATW mode.

[Notes]
- ATW cannot be used in Cine EI mode.
- It may not be possible to adjust to the appropriate color using ATW, depending on the lighting and subject conditions.
  Examples:
  – When a single color dominates the subject, such as sky, sea, ground, or flowers.
  – When the subject is illuminated by a light source with color temperature that is extremely high or extremely low.
  If the appropriate effect cannot be obtained because the ATW auto tracking speed is slow or for other reasons, run auto white balance.

Adjusting the White Balance Manually

When ATW On is selected:
  Select the ATW icon in the direct menu (page 100) and select W:A, W:B, or W:C.
When ATW Off is selected:
  Select W:A, W:B, or W:C in the direct menu.
- W:A: Memory position A
- W:B: Memory position B
- W:C: Memory position C
Select memory position A/B/C on the Home screen (page 25).

[Tip]
You can also select the memory using White >White Select (page 40) in the Shooting menu of the full menu.

You can set each memory position using the following methods.
- Changing the default preset value
- Changing the color temperature and tint
- Running auto white balance

Changing the default preset value

When you select W:A, W:B, or W:C in the direct menu (page 100), the following is displayed.
Cine EI:
→5500K±00
→4300K±00
→3200K±00
Custom:
→6300K±00
→5600K±00
→4300K±00
→3200K±00
Selecting a value updates the setting for the current memory position.

Changing the color temperature

1 Display the Color Temp. or Tint direct menu (page 100) so that the setting is displayed on a white background.

2 Turn the multi-function dial to adjust the value.

[Tip]
You can also set the color temperature on the Home screen (page 25) or using White >Color Temp, Tint, R-Gain, and B-Gain (page 40) in the Shooting menu of the full menu.

Running auto white balance

The white balance to save in memory position A/B/C is configured automatically.

1 Select memory position A, B, or C.

2 Place white paper (or other object) in a location with the same lighting source and conditions as the subject, then zoom in on the paper to show white on the screen.

3 Adjust the brightness.
Adjust the iris using the procedure in "Adjusting the iris manually" (page 94).

4 Select W:A, W:B, or W:C in the direct menu, then select AWB.
- The result of auto white balance adjustment is saved in the memory position (A, B, or C) selected in step **1**.
- If auto white balance is run in ATW mode, the result is inherited and ATW resumes when the auto adjustment ends. This is useful when you want to adjust the white balance very quickly, regardless of the ATW Speed setting.

[Tip]
You can also run auto white balance from the Home screen (page 25), using White >Auto White Balance (page 40) in the Shooting menu of the full menu, or using an assignable button (page 100) assigned with the Auto White Balance function.

[Note]
If the adjustment is not successful, an error message is displayed on the screen for about three seconds. If the error message persists after repeated attempts to set white balance, contact your Sony service representative.

Using Image Stabilization

You can enable image stabilization to suppress blur in the image caused by minute hand movement while shooting.
You can also perform image stabilization automatically or manually, depending on the attached lens.

[Note]
Image stabilization cannot be used when De-Squeeze >Ratio (page 52) is set to 1.3× or 2.0× in the Monitoring menu.

Enabling Image Stabilization

The setup items will vary depending on whether a PL-mount adaptor is attached.

When a PL-mount adaptor is attached

Set Image Stabilization >PL Stabilization (page 42) to High or Low in the Shooting menu of the full menu.
- Low: Performs image stabilization when shooting video under relatively stable conditions.
- High: Performs a more enhanced image stabilization in comparison to Low.

To shoot without using the image stabilization function, set PL Stabilization to Off. In this case, use of a tripod is recommended.

When a PL-mount adaptor is not attached

Set Image Stabilization >SteadyShot (page 42) to Active or Standard in the Shooting menu of the full menu.
- Standard: Performs image stabilization when shooting video under relatively stable conditions.
- Active: Performs a more enhanced image stabilization in comparison to Standard.

To shoot without using the image stabilization function, set SteadyShot to Off. In this case, use of a tripod is recommended.

[Notes]
- You can set the image stabilization to Active (or High) when Rec Format >Imager Scan Mode (page 43) in the Project menu of the full menu is set to S35 5.8K 17:9 or S35 5.8K 16:9.
- Active (or High) cannot be set in the following cases.
  - When Rec Format >Codec (page 43) is set to X-OCN in the Project menu
  - When S&Q Motion >Setting (page 41) is set to On in the Shooting menu

Setting the Focal Length Automatically

The focal length for image stabilization is set automatically based on information obtained from the lens.
To set the focal length for image stabilization automatically, set Image Stabilization >Stabilization Adjustment (page 42) in the Shooting menu of the full menu to Auto.

Setting the Focal Length Manually

You can set the focal length for image stabilization manually.
To set the focal length for image stabilization manually, set Image Stabilization >Stabilization Adjustment (page 42) in the Shooting menu of the full menu to Manual and set the focal length.
Set the focal length using Image Stabilization >Focal Length (page 42) in the Shooting menu of the full menu. You can set a focal length in the range 8 mm to 1000 mm.

Setting the Audio to Record

You can specify the audio to be recorded using the input connectors, switches, and dials of the unit.

External audio input connectors and selector switches

INPUT 1 connector (page 5)
INPUT 2 connector (page 5)
Multi-interface shoe (when optional handle equipped with MI shoe is attached)
INPUT 1 switch (LINE/MIC/MIC+48V) (page 5)
INPUT 2 switch (LINE/MIC/MIC+48V) (page 5)

Switches for setting the audio level

CH1 (AUTO/MAN) switch (page 4)
CH2 (AUTO/MAN) switch (page 4)
AUDIO LEVEL (CH1) dial (page 4)
AUDIO LEVEL (CH2) dial (page 4)

Audio status screen
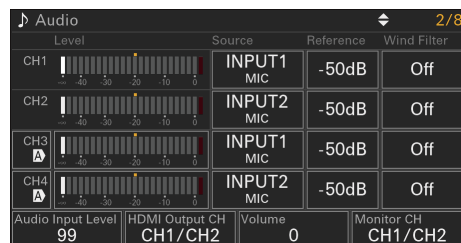
Selecting the Audio Input Device

1 Set the audio input using CH1/CH2/CH3/CH4 >Source (page 28) on the Audio status screen or Audio Input >CH1 Input Select to CH4 Input Select (page 55) in the Audio menu of the full menu.

[Notes]
- Audio is not recorded in Interval Rec mode or Slow & Quick Motion mode.
- The unit has a built-in narration microphone for recording ambient sound. It can be used for syncing the timing with other equipment. In such cases, specify Internal MIC.
- When CH1 Input Select and CH2 Input Select are set to Internal MIC, the audio recording level of both CH1 and CH2 is adjusted using the AUDIO LEVEL (CH1) dial (page 4). When CH3 Input Select and CH4 Input Select are set to Internal MIC, the audio recording level of both CH3 and CH4 is adjusted using CH3 Input Level (page 55).

2 Select the input audio source.
Set the INPUT 1/INPUT 2 (LINE/MIC/MIC+48V) switches according to the devices connected to the INPUT 1/INPUT 2 connectors, respectively.

Connected device	Switch position
External audio source (e.g. mixer)	LINE
Dynamic microphone, battery-operated microphone	MIC
+48 V phantom power microphone	MIC+48V

- Selecting MIC+48V and connecting a microphone that is not compatible with a +48V source may damage the connected device. Check the setting before connecting the device.

- If noise is a concern on connectors with no device connected, set the corresponding INPUT1/INPUT2 (LINE/MIC/MIC+48V) switches to LINE.

Adjusting the Audio Recording Level Automatically

Set the CH1/CH2 (AUTO/MAN) switches for the channels to adjust automatically to AUTO. For CH3/CH4, set the audio level control on the Audio status screen (page 28) or Audio Input >CH3 Level Control and CH4 Level Control in the Audio menu of the full menu to Auto (page 55).

Adjusting the Audio Recording Level Manually

Use the following procedure to adjust the audio recording level for CH1/CH2.

1 Set the CH1/CH2 (AUTO/MAN) switches for the channels to adjust manually to MAN.

2 During shooting or standby, turn the AUDIO LEVEL (CH1)/(CH2) dials of the corresponding channels to adjust the audio level.
- For CH3/CH4, set the audio level control using CH3/CH4 (page 28) on the Audio status screen or Audio Input >CH3 Level Control or CH4 Level Control in the Audio menu of the full menu to Manual, and then adjust the audio recording level using CH3 Input Level or CH4 Input Level.

- You can adjust the levels for CH1 to CH4 as a group. You can adjust the recording level using an assignable dial (page 100) assigned with the Audio Input Level function, the Audio status screen, or Audio Input >Audio Input Level in the Audio menu of the full menu.

[Tip]
The Audio status screen is convenient for checking the audio input level (page 28).

[Notes]
- The Audio Input Level settings may be disabled, depending on the combination of settings in the Audio menu. For details, see the diagram on page 129.
- The unit supports combinations of various settings. For details, see the diagram on page 129.

Adding Audio Input Connectors

You can connect up to four channels of XLR audio devices to the unit at the same time by attaching a handle (option) equipped with an MI shoe and an XLR-K3M XLR Adaptor (option).
Attach the XLR adaptor to the multi-interface shoe of a handle (option) equipped with an MI shoe, and set CH3 >Source to Shoe CH1 and CH4 >Source to Shoe CH2 on the Audio status screen (page 28). Or, set Audio Input >CH3 Input Select to Shoe CH1 and CH4 Input Select to Shoe CH2 in the Audio menu of the full menu.
Unit functions that overlap will be disabled for channels on which the XLR adaptor is selected as the input. Use the switches and dials on the XLR adaptor to perform adjustments.

[Notes]
- The unit supports 2ch digital audio interface of the XLR-K3M.
- If Audio Input >CH3 Level and CH4 Level in the Audio menu are set to Audio Input Level, then Audio Input Level on the unit is multiplied by the level adjusted on the XLR adaptor.
  Audio Input Level is also enabled when the XLR adaptor switch is set to AUTO.
  When "Through" is specified, audio will be recorded at the level adjusted with the XLR adaptor (page 130).

Useful Functions

Direct Menu Operation

When the shooting screen is displayed on the LCD monitor, you can check the status of the unit and directly select and change settings displayed on the screen.
The following items can be configured.
- Auto Focus Mode
- Steady Shot
- Auto Exposure Mode
- Auto Exposure Level
- ND Filter Position
- Auto ND Filter
- ND Filter Value
- Auto Iris
- Iris Value
- AGC
- Gain Value
- ISO Value
- EI Gain
- Base ISO/Sensitivity
- ECS
- Auto Shutter
- Shutter Speed Value
- Shutter Angle Value
- ATW
- Auto White Balance
- Color Temp.
- Tint
- Preset White Select
- Scene File
- S&Q Motion Frame Rate

1 Press the multi-function dial, or an assignable button assigned with the Direct Menu function.
Only the items on the screen that can be configured using the direct menu are selectable using the orange cursor.

2 Turn the multi-function dial to move the cursor to the menu item to operate, then press the multi-function dial.

A menu is displayed or the item is displayed on a white background.

3 Turn the multi-function dial to select a setting, then press the multi-function dial. The menu or white background disappears and the new setting is displayed with an orange cursor.
Press the assignable button assigned with Direct Menu again or wait 3 seconds without performing any action to exit the direct menu.

[Tips]
- Direct settings can also be configured by pressing and holding each of the function buttons.
- When items are displayed on a white background, the multi-function dial can be used like an assignable dial.
- The multi selector (page 4) can also be used for selection operations.

Assignable Buttons/Dials

The unit features ASSIGN 1 to 3 and ASSIGN 7 to 11 assignable buttons (page 4, 5, 6, 8) to which you can assign functions. You can also assign functions to the multi-function dial (page 4) on the unit and the assignable dial on the grip remote control (option). The ASSIGN 4 to 6 buttons are located on the grip remote control (option) or RM-30BP (option).

Changing the button function

Use Assignable Button (page 45) in the Project menu of the full menu.
You can view the assigned functions on the Assignable Button status screen (page 29).

Functions assigned to each assignable button by factory default

Button 1	Off
Button 2	Off
Button 3	Off
Button 4	LCD Focus Magnifier
Button 5	Direct Menu
Button 6	Off
Button 7	Off
Button 8	Off
Button 9	Off
Button 10	Off
Button 11	Off
Focus Hold button	Focus Hold

Functions assignable to buttons
- Off
- Base ISO/Sensitivity
- AGC
- Push AGC
- ND Filter Position
- Auto ND Filter
- Push Auto ND
- Iris (function button)
- Auto Iris
- Push Auto Iris
- Bokeh Control
- Auto Shutter
- Auto Exposure Level
- Backlight
- Spotlight
- Auto White Balance
- ATW
- ATW Hold
- AF Speed/Sens.
- Focus Setting
- Subject Recognition AF
- Push AF/Push MF
- Focus Hold
- LCD Focus Magnifier
- Output Focus Magnifier
- S&Q Motion
- LUT On/Off **1**
- LUT On/Off **2**

- Image Stabilization
- Crop Select
- Rec
- Picture Cache Rec
- Rec Review
- Clip Flag OK
- Clip Flag NG
- Clip Flag Keep
- Color Bars
- DURATION/TC/U-BIT
- Display
- Lens Info
- Video Signal Monitor
- Marker
- LCD Monitor Adjust
- LCD Monitor Mode
- Gamma Display Assist
- Peaking
- Zebra
- Volume
- Clips
- Touch Operation
- Handle Zoom
- Auto Upload (Proxy)
- Direct Menu
- User Menu
- Menu

Changing the dial function

You can change the function of the multi-function dial on the unit and the assignable dial on the grip remote control (option).

