Safety Instructions

Be sure to read these instructions in order to operate the product safely. Follow these instructions to prevent injury or harm to the operator of the product or others.

⚠ WARNING
Denotes the risk of serious injury or death.

• Keep the product out of the reach of young children.

• Do not disassemble or modify the product.

• Do not expose the product to strong shocks or vibration.

• Do not touch any exposed internal parts.

• Stop using the product in any case of unusual circumstances such as the presence of smoke or a strange smell.

• Do not get the product wet. Do not insert foreign objects or liquids into the product.

⚠ CAUTION
Denotes the risk of injury.

• Do not leave the product in places exposed to extremely high or low temperatures. The product may become extremely hot/cold and cause burns or injury when touched.

> **!**
> • Be careful not to drop the camera or accessories when attaching, removing or adjusting the various accessories. Use a table or other stable surface.
> • Do not connect/attach accessories to cameras and devices that are not compatible with them.

■ For accessories with screens/viewfinders

⚠ CAUTION
Denotes the risk of injury.

• Do not look at the screen or through the viewfinder for prolonged periods of time. This may induce symptoms similar to motion sickness. In such a case, stop using the product immediately and rest for a while before resuming use.

■ For accessories with an eyecup

⚠ CAUTIONS
Follow the cautions below. Otherwise physical injury or property damage may result.

• If any abnormal skin reaction or irritation occurs during or following the use of this product, refrain from further use and get medical advice/attention.

■ For lens mount kits

⚠ WARNING
Denotes the risk of serious injury or death.

• Do not leave the lens exposed without the lens cap attached.

Table of Contents

Introduction

This user guide covers optional accessories compatible with CINEMA EOS series Canon cameras. It provides information about how to use the accessories, their compatibility and specifications. Be sure to read this information carefully to use the products correctly.

Before Using the Accessories

• Do not point monitors or viewfinders toward an intense light source, such as the sun on a sunny day or an intense artificial light source. Doing so may damage the LCD screen/OLED screen or other internal components. Change the accessory's angle so that it is not pointing at the light source.

• LCD and OLED screens are produced using extremely high-precision manufacturing techniques, with more than 99.99% of the pixels operating to specification. Very rarely, pixels may misfire or may light up permanently. This has no effect on the recorded image and does not constitute a malfunction.

• Unless specified otherwise, power to the accessories is supplied by the camera.

• Your camera may not support all the camera features and functions described in this guide. Refer also to the instruction manual of the camera being used.

• Some of the accessories and tools mentioned in the procedures in this guide may be supplied with some camera models. Check the list of supplied accessories in the instruction manual of the camera being used.
If an accessory/tool is not supplied with the camera or with the product being explained, please use an optional accessory or commercially available product.

■ Conventions in this Document

• **!**   Important precautions related to the product's operation.

• ☑   Additional information that complements the basic operation procedures.

• ▭   Reference page number in this document.

• "Camera" refers to a compatible Canon camera or camcorder (▭ 5).

• This is a multilingual document. You can click on the language code on any page to return to the beginning of the guide (Table of Contents) in that language.

EN

Overview of Accessories and Compatible Cameras

Accessory	EOS C100 Mark II	EOS C200 EOS C200B	EOS C500 Mark II	EOS C700 all models	📖
Communications					
GP-E1 GPS Receiver	—	—	—	●	6
GP-E2 GPS Receiver	●	●	●	—	7
WFT-E6 / WFT-E8 Wireless File Transmitter	—	—	—	●	9
Monitoring					
LM-V1 / LM-V2 LCD Monitor	—	●[1]	●	—	10
EVF-V50 OLED Electronic Viewfinder	—	—	●	—	14
EVF-V70 OLED Electronic Viewfinder	—	●	●	●	17
Added Functionality and Lens Compatibility					
RC-V100 Remote Operation Unit	●	●	●	●	—[2]
OU-700 Remote Operation Unit	—	—	—	●	21
EU-V1 Expansion Unit 1	—	—	●	—	25
EU-V2 Expansion Unit 2	—	—	●	—	28
MO-4E / MO-4P B4 Mount Adapter	—	—	●[3]	●	35
CM-V1 EF Cinema Lock Mount Kit	—	—	●	—	38
PM-V1 PL Mount Kit					
CDX-36150 Codex Recorder for Canon EOS C700	—	—	—	●	—[4]
Shooting Styles and Configuration					
GR-V1 Camera Grip	—	●	●	—	43
SU-15 Shoulder Support Unit	—	●	●	●	46
SG-1 Shoulder Style Grip Unit	—	—	●	●	49