For the multi-function dial, set using Multi Function Dial (page 47) >Default Function in the Project menu.
Iris is assigned by factory default.

Functions assignable to the multi-function dial
- Off
- ISO/Gain/EI
- IRIS

- Auto Exposure Level
- Audio Input Level

[Note]
The setting is disabled while the menu is displayed.

For the assignable dial, set using Assignable Dial (page 47) in the Project menu of the full menu.
IRIS is assigned to all by factory default.

[Tip]
The assignable dial of the RM-30BP (option) follows the Grip/Remote Dial setting.

Functions assignable to the assignable dial
- Off
- ISO/Gain/EI
- ND Filter
- IRIS
- Auto Exposure Level
- Audio Input Level
- Multi Function Dial

You can view the assigned functions on the Assignable Button status screen (page 29).

Slow & Quick Motion

When Rec Format >Imager Scan Mode (page 43) in the Project menu of the full menu is set to the following values, you can specify different values for the shooting frame rate and playback frame rate.

Imager scan mode	Frame rate
FF 8.6K 17:9	1–30
FF 8.6K 16:9	
FFc 6K 17:9	1–60
FFc 6K 16:9	
S35 5.8K 17:9	
S35 5.8K 16:9	
S35c 4K 17:9	1–60, 100, 120

You can turn Slow & Quick Motion mode on/off by pressing an assignable button (page 100) assigned with the S&Q Motion function.
You can set the frame rate for shooting by pressing and holding the button.

[Tip]
You can also set the mode using Rec Function on the Project status screen and S&Q Motion in the Shooting menu of the full menu.

[Notes]
- Slow & Quick Motion cannot be set during recording, playback, or while the clips screen is displayed.
- Audio recording is not supported in Slow & Quick Motion mode.
- The auto iris function and auto shutter function are disabled in Slow & Quick Motion mode.
- For some lenses, there may be an upper limit on the frame rate, depending on the combination with the recording format.
- Auto focus has the following limitations in Slow & Quick Motion mode.
  – Limitations due to lens model, system frequency, and shooting frame rate

Sony lens	System frequency	AF availability
SEL16F28	59.94/29.97/ 23.98	30, 60, 120, 240 fps supported
	50.00/25.00	25, 50, 100, 200 fps supported
	24.00	Not supported

Recording Video Intermittently (Interval Rec)

The unit's Interval Rec function allows you to capture time-lapse video to the unit's internal memory. This function is an effective way to shoot slow-moving subjects.
When you start recording, the unit automatically records a specified number of frames at a specified interval time.

Shooting interval (Interval Time)
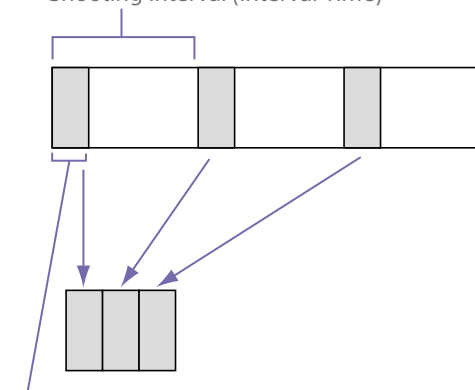
Number of frames in one take (Number of Frames)

When Interval Rec is enabled, the HVL-LBPC (option) video light automatically turns on before recording starts, which allows you to record pictures under stable light and color temperature conditions (pre-lighting function).

[Notes]
- Only one special recording function, such as Interval Rec recording, can be used at any one time.
- If another special recording mode is enabled while Interval Rec is in use, Interval Rec is automatically released.
- Interval Rec mode is automatically released after changing system settings, such as the video format.
- Interval Rec settings cannot be changed during recording or playback, or when the clips screen is displayed.

To set Interval Rec

Select Rec Function >Interval Rec on the Project status screen, and configure the Number of Frames and Interval Time settings. If using the HVL-LBPC video light (option), set the time interval for turning on the video light before recording starts using Interval Rec >Pre-Lighting in the Project menu, as required.

[Tip]
You can also set the mode using Interval Rec (page 44) in the Project menu of the full menu.

[Notes]
- A handle (option) equipped with an MI shoe is required to use an HVL-LBPC light.
- If you want to turn the video light on before the start of recording, set the video light switch to AUTO. The video light turns on and off automatically according to the setting of Video Light Set (page 59) in the Technical menu.
- If you turn the video light switch on, the video light is always lit (video light does not turn on/off automatically).
- If the video light is configured so that it will turn off for a duration of 5 seconds or less, the video light does not turn off.

The unit exits Interval Rec mode when it is powered off, but the Number of Frames, Interval Time, and Pre-Lighting settings are maintained. You do not need to set them again the next time you shoot in Interval Rec mode.

To shoot using Interval Rec

Press the REC (recording start/stop) button to start recording. "Int ●Rec" and "Int ●Stby" appear alternately on the LCD monitor.
If you are using the pre-lighting function, the video light turns on before recording starts.

To stop shooting

Stop the recording.
When shooting ends, the video data stored in memory up to that point is written to the media.

To exit Interval Rec mode

Do one of the following.
- Turn the unit off.
- In recording standby mode, set Rec Function to a setting other than Interval Rec on the Project status screen.
Also, Interval Rec mode is automatically released when the unit is restarted.

Limitations during recording

- Audio is not recorded.
- Reviewing the recording (Rec Review) is not possible.

If the unit is turned off during recording

- If the power switch on the unit is set to the off position, the media is accessed for several seconds to record the images stored in memory up till that moment, and then the power turns off automatically.
- If power is lost because the battery was removed, the DC power cord was disconnected, or the power was turned off from the AC adaptor, then the video and audio data shot up to that point may be lost (maximum 10 seconds). Care should be exercised when exchanging the battery.

Recording Cached Pictures (Picture Cache Rec)

The Picture Cache Rec function allows you to capture video retroactively when you start recording by maintaining an internal cache memory of a specified duration when shooting.
Set Picture Cache Rec to On on the Project status screen and then set the cache size.

Cache Size setting	Cache time (approximate)
Short	5 seconds
Medium	10 seconds
Long	20 seconds
Max	Maximum value or each recording format

[Tips]
- The cache time may be shorter, depending on the shooting frame rate and recording format. Check the display at the bottom right of the cache size setup screen.
- You can also set the mode using Picture Cache Rec (page 44) in the Project menu of the full menu.
- You can also switch Picture Cache Rec between On and Off using an assignable button (page 100).

[Notes]
- Picture Cache Rec cannot be used in combination with Interval Rec, 2-slot simultaneous recording, or proxy recording. When Picture Cache Rec is set to On, these other recording functions are forcibly set to Off.
- Picture Cache Rec mode cannot be selected while recording or Rec Review is in progress.
- When Picture Cache Rec is set to On, the timecode is recorded in Free Run mode even if set to Regen or Rec Run (page 51).
- The Output Format setting may not be configurable in Picture Cache Rec mode. If this occurs, temporarily set Picture Cache Rec to Off, and then change the setting.

Starting Picture Cache Rec

When Picture Cache Rec is set to On, "●Cache" appears on the LCD monitor.
When you press the REC (recording start/stop)

button, recording starts and video is written to the memory cards starting from the video stored in the cache memory.

To exit Picture Cache Rec

Set Picture Cache Rec to Off on the Project status screen, or press an assignable button assigned with the Picture Cache Rec function.

[Notes]
- Changing the recording format or basic look clears the video in cache memory stored up to that point, and starts caching new video. Consequently, picture cache recording of pictures before changing format is not possible, even if you start recording immediately after changing format.
- If Picture Cache Rec is set to On or Off immediately after inserting a memory card, cache data may not be recorded on the card.
- Video is stored in cache memory when the Picture Cache Rec function is set to On. Video prior to the function being set to On is not cached.
- Video is not stored in cache memory while a memory card is being accessed, such as during playback, Rec Review, or clips screen display. Picture cache recording of video during that interval is not possible.

Recording to Memory Cards A and B Simultaneously (2-slot Simul Rec)

You can record to both memory card A and memory card B simultaneously by setting Simul Rec (page 28) on the Project status screen or Simul Rec >Setting (page 44) in the Project menu of the full menu to On.

Video Signal Monitor

You can set the type of video signal to display on the LCD monitor to waveform, vectorscope, or histogram using Display On/Off >Video Signal Monitor (page 53) in the Monitoring menu.
The orange line indicates the set value of the zebra level.
You can also assign the Video Signal Monitor function to an assignable button (page 100).

Monitor target display

In Cine EI mode, the color gamut setting (page 80) or monitor LUT setting (page 41) information is displayed at the top right of the video signal monitor to indicate the monitor target.
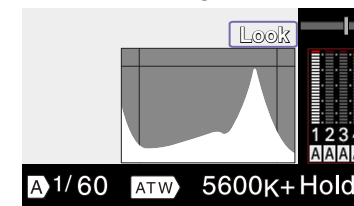
Gamma Display Assist Function

In Custom mode (page 80) when Target Display is set to HDR(HLG), you can set Gamma Display Assist* on the Monitoring status screen to On to view an assisted display in the viewfinder that makes shooting in HDR easier.

* You can also set the function using Gamma Display Assist >Setting (page 54) in the Monitoring menu of the full menu.

Breathing Compensation

You can set whether to perform breathing compensation for an E-mount lens using Lens >Breathing Compensation (page 59) in the Technical menu of the full menu.
This function corrects for the phenomenon in which changes in the angle of view occur as the focus position varies.
When breathing compensation is executed, a portion of the image is electronically cropped to maintain a constant angle of view so the breathing phenomenon does not appear.

[Notes]
- When breathing compensation is enabled, the angle of view and image quality may change slightly.
- Depending on the lens, it may not be possible to correct the change in the angle of view when breathing compensation is enabled.
- Compensation is not possible when a lens that does not support breathing compensation is attached.
- This function is set to Off (fixed) in the following cases.
  - When Lens >Distortion Comp. in the Technical menu is set to Off
  - When S&Q Motion >Setting in the Shooting menu is set to On
  - When Rec Format >Imager Scan Mode (page 43) in the Project menu is not set to S35 5.8K 17:9/S35 5.8K 16:9.
  - When Rec Format >Codec (page 43) in the Project menu is set to X-OCN(LT)

Adjusting the Bokeh (Bokeh Control Function)

You can easily adjust the degree of bokeh by linking the ND filter and gain to the iris operation.

Switching the bokeh control function on/off

This function can be enabled only when adjusting the exposure manually. Set the ND filter to variable mode, then set the iris, gain, shutter, and ND filter to manual adjustment.
You can switch the bokeh control function on/off using Iris >Bokeh Control (page 39) in the Shooting menu of the full menu.
When the bokeh control function is set to On, a B icon is displayed on the ND filter and gain indicators.

[Tip]
You can also assign the Bokeh Control function to an assignable button (page 100) and switch the bokeh control function between On and Off using the button.

Adjusting the degree of bokeh

1 Set the bokeh control function to On.

2 Fully open the iris.

3 Set the ND filter to 1/128.

4 Set the gain to 0 dB and use lighting to adjust the exposure.

5 Adjust the focus.

6 Adjust the iris.
The degree of bokeh changes.

[Tips]
- When the bokeh control function is set to On, the ND filter and gain operate together to offset changes in exposure due to iris adjustment, allowing you to change the degree of bokeh.
- The bokeh control is first linked to the ND filter in response to the iris operation. When the ND filter can no longer be changed, the gain is linked.
- In MF mode, it is recommended that you first open the iris and then adjust the focus.
- If you use the auto ND filter instead of the bokeh control function, the ND filter follows the change in the brightness of the subject.

Display during gain link operation

When the bokeh control function is set to On, the gain may change as the iris is adjusted. When the gain link is active and the gain changes, a message appears at the top of the screen and a B icon on the gain indicator flashes.

[Notes]
- This function is enabled only on E-mount lenses that can communicate with the unit.
- The maximum effect of this function can be obtained using the iris ring on a Sony E-mount lens.
- The appearance may vary depending on the operation speed, lens, shooting settings, and subject, and also the brightness may change. Performing a camera test before shooting is strongly recommended.
- The brightness may change when the iris operation direction changes, such as when opening the iris after closing it or when closing the iris after opening it. In this case, adjust slightly more than required beforehand and then back up a little, check the brightness, and then start shooting.
  For example, if you want to open the iris to F8 aperture and blur the background, first close the aperture past F8 and then return to F8, check the brightness, and start shooting.
- Perform bokeh control operations slowly. If you need to speed up the operation, try adjusting gradually while checking the changes to the image.
- The quality of the image with bokeh control is not guaranteed under all shooting conditions.
- The bokeh control function is set to Off when any of the following operations occurs.
  - When the unit is turned off
  - When any of the iris, gain, shutter, or ND filter is set to Auto

  - When the shooting mode is switched
  - When the ND filter is set to clear or step mode
  - When the lens is removed
  - When the unit restarts, for example, after switching the frequency

Setting De-Squeeze Display

You can shoot with an anamorphic lens to create cinemascope-sized image content.
Setting the de-squeeze display to match the magnification of your anamorphic lens allows you to output images on the SDI output, HDMI output, and LCD monitor that are adjusted to the same aspect ratio as when viewing the subject directly.
You can set the de-squeeze display using De-Squeeze (page 52) in the Monitoring menu of the full menu.

[Note]
When the de-squeeze ratio is set to 2.0×, the waveform monitor (VSM) also detects the non-displayed left/right side parts.

Proxy Recording

You can record a proxy clip to an SD card at the same time as recording to a CFexpress card.

For details about supported memory cards, formatting memory cards, and checking the remaining capacity, see "Checking the Remaining Recording Time" (page 19).

Configuring Before Shooting

1 Set Proxy Rec (page 28) on the Project status screen or Proxy Rec >Setting (page 44) in the Project menu of the full menu to On.

2 Insert the SD card into the Utility SD card slot (page 4) with the label facing up.

[Note]
Proxy Rec cannot be set to On at the same time as S&Q Motion or Interval Rec. When Proxy Rec is set to On, these other recording modes are forcibly set to Off.

Recording a Proxy

Press the REC (recording start/stop) button to start the recording after completing the required setting for shooting.

[Notes]
- If the unit is turned off or the memory card is removed while the memory card is being accessed, the integrity of data on the card cannot be guaranteed. All data recorded on the memory card may be discarded. Always make sure the memory card access indicator is off before turning off the unit or removing the memory card.
- Make sure that the memory card does not pop out when inserting or removing it.

To exit, stop the recording.

Setting the Audio Channel for Proxy Recording

Select Proxy Rec >Audio Channel (page 44) in the Project menu of the full menu, and set the audio channel for proxy data recording.

About the Recorded File

The file name extension is ".mp4".
The timecode is also recorded simultaneously.

Storage Destination of the Recorded File

The recorded file is stored in the following directory.

Recording media	Folder path
SD card	/PRIVATE/PXROOT/Clip

About the File Name

The file name consists of the clip name recorded on the memory card + "S03" suffix. For details about clip names, see Clip Name Format (page 51) in the TC/Media menu of the full menu.

[Note]
When the link between an original clip and a proxy clip is broken, a proxy clip is created with the timecode at the start of recording as the clip name.

Connecting External Monitors and Recording Devices

To display recorded/playback pictures on an external monitor, select the unit output signal and use an appropriate cable for the monitor to be connected.

You can also connect recording devices, such as a VTR, and record the output signal from the unit.

You can display the various status information and the menu on an external HDMI monitor. Set Info. Disp. (page 28) on the Monitoring status screen or Output Display (page 52) in the Monitoring menu of the full menu to On according to the signal to output to the monitor. When the codec is set to X-OCN, you can also display the various information on an SDI monitor instead of an HDMI monitor.

[Note]
Observe the following when connecting an external monitor or recording device to the unit. Failing to do so may cause large currents to flow in the internal circuitry of the unit which may damage electronic components.
1. About DC cables
   Use DC cables with a low GND line impedance for connecting an external monitor and recording devices.
2. Checking for potential difference
   Before use, make sure that there is no potential difference between all connected devices and the unit.
   (1) Disconnect all connected devices, such as an external monitor and recording devices, from the unit.
   Check that the 75 Ω coaxial cable, HDMI and other cables are not connected.
   (2) Connect the DC cables of all connected devices and the unit, and then turn on the power of each connected device and the unit.
   (3) Use a tester or other device to confirm that there is no potential difference between the unit and each connected device.
   If there is a potential difference, it is possible that the impedance of the GND line of one of the DC cables is high. Replace such cables with cables having a low GND line impedance, as required, to eliminate any potential difference.
3. Connection and power-on sequence
   Connect each cable and turn on the power in the following order.
   (1) Turn off the power of the unit, external monitor, recording devices, and all other devices.

(2) Connect the DC cables of all devices.
(3) Connect the 75 Ω coaxial cable, HDMI and other cables.
(4) Turn on the power of all connected devices and then the unit.
For details, contact a Sony service representative.

SDI OUT 1/2 Connectors (BNC type)

The SDI OUT 1 connector can output SDI signals up to 12G.
The SDI OUT 2 connector can output SDI signals up to 3G.
Set the output format using the Monitoring menu (page 52).
Use a commercially available 75 Ω coaxial cable for connection.

[Notes]
• During X-OCN recording, SDI output is not supported if HDMI output is enabled.
• Check that the ground connection between the unit and external device is securely grounded before turning the power on. (We recommend turning on the unit and external device after connecting a 75 Ω coaxial cable.)
  When connecting an external device to the unit while the unit is turned on, connect to the unit after connecting a 75 Ω coaxial cable to the external device.
• During X-OCN recording, metadata is not recorded in realtime.

To start recording on the unit and external device simultaneously

With SDI signal output enabled, set SDI/ HDMI Rec Control (page 45) >Setting in the Project menu of the full menu to SDI/HDMI Remote I/F or Parallel Rec to enable output of a REC trigger signal to the external device connected to the SDI OUT connector. This will synchronize recording on the external device with the unit.

[Notes]
• If a connected external device does not support a REC trigger signal, the device cannot be operated.
• Only the REC trigger signal is output when there is no media currently inserted.
• Parallel Rec cannot be selected when X-OCN recording.

HDMI OUT Connector (Type A connector)

Set the output format using the Monitoring menu (page 52) of the full menu.

To start recording on the unit and external device simultaneously

With HDMI signal output enabled, set HDMI TC Out >Setting (page 51) in the TC/Media menu of the full menu to On, and set SDI/ HDMI Rec Control >Setting (page 45) in the Project menu to SDI/HDMI Remote I/F or Parallel Rec to enable output of a REC trigger signal to the external device connected to the HDMI OUT connector. This will synchronize recording on the external device with the unit.

[Notes]
• If a connected external device does not support a REC trigger signal, the device cannot be operated.
• When set to SDI/HDMI Remote I/F, only the REC trigger signal is output when there is no recording media currently inserted.
• Parallel Rec cannot be selected when X-OCN recording.

External Synchronization

When shooting using multiple units, the units can be synchronized to a specific reference signal or timecode via the REF IN/REF OUT connector of the units.

Synchronizing the Phase of the Video Signals (Genlock)

Set the TC/REF IN/OUT select switch (page 5) of the unit to the IN position, and supply a reference signal to the REF IN/REF OUT connector (page 6) to enable genlock. The reference signals that can be used vary depending on the system frequency of the selected recording format.

System frequency of recording format	Supported input reference signals
59.94P	1920×1080 59.94i 720×486 59.94i
50P	1920×1080 50i 720×576 50i
29.97P	1920×1080 59.94i 720×486 59.94i
25P	1920×1080 50i 720×576 50i
24P	1920×1080 48i (24PsF) 1920×1080 24P
23.98P	1920×1080 47.95i (23.98PsF) 1920×1080 23.98P

[Notes]
- If the reference signal is unstable, genlock cannot be achieved.
- The subcarrier is not synchronized.

Locking the Timecode to Other Devices

Set the unit that supplies the timecode to a mode in which the timecode output keeps running (such as Free Run or Clock).

1　Set Timecode (page 51) in the TC/Media menu as follows.
　Mode: Preset
　Run: Free Run

2　Press the assignable button (page 100) assigned with the DURATION/TC/U-BIT function to display the timecode on the screen.

3　Check that the TC/REF IN/OUT select switch (page 5) is set to the IN position, then supply an HD or SD reference video signal to the REF IN/REF OUT connector and a reference timecode to the TC IN/TC OUT connector.

The timecode generator of the unit acquires lock with the reference timecode, and "EXT-LK" appears on the screen.
Once about ten seconds have elapsed after the timecode locks, the external lock state is maintained even if the external reference timecode source is disconnected.

[Notes]
- Check that the supplied reference timecode and the reference video signal are in a phase relationship that complies with the SMPTE timecode standard.
- When operating with external lock, the timecode instantly acquires lock with the external timecode and the external timecode value appears in the data display area. However, do not start recording immediately. Wait for a few seconds until the timecode generator stabilizes before recording.
- If the frequency of the reference video signal and the frame frequency on the unit are not the same, lock cannot be acquired and the unit will not operate properly. If this occurs, the timecode will not acquire successful lock with the external timecode.
- If the external timecode source is disconnected, the timecode may shift by one frame per hour with respect to the reference timecode.

To release external lock

Change the Timecode setting in the TC/Media menu.
External synchronization is also released if the system frequency is changed and when you start recording in a special recording mode (Slow & Quick Motion or Interval Rec).

Synchronizing the Timecode of Another Device with the Timecode of the Unit

Set the timecode setting of the unit to a mode in which the timecode output keeps updating (such as Free Run or Clock).

1　Set the timecode of the unit using Timecode (page 51) in the TC/Media menu.

2　Check that the TC/REF IN/OUT select switch (page 5) is set to the OUT position, and connect the TC IN/TC OUT connector and REF IN/REF OUT connector to the timecode input connector and reference signal input connector, respectively, of the device you want to synchronize.

Managing/Editing Clips using a Computer

Connecting using a USB Cable

Using a card reader (option)

Connect a CFexpress Type B card reader or SD card reader to a computer using a USB cable, and insert a memory card into the card reader slot. The memory card is recognized as a computer extension drive. On supported computers, you can import clips at high speed using the mass storage mode of the unit.

Using mass storage mode

[Note]
Mass storage mode cannot be used when USB Tethering >Setting in the Network menu of the full menu is set to On. Set to Off.

Connect the unit using a USB cable, and insert a memory card in card slot A or B. The memory card is recognized as a computer extension drive.

1 Connect the USB-C connector (page 5) and computer using a USB cable.

2 Turn the unit on.
   A message appears on the LCD monitor asking whether to enable USB connections.

   [Notes]
   • Do not perform the following operations if the access indicator is lit red.
     – Turning the power off or disconnecting the power cord.
     – Removing the memory card
     – Disconnecting the USB cable
   • The USB connection confirmation message is not displayed while another confirmation message or progress message is displayed, for example, when formatting or restoring a memory card. The confirmation message is displayed when the formatting or restoring execution ends. The USB confirmation message is also not displayed when the clip properties screen is displayed. The message is displayed when processing ends or when you return to the clips screen.

3 Turn the multi-function dial to select Execute.

4 On Windows, check that the card is added as a removable disk in the "My Computer" window.
   On Mac, check that a folder called "NO NAME" or "Untitled" (editable) is created on the Desktop.

[Notes]
• Do not perform the following operations if the access indicator is lit red.
  – Turning the power off or disconnecting the power cord
  – Removing the memory card
  – Disconnecting the USB cable
• Operation is not guaranteed to work on all computers.

Using a Nonlinear Editing System

In a nonlinear editing system, editing software (option) that supports the formats recorded by the unit is required.
Use dedicated application software to save the clips you want to edit on the HDD of the computer beforehand.

Usage Precautions

Read this section in conjunction with the information provided in the supplied "Before Using This Unit" document.

Use and Storage

Do not subject the unit to severe shock

The internal mechanism may be damaged or the body warped.

Do not cover the unit while operating

Putting a cloth, for example, over the unit can cause excessive internal heat build-up.

After use

Turn the unit off.

Before storing the unit for a long period

Remove the battery pack.

Do not leave the unit with the lens facing the sun

Direct sunlight can enter through the lens, be focused in the unit, and cause fire.

Shipping

- Remove the memory cards before transporting the unit.
- If sending the unit by truck, ship, air or other transportation service, pack it in the shipping carton of the unit.

Care of the Unit

If the body of the unit is dirty, clean it with a soft, dry cloth. In extreme cases, use a cloth moistened in a little neutral detergent, then wipe dry.
Do not use organic solvents, such as alcohol or thinners, as these may cause discoloration or other damage to the finish of the unit.
Refrain from cleaning with high air pressure equipment, such as an air duster, as these may damage optical components.

In the event of operating problems

If you should experience problems with the unit, contact your Sony dealer.

Fan

The fan is a consumable part that will need periodic replacement.
When operating at room temperature, a normal replacement cycle will be about 5 years. However, this replacement cycle represents only a general guideline and does not imply that the life expectancy of this part is guaranteed. For details on parts replacement, contact your dealer.

Electrolytic Capacitor

The life expectancy of the electrolytic capacitor is about 5 years under normal operating temperatures and normal usage (8 hours per day; 25 days per month).
If usage exceeds the above normal usage frequency, the life expectancy may be reduced correspondingly.

Note about the Battery Terminal

The battery terminal of this unit (the connector for battery packs and AC adaptors) is a consumable part.
Power may not be supplied to the unit properly if the pins of the battery terminal are bent or deformed by shock or vibrations, or if they become corroded due to prolonged outdoor use.
Periodic inspections are recommended to keep the unit working properly and to prolong its usable lifetime. Contact a Sony service or sales representative for more information about inspections.

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 where the unit may be 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

To prevent electromagnetic interference from portable communications devices

The use of portable telephones and other communications devices near this unit can result in malfunctions and interference with audio and video signals.
It is recommended that the portable communications devices near this unit be powered off.

Note on laser beams

Laser beams may damage the CMOS image sensor. If you shoot a scene that includes a laser beam, be careful not to let the laser beam be directed into the lens of the unit. Specifically, high-power laser beams from medical devices or other devices may cause damage due to reflected light and scattered light.

About the Screens

- Do not leave the screens facing direct sunlight, as this may damage the screens.
- Do not press/swipe the screens forcefully, or leave objects on the screens, as it may cause a malfunction, such as picture irregularity, etc.
- The screens may become warm in use. This is not a malfunction.

LCD Panels

The LCD panel fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels may be "stuck", either always off (black), always on (red, green, or blue), or flashing. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such "stuck" pixels may appear spontaneously.
These problems are not a malfunction.
Note that any such problems have no effect on recorded data.

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.

Camera CMOS image sensor phenomena

[Note]
The following phenomena that may occur in images are specific to image sensors. They do not indicate a malfunction.