[1] Only the LM-V1 LCD Monitor is compatible.

[2] For details see the instruction manual of the camera being used and the RC-V100 instruction manual.

[3] The MO-4P B4 mount adapter can only be used after replacing the camera's lens mount with a PL mount using the optional PM-V1 PL Mount Kit (📖 38).

[4] For details see the instruction manual of the camera being used.

The information in this document is verified as of November 2019. Subject to change without previous notice.

Communications

GP-E1 GPS Receiver

Connect the GPS receiver to the camera's system expansion terminal in CAMERA (shooting) mode to have the GPS information (latitude, longitude, altitude) recorded with the metadata of XF-AVC clips. For details about attaching and configuring the receiver, refer to the instruction manual of the camera being used.
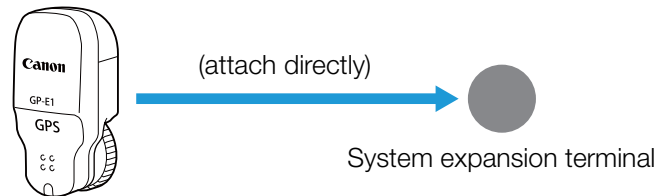
(attach directly)

System expansion terminal

> **!**
> - In certain countries/regions, the use of GPS may be restricted. Be sure to use the GPS receiver in accordance with local laws and regulations of the country/region where the receiver is used. Be particularly careful when traveling outside of your home country.
> - Be careful about using GPS functions where the operation of electronic devices is restricted.
> - The GPS information recorded with clips may contain data that can lead others to locate or identify you. Be careful when sharing geotagged recordings with others or when uploading them to the Web.
> - Do not leave the receiver near strong electromagnetic fields such as near powerful magnets and motors.

> - The GPS information recorded with clips corresponds to the location at the start of the recording.
> - Initial GPS signal reception will take longer after replacing the receiver's battery or when first turning on the receiver after a prolonged period of having been turned off.
> - Do not place cables connected to the camera's terminals near the receiver. Doing so may negatively affect the GPS signal.

GP-E2 GPS Receiver

Connect the GPS receiver to the camera's USB terminal in CAMERA (shooting) mode to have the GPS information (latitude, longitude, altitude) recorded with the metadata of clips and photos. While recording, it is recommended to place the receiver in the supplied carrying case and attach it to the camera's grip belt or carry it on your person.

For details about attaching and configuring the receiver, refer to the GP-E2's instruction manual.

USB cable (supplied with the GP-E2)

USB terminal
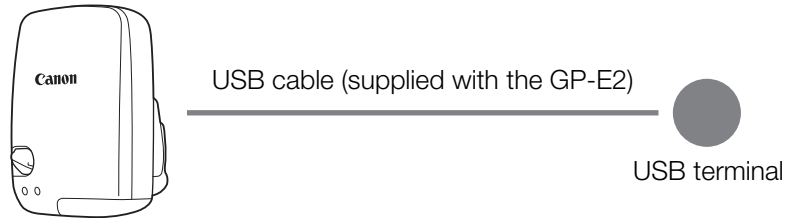
■ Recorded Information

Recording format		GPS information (latitude, longitude, altitude)	Coordinated universal time (UTC)
Clips	MP4	●	●
	AVCHD	●	●
	XF-AVC*	●	—
	RAW (Cinema RAW Light)	●	●
Photos		●	●

* You can use the GPS information to search and organize clips using Canon XF Utility.