White flecks

Although the image sensors are produced with high-precision technologies, fine white flecks may be generated on the screen in rare cases, caused by cosmic rays, etc.
This is related to the principle of image sensors and is not a malfunction.
The white flecks especially tend to be seen in the following cases:
- When operating at a high environmental temperature
- When you have raised the gain (sensitivity)

Flicker

If shooting under lighting produced by fluorescent lights, sodium lamps, mercury-vapor lamps, or LEDs, the screen may flicker or colors may vary.

Notes on the Display

Pictures on the viewfinder screen and outputs may be distorted by the following operations.
  – Changing the video format
  – Changing the FPS frame rate
  – When genlock is applied

File Fragmentation

If pictures cannot be recorded/reproduced properly, try formatting the recording medium. While repeating picture recording/playback with a certain recording media for an extended period, files in the media may be fragmented, disabling proper recording/storage. In such a case, make a backup of clips in the media then perform formatting of the media using Format Media (page 51) in the TC/Media menu of the full menu.

Do not place this product close to medical devices

This product (including accessories) has magnet(s) which may interfere with pacemakers, programmable shunt valves for hydrocephalus treatment, or other medical devices. Do not place this product close to persons who use such medical devices. Consult your doctor before using this product if you use any such medical device.

Security Precautions

- SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND RESULTING FROM A FAILURE TO IMPLEMENT PROPER SECURITY MEASURES ON TRANSMISSION DEVICES, UNAVOIDABLE DATA LEAKS RESULTING FROM TRANSMISSION SPECIFICATIONS, OR SECURITY PROBLEMS OF ANY KIND.
- Depending on the operating environment, unauthorized third parties on the network may be able to access the unit. When connecting the unit to the network, be sure to confirm that the network is protected securely.
- Communication content may be unknowingly intercepted by unauthorized third parties in the vicinity of the signals. When using wireless LAN communication, implement security measures properly to protect the communication content.
- When connecting this product to a network, connect via a system that provides a protection function, such as a router or firewall. If connected without such protection, security issues may occur.
- From a safety standpoint, when using the unit connected with the network, it is strongly recommended to access the Control window via a Web browser and change the access limitation settings from the factory preset values (page 61). Changing the password regularly is also recommended.
- Do not browse any other website in the Web browser while making settings or after making settings. Since the login status remains in the Web browser, close the Web browser when you complete the settings to prevent unauthorized third parties from using the unit or harmful programs from running.

Output Formats and Limitations

Factory default settings are shown in bold (for example, **1920×1080P (Level A)**).

[Notes]
- The resolution of the output format is limited by the Rec Format >Frequency, Codec and Video Format settings in the Project menu of the full menu (page 43).
- The image is not output if a higher resolution than the playback image resolution is configured.

SDI OUT/HDMI OUT Connector Output Formats

System frequency setting (Rec Format >Frequency in the Project menu)	Codec setting (Rec Format >Codec in the Project menu)	Recording resolution	Output format (Output Format in the Monitoring menu)		
			SDI1	SDI2	HDMI
50/59.94Hz	X-OCN LT	(6K 17:9) (5K 17:9) (4.3K 17:9) (4K 17:9)	**1920×1080P(A)**	**1920×1080P(A)**	–
			–	–	4096×2160P
			–	–	1920×1080P
			–	–	1920×1080i
		(6K 16:9) (5K 16:9) (4.3K 16:9) (4K 16:9)	**1920×1080P(A)**	**1920×1080P(A)**	–
			–	–	3840×2160P
			–	–	1920×1080P
			–	–	1920×1080i
	XAVC Intra	4096×2160 (17:9)	4096×2160P[1]	2048×1080P(A)[1]	4096×2160P[1]
			4096×2160P[1]	2048×1080P(A)[1]	1920×1080P[1]
			4096×2160P[1]	2048×1080P(A)[1]	1920×1080i[1]
			1920×1080P(A)	**1920×1080P(A)**	**1920×1080P**
			1920×1080P(A)	1920×1080P(A)	1920×1080i
			1920×1080P(B)	1920×1080P(B)	1920×1080P
			1920×1080P(B)	1920×1080P(B)	1920×1080i
			1920×1080i	1920×1080i	1920×1080i

System frequency setting (Rec Format >Frequency in the Project menu)	Codec setting (Rec Format >Codec in the Project menu)	Recording resolution	Output format (Output Format in the Monitoring menu)		
			SDI1	SDI2	HDMI
50/59.94Hz	XAVC Intra XAVC Long	3840×2160 (16:9)	3840×2160P	1920×1080P(A)	3840×2160P
			3840×2160P	1920×1080P(A)	1920×1080P
			3840×2160P	1920×1080P(A)	1920×1080i
			1920×1080P(A)	**1920×1080P(A)**	**1920×1080P**
			1920×1080P(A)	1920×1080P(A)	1920×1080i
			1920×1080P(B)	1920×1080P(B)	1920×1080P
			1920×1080P(B)	1920×1080P(B)	1920×1080i
			1920×1080i	1920×1080i	1920×1080i
	XAVC Intra XAVC Long	1920×1080 (16:9)	**1920×1080P(A)**	**1920×1080P(A)**	**1920×1080P**
			1920×1080P(A)	1920×1080P(A)	1920×1080i
			1920×1080P(B)	1920×1080P(B)	1920×1080P
			1920×1080P(B)	1920×1080P(B)	1920×1080i
			1920×1080i	1920×1080i	1920×1080i
			–	–	720×480P, 720×576P
25/29.97Hz	X-OCN LT	(8K 17:9) (6K 17:9) (5K 17:9) (4.3K 17:9) (4K 17:9)	**1920×1080P**	**1920×1080P**	–
			–	–	4096×2160P
			–	–	1920×1080P
		(8K 16:9) (6K 16:9) (5K 16:9) (4.3K 16:9) (4K 16:9)	**1920×1080P**	**1920×1080P**	–
			–	–	3840×2160P
			–	–	1920×1080P
	XAVC H-I HQ XAVC H-I SQ	8192×4320 (17:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**
			1920×1080PsF	1920×1080PsF	1920×1080i
	XAVC H-I HQ XAVC H-I SQ XAVC H-L	7680×4320 (16:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**
			1920×1080PsF	1920×1080PsF	1920×1080i

System frequency setting (Rec Format >Frequency in the Project menu)	Codec setting (Rec Format >Codec in the Project menu)	Recording resolution	Output format (Output Format in the Monitoring menu)		
			SDI1	SDI2	HDMI
25/29.97Hz	XAVC Intra	4096×2160 (17:9)	4096×2160P[1]	2048×1080P[1]	4096×2160P[1]
			4096×2160P[1]	2048×1080P[1]	1920×1080P[1]
			1920×1080P	**1920×1080P**	**1920×1080P**
			1920×1080PsF	1920×1080PsF	1920×1080i
	XAVC Intra XAVC Long	3840×2160 (16:9)	3840×2160P	1920×1080P	3840×2160P
			3840×2160P	1920×1080P	1920×1080P
			1920×1080P	**1920×1080P**	**1920×1080P**
			1920×1080PsF	1920×1080PsF	1920×1080i
	XAVC Intra XAVC Long	1920×1080 (16:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**
			1920×1080PsF	1920×1080PsF	1920×1080i
23.98Hz	X-OCN LT	(8K 17:9) (6K 17:9) (5K 17:9) (4.3K 17:9) (4K 17:9)	**1920×1080P**	**1920×1080P**	–
			–	–	4096×2160P
			–	–	1920×1080P
		(8K 16:9) (6K 16:9) (5K 16:9) (4.3K 16:9) (4K 16:9)	**1920×1080P**	**1920×1080P**	–
			–	–	3840×2160P
			–	–	1920×1080P
	XAVC H-I HQ XAVC H-I SQ	8192×4320 (17:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**
	XAVC H-I HQ XAVC H-I SQ XAVC H-L	7680×4320 (16:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**
	XAVC Intra	4096×2160 (17:9)	4096×2160P[1]	2048×1080P[1]	4096×2160P[1]
			4096×2160P[1]	2048×1080P[1]	1920×1080P[1]
			1920×1080P	**1920×1080P**	**1920×1080P**
23.98Hz	XAVC Intra XAVC Long	3840×2160 (16:9)	3840×2160P	1920×1080P	3840×2160P
			3840×2160P	1920×1080P	1920×1080P
			1920×1080P	**1920×1080P**	**1920×1080P**
	XAVC Intra XAVC Long	1920×1080 (16:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**

System frequency setting (Rec Format >Frequency in the Project menu)	Codec setting (Rec Format >Codec in the Project menu)	Recording resolution	Output format (Output Format in the Monitoring menu)		
			SDI1	SDI2	HDMI
24Hz	X-OCN LT	(8K 17:9) (6K 17:9) (5K 17:9) (4.3K 17:9) (4K 17:9)	**1920×1080P**	**1920×1080P**	–
			–	–	4096×2160P
			–	–	1920×1080P
	XAVC H-I HQ XAVC H-I SQ	8192×4320 (17:9)	**1920×1080P**	**1920×1080P**	**1920×1080P**
	XAVC Intra	4096×2160 (17:9)	4096×2160P[1]	2048×1080P[1]	4096×2160P[1]
			1920×1080P	**1920×1080P**	**1920×1080P**

1) Cannot be selected if the imager size (Imager Scan Mode) is S35c 4K 17:9 and the frame rate is 100 fps or higher when shooting in Slow & Quick Motion mode.

Clip Recording/Playback Time

The following tables show the recording/playback time when using Sony CFexpress Type B VPG400 960 GB memory cards (Unit: minutes).

[Note]
The recording and playback times are for a continuous recording as a single clip. The actual times may be shorter, depending on the number of clips recorded. The recording/playback time may vary due to usage conditions and memory characteristics.

Imager Scan Mode	Frequency	Codec										
		X-OCN (LT)	XAVC H-I HQ 8192×4320	XAVC H-I HQ 7680×4320	XAVC H-I SQ 8192×4320	XAVC H-I SQ 7680×4320	XAVC H-L 7680×4320	XAVC-I 4096×2160	XAVC-I 3840×2160	XAVC-I 1920×1080	XAVC-L 3840×2160	XAVC-L 1920×1080
FF 8.6K 17:9	23	74	130	–	194	–	–	–	–	–	–	–
	24	74	130	–	193	–	–	–	–	–	–	–
	25	71	125	–	186	–	–	–	–	–	–	–
	29	59	104	–	155	–	–	–	–	–	–	–
	50	–	–	–	–	–	–	–	–	–	–	–
	59	–	–	–	–	–	–	–	–	–	–	–
FF 8.6K 16:9	23	69	–	130	–	194	239	–	–	–	–	–
	24	–	–	–	–	–	–	–	–	–	–	–
	25	66	–	125	–	186	239	–	–	–	–	–
	29	55	–	104	–	155	238	–	–	–	–	–
	50	–	–	–	–	–	–	–	–	–	–	–
	59	–	–	–	–	–	–	–	–	–	–	–
FFc 6K 17:9	23	150	–	–	–	–	–	494	–	–	–	–
	24	150	–	–	–	–	–	493	–	–	–	–
	25	144	–	–	–	–	–	473	–	–	–	–
	29	120	–	–	–	–	–	397	–	–	–	–
	50	72	–	–	–	–	–	241	–	–	–	–
	59	60	–	–	–	–	–	201	–	–	–	–
FFc 6K 16:9	23	140	–	–	–	–	–	–	494	1207	1145	2121
	24	–	–	–	–	–	–	–	–	–	–	–
	25	135	–	–	–	–	–	–	473	985	1140	2106
	29	112	–	–	–	–	–	–	397	981	1127	2070
	50	67	–	–	–	–	–	–	241	512	756	1939
	59	56	–	–	–	–	–	–	201	510	745	1878
S35 5.8K 17:9	23	165	–	–	–	–	–	494	–	–	–	–
	24	164	–	–	–	–	–	493	–	–	–	–
	25	158	–	–	–	–	–	473	–	–	–	–
	29	132	–	–	–	–	–	397	–	–	–	–
	50	79	–	–	–	–	–	241	–	–	–	–
	59	66	–	–	–	–	–	201	–	–	–	–

Imager Scan Mode	Frequency	Codec										
		X-OCN (LT)	XAVC H-I HQ 8192×4320	XAVC H-I HQ 7680×4320	XAVC H-I SQ 8192×4320	XAVC H-I SQ 7680×4320	XAVC H-L 7680×4320	XAVC-I 4096×2160	XAVC-I 3840×2160	XAVC-I 1920×1080	XAVC-L 3840×2160	XAVC-L 1920×1080
S35 5.8K 16:9	23	154	–	–	–	–	–	–	494	1207	1145	2121
	24	–	–	–	–	–	–	–	–	–	–	–
	25	148	–	–	–	–	–	–	473	985	1140	2106
	29	124	–	–	–	–	–	–	397	981	1127	2070
	50	74	–	–	–	–	–	–	241	512	756	1939
	59	62	–	–	–	–	–	–	201	510	745	1878
S35c 4K 17:9	23	323	–	–	–	–	–	494	–	–	–	–
	24	323	–	–	–	–	–	493	–	–	–	–
	25	310	–	–	–	–	–	473	–	–	–	–
	29	259	–	–	–	–	–	397	–	–	–	–
	50	156	–	–	–	–	–	241	–	–	–	–
	59	130	–	–	–	–	–	201	–	–	–	–

Troubleshooting

Power Supply

Symptom	Cause	Solution
The unit does not power on.	No battery pack is mounted and no power is supplied to the DC IN connector.	Mount a battery pack (page 13) or connect to AC power using an AC adaptor (page 13).
	The battery pack is completely exhausted.	Replace the battery pack with a fully charged one (page 13).
The power supply cuts while operating.	The battery pack becomes exhausted.	Replace the battery pack with a fully charged one (page 13).
The battery pack becomes exhausted very quickly.	The ambient temperature is very low.	This is due to the battery characteristics and is not a defect.
	The battery pack is inadequately charged.	Recharge the battery pack (page 13). If the battery pack is soon exhausted even after you charged it fully, it may comes to the end of its life. Replace it with a new one.