Connecting and Activating the GPS Receiver

1. Turn off the receiver.

2. Connect the receiver to the camera.
   - Use the USB cable supplied with the GP-E2.

3. Turn on the receiver.
   - The GPS function is activated. The ⚓ icon appears on the screen and will flash as the receiver tries to acquire satellite signals.
   - When satellite signals are correctly acquired, the icon will stay continuously on. Clips and photos recorded after that will be geotagged.

! • In certain countries/regions, the use of GPS may be restricted. Be sure to use the GPS receiver in accordance with local laws and regulations of the country/region where the receiver is used. Be particularly careful when traveling outside of your home country.

• Be careful about using GPS functions where the operation of electronic devices is restricted.

• The GPS information recorded with clips and photos may contain data that can lead others to locate or identify you. Be careful when sharing geotagged recordings with others or when uploading them to the Web.

• Do not leave the receiver near strong electromagnetic fields such as near powerful magnets and motors.

• The GPS information recorded with clips corresponds to the location at the start of the recording.

• You can have the camera's date and time settings adjusted automatically according to the information received from the GPS signal. See the [System Setup] menu settings' table in the instruction manual of the camera being used.

• Initial GPS signal reception will take longer after replacing the receiver's battery or when first turning on the receiver after a prolonged period of having been turned off.

• Do not place cables connected to the camera's terminals near the receiver. Doing so may negatively affect the GPS signal.

• Cameras with status screens only: You can check the GPS information being received and the satellite's signal strength on the status screens. For details see the instruction manual of the camera being used.

• The camera is not compatible with the following receiver functions.
  – The [Set now] option for the automatic date adjustment function
  – Digital compass function
  – Positioning interval function

WFT-E6 / WFT-E8 Wireless File Transmitter

Connect the wireless transmitter to the camera's system expansion terminal to be able to connect to a wireless network or device via Wi-Fi and use the camera's network functions. For details about attaching and configuring the wireless transmitter, refer to the instruction manual of the camera being used.
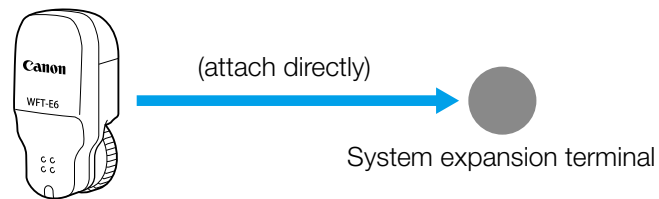
(attach directly)

System expansion terminal

• Do not place cables connected to the camera's terminals near the receiver. Doing so may negatively affect the wireless signal.

Monitoring

LM-V1 / LM-V2 LCD Monitor

Connect the LCD monitor to the camera to add a large monitoring screen with touch screen operations (touch to focus), menu operation buttons and joystick and two assignable buttons.
For details on how to attach and use the LCD monitor, see the instruction manual of the camera being used.

UN-5 / UN-10 Unit Cable (optional)

VIDEO terminal
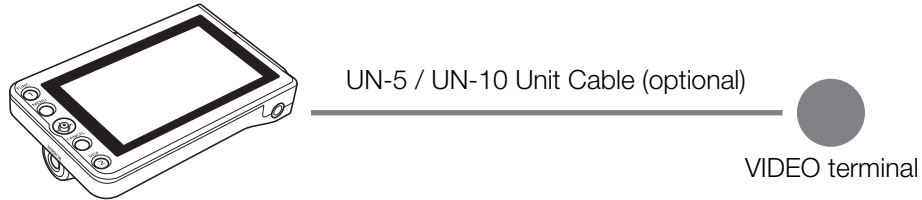
An optional attachment unit is also required to attach the monitor to the camera.

Names of Parts
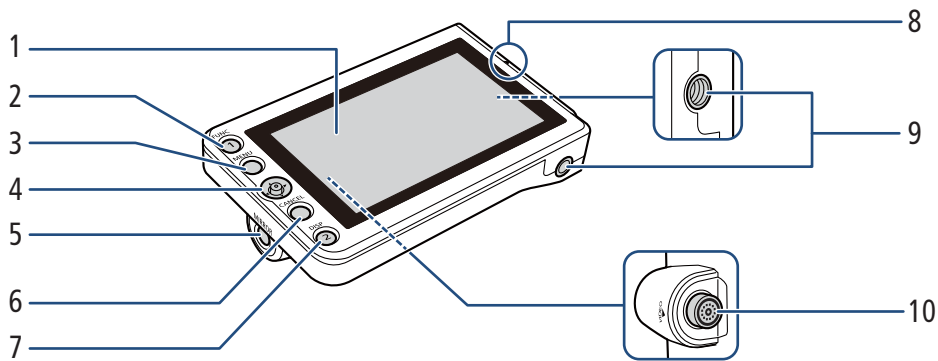
1 LCD panel with touch screen
2 FUNC (main functions) button / Assignable button LCD LM-V1/V2 1
3 MENU button
4 Joystick
5 MIRROR (invert the displayed image) button
6 CANCEL button
7 DISP (display) button / Assignable button LCD LM-V1/V2 2
8 LCD monitor's position alignment mark ▲
9 Screw holes for 1/4"-20 screws (11.2 mm (0.44 in.) deep, x2)
10 VIDEO terminal

Attaching the LCD Monitor

■ About the LCD Attachment Unit

Use the optional LA-V1 or LA-V2 LCD Attachment Unit to attach the LCD monitor to the handle unit or to the camera's body itself. For details see the instruction manual of the camera being used.

		LCD Monitor	
		LM-V1	LM-V2
LCD Attachment Unit	LA-V1	●	—
	LA-V2	—	●

■ Attaching the LCD Monitor to the Handle Unit

1. Turn off the camera.

2. On the LCD attachment unit, rotate the LCD monitor mount in the direction of the locking knob to make the LCD monitor fixation bolt accessible.

3. Attach the LCD monitor to the LCD monitor mount.
   - Align the ▲ marks on the monitor and monitor mount. If necessary, you can also mount the LCD monitor facing the other way around.
   - Tighten the LCD monitor fixation bolt using the hex wrench for 0.64 cm, 1/4" screws.

4. Attach the LCD attachment unit to the handle unit.
   - Align the attachment mount on the LCD attachment unit to the handle unit's front accessory mount.
   - Tighten the locking knob firmly.

5. Rotate the LCD monitor 90 degrees toward the handle unit.

6. Connect the LCD monitor to the camera's VIDEO terminal using the UN-5 Unit Cable.
   - Align the ▲ marks on the cable's plugs and terminals.