Recording/Playback

Symptom	Cause	Solution
Recording does not start when you press the REC (recording start/stop) button.	The memory card is full.	Replace the memory card with one having sufficient space.
	The memory card needs restoration.	Restore the memory card (page 19).
Audio recording is not possible.	The AUDIO LEVEL (CH1/CH2) dials are set to the minimum level.	Adjust the audio recording levels with the AUDIO LEVEL (CH1/CH2) dials (page 98).
The recorded sound is distorted.	The audio level is too high.	Adjust the audio recording levels with the AUDIO LEVEL (CH1/CH2) dials (page 98).

Symptom	Cause	Solution
The recorded sound has a high noise level.	The audio level is too low.	Adjust the audio recording levels with the AUDIO LEVEL (CH1/CH2) dials (page 98). When an external microphone is selected, also adjust the Audio Input >INPUT MIC Reference (page 55) setting in the Audio menu of the full menu.
Clips cannot be played back.	The clip is being edited.	Clips cannot be played back if you have modified file names or folders, or if the clip is in use on a computer. This is not a malfunction.
	The clip is being recorded on another device.	Clips recorded on other devices may not be played back, or displayed in incorrect size. This is not a malfunction.

External Devices

Symptom	Solution
The computer does not recognize the unit.	Disconnect the USB cable from the computer, then connect it again securely.
	Disconnect the USB cable from your computer, reboot your computer, and follow the steps again in the correct order.
	Connect the computer and the unit by inserting a USB cable into either the USB-C connector or the USB/multi connector.
Clips cannot be loaded on the computer.	Disconnect the USB cable from the computer, restart the unit, and then connect it again.
	Application software must be installed to load clips on your computer (page 107).

Wireless LAN Connection

[Note]
Obstructions and electromagnetic interference between the unit and 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 unit to a new location, or bringing the unit and access point/terminal device closer together.

Symptom	Solution
A terminal device cannot access the unit.	• Check the wireless LAN connection (IP address, etc.). • The communication setting between the access point and client may be invalid. For details, refer to the operating instructions of the access point.
You cannot log in to the unit.	Check the user name and password that you set.

Internet Connection

Symptom	Solution
File uploading fails.	The user name and password of the server may not be correct. Input the correct user name and password.
File uploading is not available.	Signal condition may be poor. Move to another location and try again.

When using the ND Filter

Symptom	Solution
The ND filter does not move.	You can move the filter to the Clear position manually using the following procedure.

1 Set the ND STEP/VARIABLE switch (page 5) to the STEP position and press the down button of the ND FILTER POSITION up/down button (page 4) so that the ND CLEAR lamp turns on.

2 Turn the unit off.

3 Remove the round cap (2 places) on the bottom side.

4 Insert a screwdriver in the hole (2 places) and turn it counterclockwise.
• The ND filter moves to the Clear position by turning counterclockwise. Continue turning until reaching the Clear position.
• Use a screwdriver with ø2.4 mm diameter or smaller. The insertion depth of the screwdriver is about 3.0 cm (1 $^3/_{16}$ in.).

Screwdriver hole
(with cap removed)
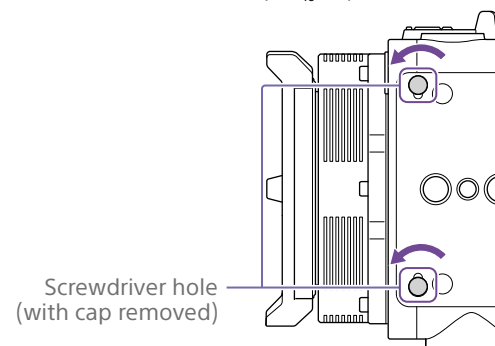
[Notes]
• Do not use the procedure above during normal operation. Only use this procedure if the ND filter will not move. The ND filter may become damaged if this procedure is used during normal operation.
• After the procedure above is used, consult a Sony service center to have the unit repaired.
• If an error message still appears after performing the procedure above, shooting is still possible.

Error/Warning Messages

If a warning, caution, or operating condition that requires confirmation occurs on the unit, a message is displayed on the LCD monitor, the recording/tally lamp starts flashing, and a warning sound is emitted.
The warning sound is emitted from the headphones connected to the headphone connector.

Error Messages

The unit will stop operation when the following kind of display occurs.

LCD monitor error display	Warning sound	Recording/tally lamp	Cause and Solution
E + error code	Continuous	High-speed flashing	The unit may be defective. Turn off the unit, and check for any problem with connected devices, cables, or media. If the error persists when the unit is turned on again, contact your Sony service representative. (If power cannot be turned off by setting the power switch to the ⏻ (Standby) position, remove the battery pack or the DC IN source.) An error display or warning sound may not occur depending on the status of the unit.

Warning Messages

Follow the instructions provided if the following display occurs.

LCD monitor warning display	Warning sound	Recording/tally lamp	Cause and Solution
Battery Near End	Intermittent	Flashing	The remaining capacity of the battery pack is getting low. Recharge at the earliest convenience.
Battery End	Continuous	High-speed flashing	The battery pack is dead. Recording is disabled. Stop operation and replace the battery pack.
Temperature High	Intermittent	Flashing	The internal temperature is high. Turn off the unit and allow it to cool down before operating it again.
Media Temperature High	Intermittent	Flashing	The temperature of the CFexpress card is high. Replace the card or allow it to cool down before using it again.

LCD monitor warning display	Warning sound	Recording/tally lamp	Cause and Solution
Voltage Low	Intermittent	Flashing	The DC IN voltage is low (level 1). Check the power source.
Insufficient Voltage	Continuous	High-speed flashing	The DC IN voltage is too low (level 2). Recording is disabled. Connect a different power source.
Media Near Full	Intermittent	Flashing	The remaining capacity on the memory card is getting low. Replace at the earliest convenience.
Media Full	Continuous	High-speed flashing	Clips could not be recorded or copied because there is no remaining capacity on the memory card. Replace immediately.
Clips Near Full	Intermittent	Flashing	The number of additional clips that can be recorded on a memory card is getting low. Replace at the earliest convenience.
Clips Full	Continuous	High-speed flashing	The maximum number of clips that can be recorded on the memory card has been reached. Recording or copying more clips is not possible. Replace immediately.
Last Clip Recording	Intermittent	Flashing	The clip currently recording is the last clip that can be recorded, as the maximum number of clips has been reached. Prepare a new memory card.
Media(A)[1] Life Near End	Intermittent	Flashing	The memory card is approaching the end of its life. Replace at the earliest convenience.
Media(A)[1] Life End	Continuous	High-speed flashing	The memory card has reached the end of its life. Replace immediately.
Media(A)[1] Near Full	Intermittent	Flashing	When using the Simul Rec function
Media(A)[1] Full	Continuous	High-speed flashing	When using the Simul Rec function
Media(A)[1] Clips Near Full	Intermittent	Flashing	When using the Simul Rec function
Media(A)[1] Clips Full	Continuous	High-speed flashing	When using the Simul Rec function
Media(A)[1] Last Clip Rec	Intermittent	Flashing	When using the Simul Rec function
Transfer Jobs Near Full	–	–	The number of FTP file transfer jobs that can be registered is getting low.

LCD monitor warning display	Warning sound	Recording/ tally lamp	Cause and Solution
Transfer Jobs Full	–	–	The number of FTP file transfer jobs that can be registered has reached the upper limit. To add another job, first delete any unwanted jobs. [2]

1) "(B)" is displayed for the card in slot B.
2) You can select and delete jobs using File Transfer >View Job List (page 63) in the Network menu of the full menu. You can also delete jobs from the job list in the Monitor & Control application.

Caution and Operation Messages

The following caution and operation messages may appear in the center of the screen. Follow the instructions provided to resolve the issue.

Display message	Cause and Solution
Battery Error Please Change Battery	An error was detected in the battery pack. Replace with a normal battery pack.
Backup Battery End Please Change	The remaining capacity of the backup battery is insufficient. Charge the backup battery.
Unknown Media (A) [1] Please Change	A memory card that has been partitioned or a memory card containing more clips that can be handled by the unit was inserted. The card cannot be used in the unit, and must be replaced.
Cannot Use Media (A) [1] Unsupported File System	A card using a different file system or an unformatted card was inserted. The card cannot be used in the unit, and must be replaced or formatted using the unit.
Media Error Media (A) [1] Needs to be Restored	An error occurred on the memory card, and the card must be restored. Restore the memory card.
Media Error Cannot Record to Media (A) [1]	The memory card may be damaged, and can no longer be used for recording. Playback may be possible, so making a copy and replacing the memory card is recommended.
Media Error Cannot Use Media (A) [1]	The memory card may be damaged, and can no longer be used for recording or playback. The card cannot be used in the unit, and must be replaced.
Media (A) [1] Error Recording Halted Playback Halted	Recording or playback stopped because an error occurred on the memory card. If the problem persists, replace the memory card.
Media Reached Rewriting Limit Change Media (A) [1]	The memory card has reached the end of its life. Make a backup, and replace the card immediately. If you continue using the card, the card may not be able to record or play. For details, refer to the operating instructions for the memory card.
The specified address is invalid.	The specified address is invalid. Check that the setting is correct.
Cannot Use Specified Port Number	The specified port number is invalid. Check that the setting is correct.

Display message	Cause and Solution
Fan Stopped	The built-in fan stopped. Avoid use at high temperatures, disconnect the power, and contact your Sony service representative.
LENS Error	A fault was detected in the lens I/F communication when an E-mount lens is attached. Check the status of the connection with the E-mount lens.
This Multi Term. acc is not supported by the device and cannot be used. Please verify the compatibility.	An incompatible accessory was detected. The only Multi Terminal accessory supported by the unit is the supplied grip remote control.
Failed.	This error may appear if an address cannot be obtained with DHCP set to On. Check the DHCP server settings.
Addition of auto upload job failed.	The maximum number of transfer jobs has been reached. Clear any unwanted jobs. The auto upload destination setting for original clips or proxy clips may also be incorrect. Check that the setting is correct.
<SSID>Not found.	Network (access point) with the specified <SSID> could not be found. Check that the setting is correct.
<SSID>Authentication Failed	Connection authentication on the network (access point) with the specified <SSID> failed. Check that the password and other settings are correct.
An IP address conflict has occurred. Please check the network settings.	There is a conflict in the network addresses of the wireless LAN, wired LAN, or USB tethering. Change the address manually or change the settings for the network router.
The IP address of the Wireless LAN Access Point Mode has been changed due to an IP address conflict.	The IP address of the wireless LAN access point mode was changed due to a conflict in the network addresses of the wireless LAN access point mode, wired LAN, or USB tethering. Check the IP address setting.

1) "(B)" is displayed for the card in slot B.

Items Saved in Files

Items Configured in the Full Menu

Yes: Item is saved.
No: Item is not saved.
–: Not saved (temporary setting)

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Shooting	ISO/Gain/EI	Mode	Yes	No
		ISO/Gain	Yes	No
		Exposure Index	Yes	No
		Shockless Gain	Yes	No
		Base Sensitivity	Yes	No
		Base ISO	Yes	No
	ND Filter	Display Mode	Yes	No
	Shutter	Mode	Yes	No
		Shutter Speed On/Off	Yes	No
		Shutter Speed	Yes	No
		Shutter Angle	Yes	No
		ECS On/Off	Yes	No
		ECS Frequency	Yes	No
	Iris	Bokeh Control	No	–