7. Put the cable though the LCD attachment unit's cable clamp.
   - If necessary, adjust the position of the cable so that it does not get in the picture or obstruct the view.
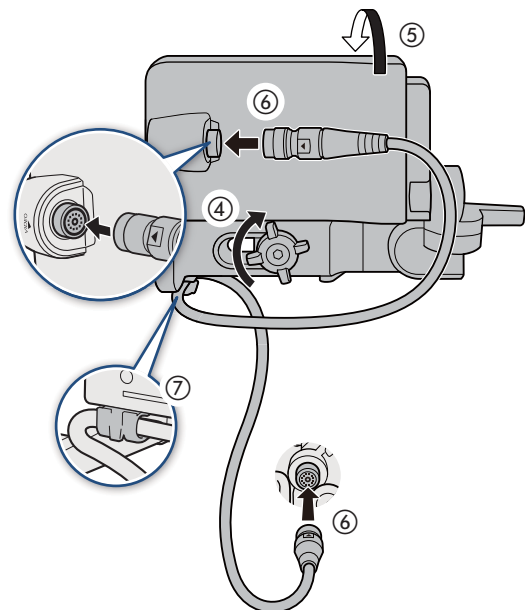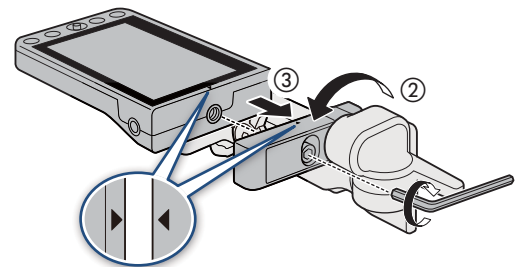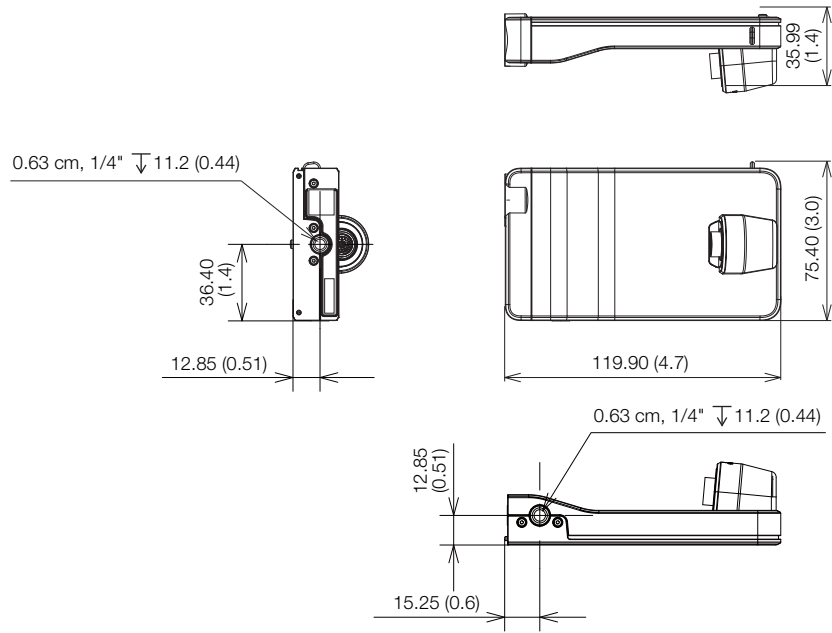
> • Depending on the situation, the screws may become loose. If necessary, use the hex wrench for 0.64 cm, 1/4" screws to tighten them.
> • Maintenance of the LCD screen
>   – Clean the LCD screen using a clean, soft lens-cleaning cloth and commercially available cleaning fluid for eyeglasses.
>   – Condensation may form on the surface of the screen when the temperature changes suddenly. Wipe it with a soft dry cloth.
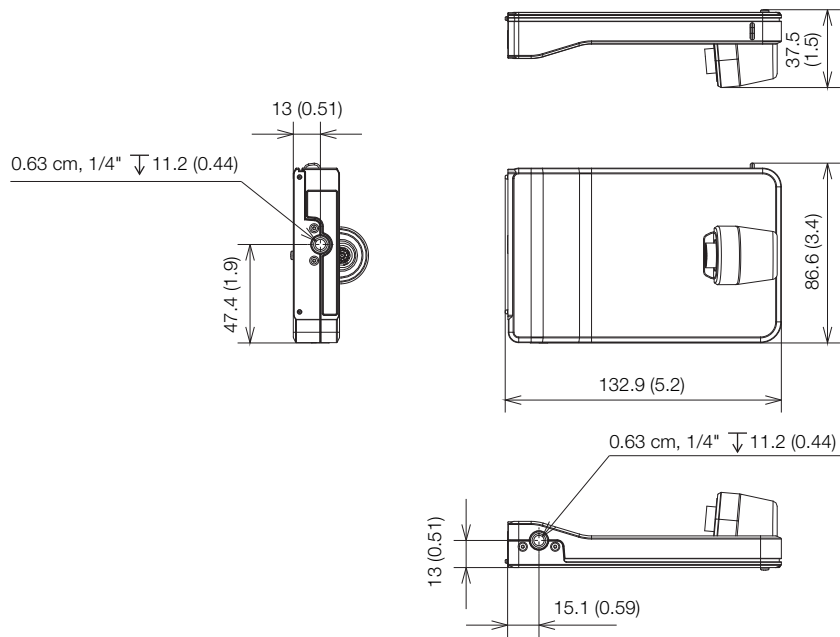
Specifications