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Shooting	Auto Exposure	Level	Yes	No
		Mode	Yes	No
		Speed	Yes	No
		Auto ND Filter	Yes	No
		AGC	Yes	No
		AGC Limit	Yes	No
		AGC Point	Yes	No
		Auto Shutter	Yes	No
		A.SHT Limit	Yes	No
		A.SHT Point	Yes	No
		Auto Iris	Yes	No
		Clip High light	Yes	No
		Detect Window	Yes	No
		Detect Window Indication	Yes	No
		Custom Width	Yes	No
		Custom Height	Yes	No
		Custom H Position	Yes	No
		Custom V Position	Yes	No
	White	White Select	Yes	No
		Auto White Balance	–	–
		ATW	Yes	No
		Color Temp	Yes	No
		Tint	Yes	No
		R Gain	Yes	No
		B Gain	Yes	No
		Preset White Select	–	–
	White Setting	Shockless White	Yes	No
		ATW Speed	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Shooting	Focus	AF Transition Speed	Yes	No
		AF Subj. Shift Sens.	Yes	No
		Focus Area	Yes	No
		Subject Recognition AF	Yes	No
		Touch Function in MF	Yes	No
		AF Assist	Yes	No
	S&Q Motion	Setting	Yes	No
		Frame Rate	Yes	No
	LUT On/Off	[1] SDI/HDMI	Yes	No
		[1] SDI	Yes	No
		[2] LCD/Proxy/Stream	Yes	No
		[2] LCD/HDMI/Px/Stream	Yes	No
	Noise Suppression	Setting(Custom)	Yes	No
		Level(Custom)	Yes	No
		Setting(Cine EI)	Yes	–
		Level(Cine EI)	Yes	–
	Flicker Reduce	Mode	Yes	No
		Frequency	Yes	No
	Image Stabilization	SteadyShot	Yes	No
		PL Stabilization	Yes	No
		Stabilization Adjustment	Yes	No
		Focal Length	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Project	Base Setting	Shooting Mode	Yes	–
		Target Display	Yes	–
	Rec Format	Frequency	Yes	No
		Imager Scan Mode	Yes	No
		Codec	Yes	No
		Video Format	Yes	No
	Cine EI Setting	Color Gamut	Yes	–
		Embed LUT File	Yes	No
	Simul Rec	Setting	Yes	No
	Proxy Rec	Setting	Yes	No
		Audio Channel	Yes	No
	Interval Rec	Setting	No	No
		Interval Time	Yes	No
		Number of Frames	Yes	No
		Pre-Lighting	Yes	No
	Picture Cache Rec	Setting	Yes	No
		Cache Size	Yes	No
		Cache Rec Time	–	–
	SDI/HDMI Rec Control	Setting	Yes	No
	Assignable Button	<1>	Yes	No
		<2>	Yes	No
		<3>	Yes	No
		<4>	Yes	No
		<5>	Yes	No
		<6>	Yes	No
		<7>	Yes	No
		<8>	Yes	No
		<9>	Yes	No
		<10>	Yes	No
		<11>	Yes	No
		Focus Hold Button	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Project	Assignable Dial	Grip/Remote Dial	Yes	No
		Grip Dial Direction	Yes	No
	Multi Function Dial	Default Function	Yes	No
	User File	Load from UTILITY SD	–	–
		Save to UTILITY SD	–	–
		File ID	No	No
		Load Customize Data	Yes	No
		Load White Data	Yes	No
	All File	Load from UTILITY SD	–	–
		Load from Cloud(Private)	–	–
		Load from Cloud(Share)	–	–
		Save to UTILITY SD	–	–
		Save to Cloud(Private)	–	–
		Save to Cloud(Share)	–	–
		File ID	Yes	No
		Load Network Data	No	No
Paint/Look	Scene File	Recall	–	–
		Store	–	–
		Delete	–	–
		Preset Recall	–	–
	Base Look	Select	Yes	Yes
		Delete	–	–
		Delete All	–	–
		Import from Utility SD	–	–
		Import from Cloud(Private)	–	–
		Import from Cloud(Share)	–	–
		Input	Yes	–
		Output	Yes	–
		AE Level Offset	Yes	–
	Reset Paint Settings	Reset without Base Look	–	–

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Paint/Look	Black	Master Black	Yes	Yes
		R Black	Yes	Yes
		B Black	Yes	Yes
	Knee	Setting	Yes	Yes
		Auto Knee	Yes	Yes
		Point	Yes	Yes
		Slope	Yes	Yes
	Detail	Setting	Yes	Yes
		Level	Yes	Yes
		H/V Ratio	Yes	Yes
		B/W Balance	Yes	Yes
		Limit	Yes	Yes
		Crispening	Yes	Yes
		High Light Detail	Yes	Yes
	Matrix	User Matrix	Yes	Yes
		User Matrix Level	Yes	Yes
		User Matrix Phase	Yes	Yes
		User Matrix R-G	Yes	Yes
		User Matrix R-B	Yes	Yes
		User Matrix G-R	Yes	Yes
		User Matrix G-B	Yes	Yes
		User Matrix B-R	Yes	Yes
		User Matrix B-G	Yes	Yes
	Multi Matrix	Setting	Yes	Yes
		Reset	–	–
		Axis	No	No
		Hue	Yes	Yes
		Saturation	Yes	Yes

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
TC/Media	Timecode	Mode	Yes	No
		Run	Yes	No
		Setting	No	No
		Reset	–	–
		TC Format	Yes	No
	TC Display	Display Select	Yes	No
	Users Bit	Mode	Yes	No
		Setting	No	No
	HDMI TC Out	Setting	Yes	No
	Clip Name Format	Camera ID	No	No
		Reel Number	No	No
		Camera Position	No	No
		XAVC Root Folder Name	Yes	No
	Update Media	Media(A)	–	–
		Media(B)	–	–
	Format Media	Media(A)	–	–
		Media(B)	–	–
		Utility SD	–	–
Monitoring	Output Format	SDI1	Yes	No
		SDI2	Yes	No
		HDMI	Yes	No
		REF	No	No
	De-Squeeze	Ratio	Yes	No
		SDI (X-OCN)	Yes	No
		HDMI (FHD Output)	Yes	No
		LCD Monitor	Yes	No
	Output Display	SDI	Yes	No
		HDMI	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Monitoring	Display On/Off	Focus Mode	Yes	No
		Focus Position	Yes	No
		Network Status	Yes	No
		File Transfer Status	Yes	No
		Rec/Play Status	Yes	No
		SDI/HDMI Rec Control	Yes	No
		Tally	Yes	No
		Battery Remain	Yes	No
		Zoom Position	Yes	No
		Image Stabilization	Yes	No
		Media Status	Yes	No
		Lens Info	Yes	No
		Look Name	Yes	No
		UWP RF Level	Yes	No
		Focus Area Indicator	Yes	No
		Subject Recognition Frame	Yes	No
		Clip Name	Yes	No
		Video Level Warning	Yes	No
		Timecode	Yes	No
		Gamma Display Assist	Yes	No
		Video Signal Monitor	Yes	No
		Imager Scan Mode	Yes	No
		Frame Rate	Yes	No
		Rec Format	Yes	No
		Rec Look	Yes	No
		Level Gauge	Yes	No
		Audio Level Meter	Yes	No
		Auto Exposure Mode	Yes	No
		Auto Exposure Level	Yes	No
		ND Filter	Yes	No
		Iris	Yes	No
		ISO/Gain/EI	Yes	No
		Base ISO/Sensitivity	Yes	No
		Shutter	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Monitoring	Display On/Off	White Balance	Yes	No
		Clip Number	Yes	No
		Notice Message	Yes	No
	Marker	Setting	Yes	No
		Color	Yes	No
		Center Marker	Yes	No
		Safety Zone	Yes	No
		Safety Area	Yes	No
		Aspect Marker	Yes	No
		Aspect Mask	Yes	No
		Aspect Safety Zone	Yes	No
		Aspect Safety Area	Yes	No
		Aspect Select	Yes	No
		Custom Aspect Ratio	Yes	No
		Guide Frame	Yes	No
		100% Marker	Yes	No
		User Box	Yes	No
		User Box Width	Yes	No
		User Box Height	Yes	No
		User Box H Position	Yes	No
		User Box V Position	Yes	No
	LCD Monitor Setting	Brightness	Yes	No
		Color Mode	Yes	No
	Gamma Display Assist	Setting	Yes	No
	Peaking	Setting	Yes	No
		Peaking Level	Yes	No
		Color	Yes	No
Monitoring	Zebra	Setting	Yes	No
		Zebra1 Level	Yes	No
		Zebra1 Aperture Level	Yes	No
		Zebra2 Level	Yes	No
	Focus Magnifier	Focus Mag Button Target	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Audio	Audio Input	CH1 Input Select	Yes	No
		CH2 Input Select	Yes	No
		CH3 Input Select	Yes	No
		CH4 Input Select	Yes	No
		INPUT1 MIC Reference	Yes	No
		INPUT2 MIC Reference	Yes	No
		Line Input Reference	Yes	No
		Reference Level	Yes	No
		CH1 Wind Filter	Yes	No
		CH2 Wind Filter	Yes	No
		CH3 Wind Filter	Yes	No
		CH4 Wind Filter	Yes	No
		CH3 Level Control	Yes	No
		CH4 Level Control	Yes	No
		CH3 Input Level	Yes	No
		CH4 Input Level	Yes	No
		Audio Input Level	Yes	No
		Limiter Mode	Yes	No
		CH1&2 AGC Mode	Yes	No
		CH3&4 AGC Mode	Yes	No
		AGC Spec	Yes	No
		1kHz Tone on Color Bars	Yes	No
		CH1 Level	Yes	No
		CH2 Level	Yes	No
		CH3 Level	Yes	No
		CH4 Level	Yes	No
Audio	Audio Output	Monitor CH	Yes	No
		Volume	No	No
		Headphone Out	Yes	No
		Alarm Level	Yes	No
		HDMI Output CH	Yes	No
		SDI Output CH (X-OCN)	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Clip Operations	Display Clip Properties		–	–
	Set Clip Flag	Add OK	–	–
		Add NG	–	–
		Add KEEP	–	–
		Delete Clip Flag	–	–
	Lock/Unlock Clip	Select Clip	–	–
		Lock All Clips	–	–
		Unlock All Clips	–	–
	Transfer Clip	Select Clip	–	–
		All Clips	–	–
	Transfer Clip (Proxy)	Select Clip	–	–
		All Clips	–	–
	Filter Clips	OK	–	–
		NG	–	–
		KEEP	–	–
		None	–	–
		All	–	–
	Customize View	Clips Caption	Yes	–

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Technical	Color Bars	Setting	No	No
		Type	Yes	No
	ND Dial	CLEAR with Dial	Yes	No
	Rec/Tally	Rec/Tally	Yes	No
		Rec Start/Stop Beep	Yes	No
	LOCK Switch Settings	with Rec Button	Yes	No
		with Hand Grip Remote	Yes	No
		with LCD Monitor	Yes	No
	Touch Operation	Setting	Yes	No
	Rec Review	Setting	Yes	No
	Zoom	Zoom Type	Yes	No
	Handle Zoom	Setting	Yes	No
		High	Yes	No
		Low	Yes	No
	Menu Settings	User Menu Only	Yes	No
		User Menu with Lock	No	No
	Menu Page On/Off	Project	Yes	No
		Audio	Yes	No
		Monitoring	Yes	No
		Assignable Button	Yes	No
		Battery	Yes	No
		Media	Yes	No
		Network	Yes	No
		File Transfer	Yes	No
	Fan Control	Setting	Yes	No
	Lens	PL-Mt Interface Position	Yes	No
		Zoom Ring Direction	Yes	No
		Shading Compensation	Yes	No
		Chroma Aberration Comp.	Yes	No
		Distortion Comp.	Yes	No
		Breathing Compensation	Yes	No
		Distance Display	Yes	No
		Zoom Position Display	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Technical	Video Light Set	Video Light Set	Yes	No
	APR	APR	–	–
	Camera Battery Alarm	Near End:Info Battery	Yes	No
		End:Info Battery	Yes	No
		Near End:Sony Battery	Yes	No
		End:Sony Battery	Yes	No
		Near End:Other Battery	Yes	No
		End:Other Battery	Yes	No
		Detected Battery	No	No
	Camera DC IN Alarm	DC Low Voltage1	Yes	No
		DC Low Voltage2	Yes	No
Network	Network Setup	Setup for Mobile App	–	–
		User Name	No	No
		Input Password	No	No
		Generate Password	No	No
		Show Authentication	–	–
		LAN Type Select	Yes	No
	Wireless LAN	WPS	–	–
		MAC Address	–	–
	AP Mode Settings	Channel	Yes	No
		Camera SSID & Password	–	–
		Regenerate Password	–	–
		IP Address	–	–
		Subnet Mask	–	–

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Network	ST Mode Settings	Camera Remote Control	Yes	No
		Connected Network		
		SSID	–	–
		Security	–	–
		Password	–	–
		DHCP	–	–
		IP Address	–	–
		Subnet Mask	–	–
		Gateway	–	–
		DNS Auto	–	–
		Primary DNS Server	–	–
		Secondary DNS Server	–	–
		Scan Networks		
		SSID	–	–
		Security	–	–
		Password	No	No
		DHCP	Yes	No
		IP Address	Yes	No
		Subnet Mask	Yes	No
		Gateway	Yes	No
		DNS Auto	Yes	No
		Primary DNS Server	Yes	No
		Secondary DNS Server	Yes	No
		Manual Register		
		SSID	Yes	No
		Security	Yes	No
		Password	No	No
		DHCP	Yes	No
		IP Address	Yes	No
		Subnet Mask	Yes	No
		Gateway	Yes	No
		DNS Auto	Yes	No
		Primary DNS Server	Yes	No
		Secondary DNS Server	Yes	No

LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Network	Wired LAN	Camera Remote Control	Yes	No
		Detail Settings		
		DHCP	Yes	No
		IP Address	Yes	No
		Subnet Mask	Yes	No
		Gateway	Yes	No
		DNS Auto	Yes	No
		Primary DNS Server	Yes	No
		Secondary DNS Server	Yes	No
		MAC Address	–	–
	USB Tethering	Setting	Yes	No
		Camera Remote Control	Yes	No
		Device Name	–	–
		IP Address	–	–
		Subnet Mask	–	–
	File Transfer	Auto Upload	Yes	No
		Auto Upload (Proxy)	Yes	No
		Default Upload Server	Yes	No
		Clear Completed Jobs	–	–
		Clear All Jobs	–	–
		View Job List	–	–
		Server Settings1/Server Settings2/Server Settings3		
		Display Name	Yes	No
		Service	Yes	No
		Host Name	Yes	No
		Port	Yes	No
		User Name	No	No
		Password	No	No
		Passive Mode	Yes	No
		Destination Directory	Yes	No
		Using Secure Protocol	Yes	No
		Root Certificate	–	–
		Root Certificate Status	–	–
		Reset	–	–
Network	Network Reset	Reset	–	–

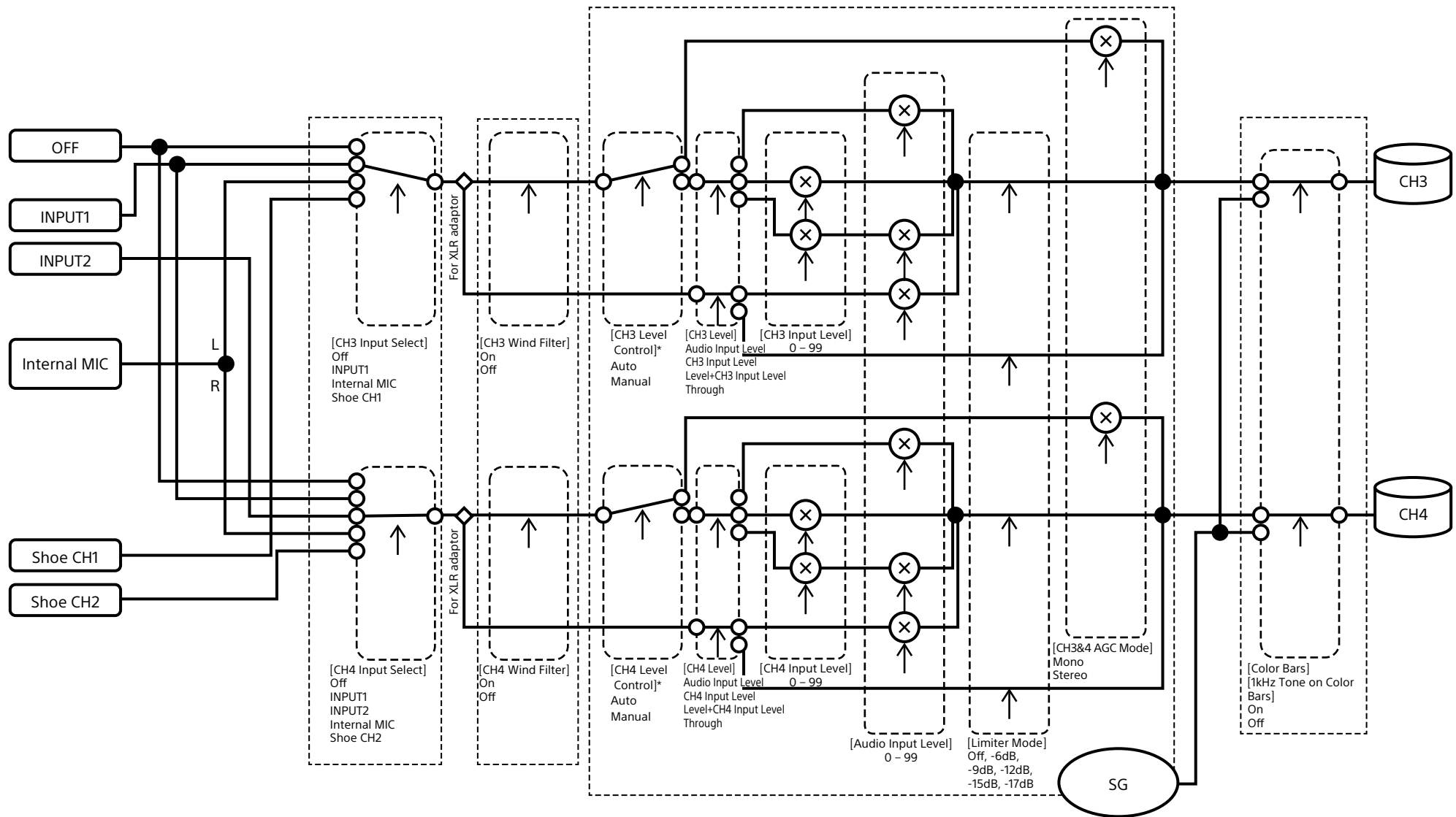| LEVEL 1	LEVEL 2	LEVEL 3	All File	Scene File
Maintenance	Language	Select	Yes	No
	Clock Set	Time Zone	Yes	No
		Date Mode	Yes	No
		12h/24h	Yes	No
		Date	No	No
		Time	No	No
	All Reset	Reset	–	–
		Reset without Network	–	–
	Hours Meter	Hours(System)	–	–
		Hours(Reset)	–	–
		Reset	–	–
	Version	Version Number	–	–
		Version Up	–	–
		Lens Version Number	–	–

Block Diagrams

See related items in "Setting the Audio to Record" (page 98) and "User Menu" (page 35).
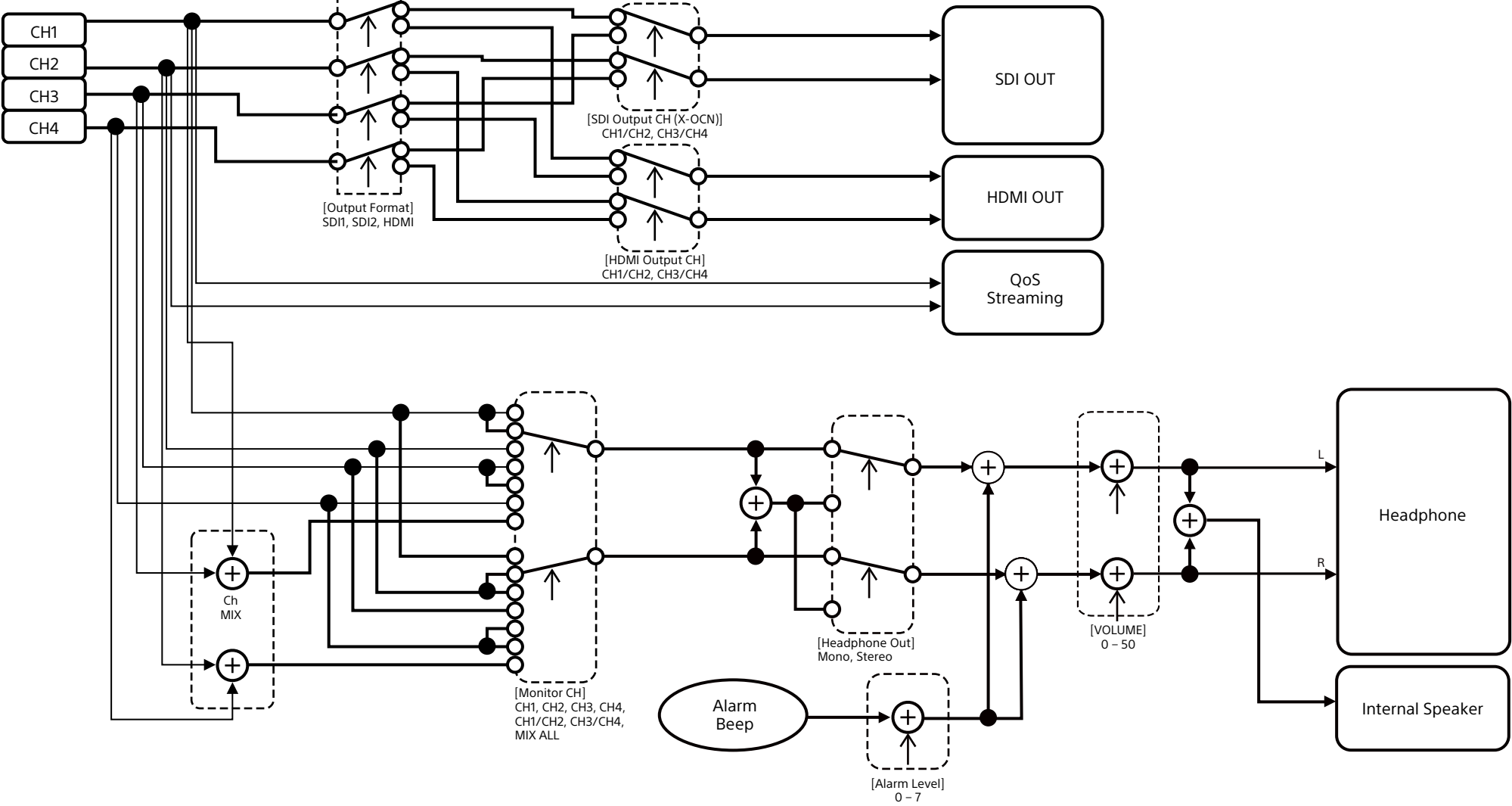
Audio Input (CH1&CH2)

INPUT1

INPUT2

Internal MIC

Shoe CH1

Shoe CH2

L
R

For XLR adaptor

For XLR adaptor

[CH1 Input Select]
INPUT1
Internal MIC
Shoe CH1

[CH2 Input Select]
INPUT1
INPUT2
Internal MIC
Shoe CH2

[CH1 Wind Filter]
On
Off

[CH2 Wind Filter]
On
Off

<CH1 LEVEL
  CONTROL>*
AUTO
MAN

<CH2 LEVEL
  CONTROL>*
AUTO
MAN

[CH1 Level]
Audio Input Level
Side
Level + Side
Through

[CH2 Level]
Audio Input Level
Side
Level + Side
Through

<CH1 INPUT LEVEL>
Level   0 – 10

<CH2 INPUT LEVEL>
Level   0 – 10

[Audio Input Level]
0 – 99

[Limiter Mode]
Off, -6dB,
-9dB, -12dB,
-15dB, -17dB

[CH1&2 AGC Mode]
Mono
Stereo

[Color Bars]
[1kHz Tone on Color
Bars]
On
Off

CH1

CH2

SG

* Set to Manual when audio is input from XLR adaptor.

Audio Input (CH3&CH4)

OFF

INPUT1

INPUT2

Internal MIC

L

R

Shoe CH1

Shoe CH2

For XLR adaptor

For XLR adaptor

[CH3 Input Select]
Off
INPUT1
Internal MIC
Shoe CH1

[CH4 Input Select]
Off
INPUT1
INPUT2
Internal MIC
Shoe CH2

[CH3 Wind Filter]
On
Off

[CH4 Wind Filter]
On
Off

[CH3 Level
Control]*
Auto
Manual

[CH4 Level
Control]*
Auto
Manual

[CH3 Level]
Audio Input Level
CH3 Input Level
Level+CH3 Input Level
Through

[CH4 Level]
Audio Input Level
CH4 Input Level
Level+CH4 Input Level
Through

[CH3 Input Level]
0 – 99

[CH4 Input Level]
0 – 99

[Audio Input Level]
0 – 99

[Limiter Mode]
Off, -6dB,
-9dB, -12dB,
-15dB, -17dB

[CH3&4 AGC Mode]
Mono
Stereo

[Color Bars]
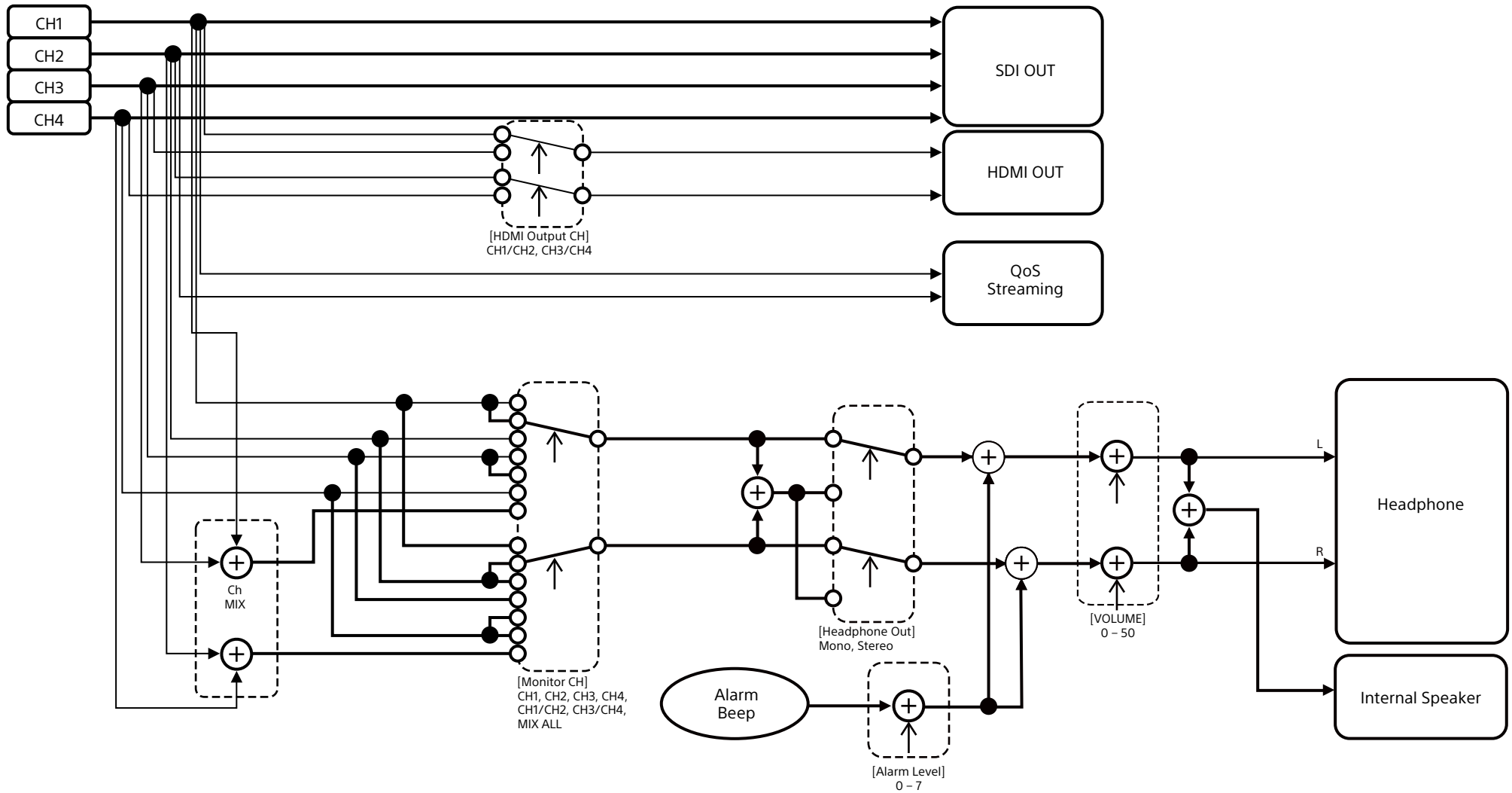[1kHz Tone on Color
Bars]
On
Off

CH3

CH4

SG

* Set to Manual when audio is input from XLR adaptor.

Audio Output (X-OCN)

Audio Output (XAVC)

Updating E-Mount Lens Software

You can update the software of an E-mount lens using the unit.
Refer to the web site for the lens for lenses that can be updated and the corresponding software.

Checking the Version

1 Attach an E-mount lens to the unit (page 17).

2 Select Version in the Maintenance menu of the full menu to display Lens Version Number (page 65).
The software version number of the E-mount lens is displayed on the side.

Updating Software

Set the unit to mass storage mode (page 107).
Update the software following the procedure supplied with the lens software.

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https://oss.sony.net/License/MPC-2610/

Specifications

General

Mass
- Approx. 2.9 kg (6 lb 6.3 oz) (body, PL-mount adaptor)
- Approx. 2.4 kg (5 lb 4.7 oz) (body only, excluding PL-mount adaptor)

Dimensions
- See page 140.

Power requirements
- 12 V DC (11 V to 17 V)

Power consumption
- Unit nominal power consumption: Approx. 50.0 W (lens, 6K 17:9, 59.94P, X-OCN LT recording, auto fan, excluding grip remote control and peripheral devices)
- Unit maximum power consumption: Approx. 66.0 W (lens, 6K 17:9, 59.94P, X-OCN LT recording, 40 °C (104 °F) environment, ND filter (1/4), proxy recording on, Wi-Fi on, auto fan, including grip remote control and peripheral devices)

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. 100 minutes (when using BP-GL95B)

Recording format (video)
- X-OCN(LT)
- XAVC H Intra HQ
- XAVC H Intra SQ
- XAVC H Long
- XAVC Intra
- XAVC Long

Recording format (audio)
- LPCM 24-bit, 48 kHz, 4-channel

Recording frame rate
- X-OCN(LT)
  - FF 8.6K 17:9
    - 29.97P, 25P, 24P, 23.98P
  - FF 8.6K 16:9
    - 29.97P, 25P, 23.98P
  - FFc 6K 17:9/S35 5.8K 17:9/S35c 4K 17:9
    - 59.94P, 50P, 29.97P, 25P, 24P, 23.98P
  - FFc 6K 16:9/S35 5.8K 16:9
    - 59.94P, 50P, 29.97P, 25P, 23.98P
- XAVC H Intra HQ
  - 8192×4320/29.97P, 25P, 24P, 23.98P
  - 7680×4320/29.97P, 25P, 23.98P
- XAVC H Intra SQ
  - 8192×4320/29.97P, 25P, 24P, 23.98P
  - 7680×4320/29.97P, 25P, 23.98P
- XAVC H Long
  - 7680×4320/29.97P, 25P, 23.98P
- XAVC Intra
  - 4096×2160/59.94P, 50P, 29.97P, 25P, 24P, 23.98P
  - 3840×2160/1920×1080/59.94P, 50P, 29.97P, 25P, 23.98P
- XAVC Long
  - 3840×2160/1920×1080/59.94P, 50P, 29.97P, 25P, 23.98P

Recording/playback time
- See page 114.

Camera Section

Imaging element
- 35 mm full-frame equivalent, single-chip CMOS image sensor

Number of pixels
- 57.0M (total)

Auto focus
- Detection method: Phase detection/contrast detection

Internal ND filters
- CLEAR: OFF
- Linearly variable ND: 0.6 (1/4) to 2.1 (1/128)

ISO sensitivity
- ISO 800/3200 (Cine EI mode, D55 Light source)

Lens mount
- PL-mount (with PL-mount adaptor)
- E-mount (without PL-mount adaptor)

Flange focal length
- PL-mount: 52 mm
- E-mount: 18 mm

Latitude
- 16 stops

Shutter speed
- 1/8000 sec. to 64F (23.98P)

Shutter angle
- 5.6° to 360°, 2 to 64 frames

White balance
- 2000 K to 15000 K

Gain
- −3 dB to +18 dB (1 dB increments)

Audio Section

Sampling frequency
- 48 kHz

Quantization
- 24-bit

Frequency response
- XLR input MIC mode: 20 Hz to 20 kHz (±3 dB or less)
- XLR input LINE mode: 20 Hz to 20 kHz (±3 dB or less)

Dynamic range
- XLR input MIC mode: 80 dB (Typical)
- XLR input LINE mode: 90 dB (Typical)

Distortion
- XLR input MIC mode: 0.08% or lower (−40 dBu input level)
- XLR input LINE mode: 0.08% or lower (+14 dBu input level)

Built-in speaker
- Monaural

Internal microphone
- Monaural

Input/Output Section

Inputs

INPUT 1/2:
- XLR type, 3-pin, female
- LINE / MIC / MIC+48V switchable
- MIC: Reference −30 dBu to −80 dBu

TC IN:
- BNC type

REF IN:
- BNC type

Outputs

SDI OUT 1:
- BNC type, 12G-SDI, 6G-SDI, 3G-SDI (Level A/B), HD-SDI

SDI OUT 2:
- BNC type, 3G-SDI (Level A/B), HD-SDI

Headphones (stereo mini jack):
- −16 dBu (reference level output, maximum monitor volume, 16 Ω load)

HDMI:
- Type A, 19-pin

TC OUT:
- BNC type

REF OUT:
     BNC type

Other
DC IN:
     XLR type, 4-pin male (1), 11 V to 17 V
REMOTE:
     2.5 mm, 3-pole sub-mini type
Grip remote control connector:
     3.5 mm, 4-pole mini jack
USB-C:
     USB 3.2 Gen 1
VF:
     Dedicated 40-pin
Network connector:
     RJ45 type
Handle connector:
     Dedicated 40-pin

Display Section

Viewfinder (LCD)
Screen size
     8.8 cm (3.5 inch) diagonal
Aspect ratio
     16:9
Number of pixels
     1280 (H) × 720 (V)

Media Slot Section

CFexpress Type B card slot (2)
Utility SD card slot (1)

Wireless LAN

Supported standards*
     IEEE 802.11a/b/g/n/ac (WW279317 model)
     IEEE 802.11b/g/n (WW057783 model)
Frequency band*
     2.4 GHz/5 GHz (WW279317 model)
     2.4 GHz (WW057783 model)
     *   Refer to the nameplate on the bottom of the unit.
Supported security protocols
     WEP/WPA-PSK/WPA2-PSK
Connection method
     Wi-Fi Protected Setup™ (WPS)/Manual
Access method
     Infrastructure mode

Supplied Accessories

Handle (with viewfinder arm) (1)
Handle mounting screws (4)
LCD monitor (1)
Viewfinder loupe (1)
Viewfinder mount adaptor (1)
Shim (circular) (1)
Shim (1/3 arc) (15)
E-mount cap (1)
PL-mount cap (1)
Before Using This Unit (1)
Warranty booklet (1)

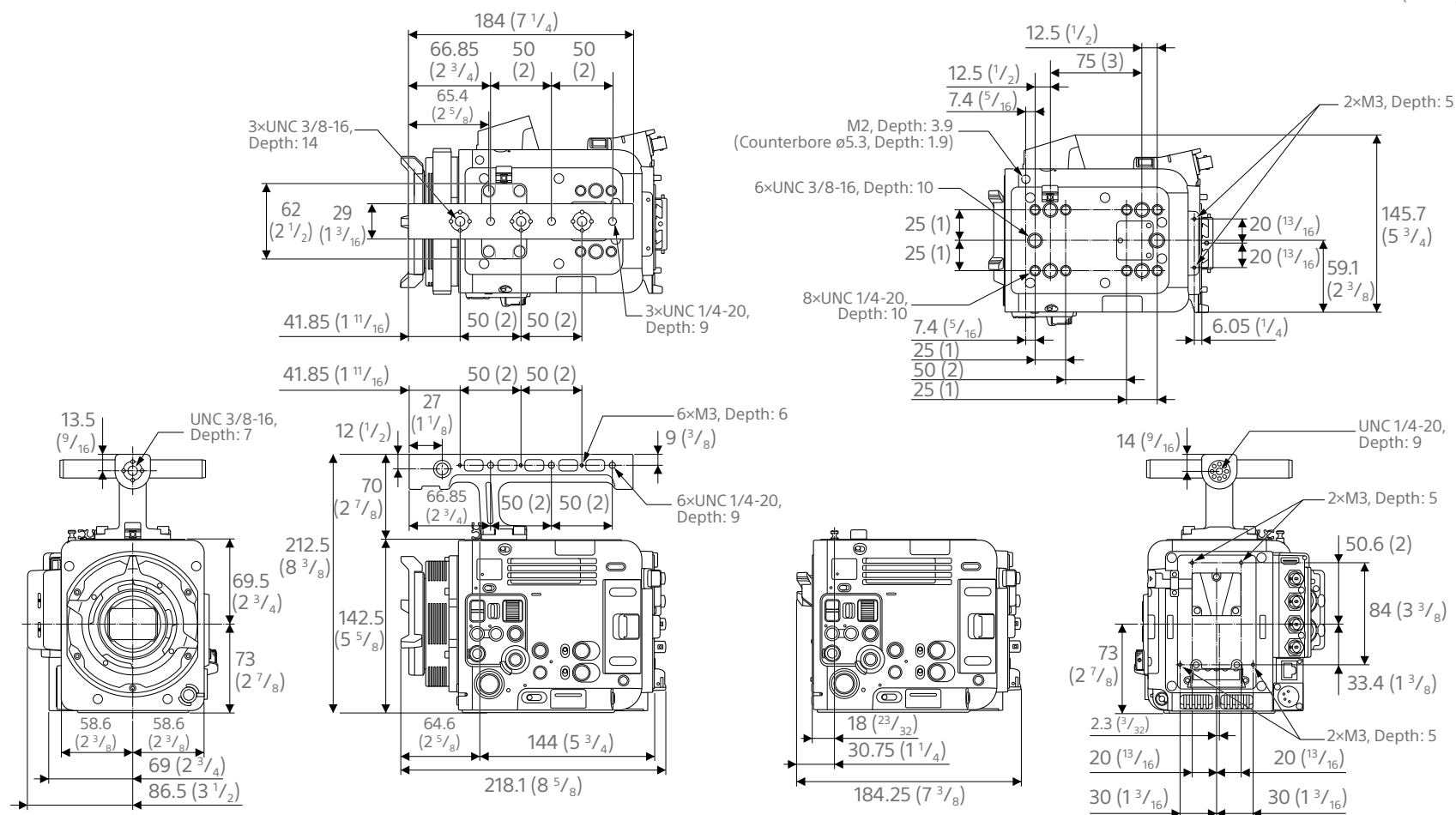Design and specifications are subject to change without notice.

Notes
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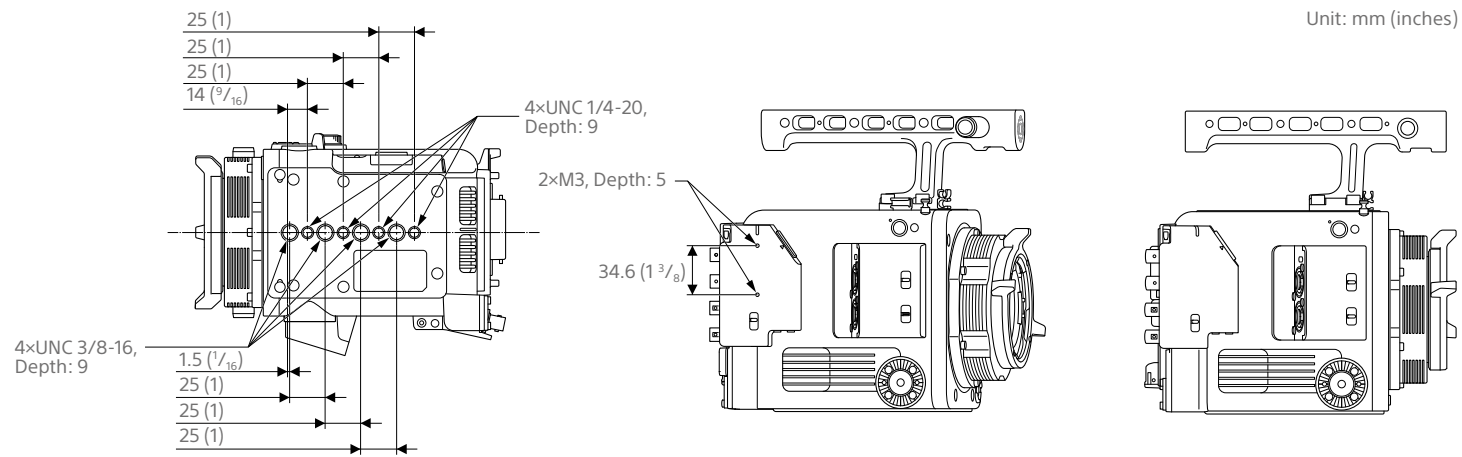
External Dimensions

Top/front/operator switch side/rear

Unit: mm (inches)

Connector side/bottom

Unit: mm (inches)

25 (1)
25 (1)
25 (1)
14 ($^9/_{16}$)

4×UNC 1/4-20,
Depth: 9

2×M3, Depth: 5

34.6 (1 $^3/_8$)

4×UNC 3/8-16,
Depth: 9

1.5 ($^1/_{16}$)
25 (1)
25 (1)
25 (1)

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