		LCD Monitor	
		LM-V1	LM-V2
Screen	Type	Color LCD	
	Size	10.1 cm (4.0 in.)	10.9 cm (4.3 in.)
	Approximate dot count	1,230,000	2,760,000
	Aspect ratio	16:9	
	Coverage	100%	
	Touch screen	Capacitive touch screen operation	
VIDEO terminal		Exclusively for connecting the camera	
Operating temperature		0 °C – 40 °C (32 °F – 104 °F)	
Dimensions* (W x H x D)		120 x 75 x 37 mm (4.7 x 3.0 x 1.5 in.)	133 x 87 x 38 mm (5.2 x 3.4 x 1.5 in.)
Weight*		185 g (6.5 oz.)	204 g (7.2 oz.)

* All dimensions and weights are approximate.

■ LM-V1 Detailed Measurements

35.99 (1.4)

0.63 cm, 1/4" ↧ 11.2 (0.44)

36.40 (1.4)

75.40 (3.0)

12.85 (0.51)

119.90 (4.7)

0.63 cm, 1/4" ↧ 11.2 (0.44)

12.85 (0.51)

15.25 (0.6)

■ LM-V2 Detailed Measurements

37.5 (1.5)

13 (0.51)

0.63 cm, 1/4" ↧ 11.2 (0.44)

47.4 (1.9)

86.6 (3.4)

132.9 (5.2)

0.63 cm, 1/4" ↧ 11.2 (0.44)

13 (0.51)

15.1 (0.59)

mm (inches)

EVF-V50 OLED Electronic Viewfinder

Connect the viewfinder to the camera to add a bright OLED monitoring screen that can be turned on/off automatically thanks to an eye sensor.

Supplied Accessories
□ Connector cover
□ M4 hex socket head bolts (x2)
□ Eye cup
□ Viewfinder cap

(attach directly)

Expansion unit connector
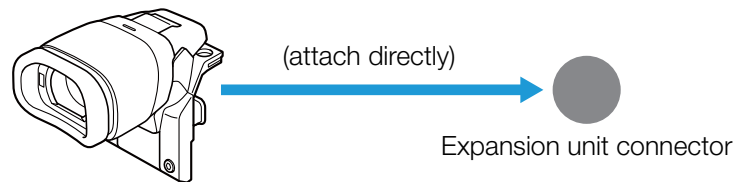
Names of Parts
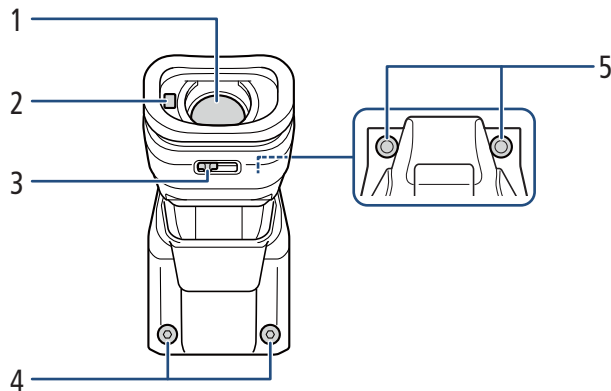
1   Viewfinder
2   Eye sensor
3   Diopter adjustment lever

4   Accessory fixation bolts (M4, x2)
5   Screw holes for fixation bolts (x2)

Attaching the Viewfinder to the Camera

1. Turn off the camera.
   • The accessory will not work if it is attached while the camera is turned on.

2. Remove the camera's expansion unit cover.
   • Remove the 2 bolts in the illustration using the hex wrench for M4 bolts.
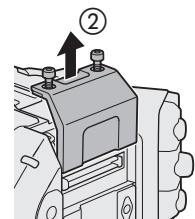
3. Attach the viewfinder.
   - Remove the viewfinder's connector cover. Align the ridges on the viewfinder with the protruding tabs on the camera and push the viewfinder straight, all the way forward.
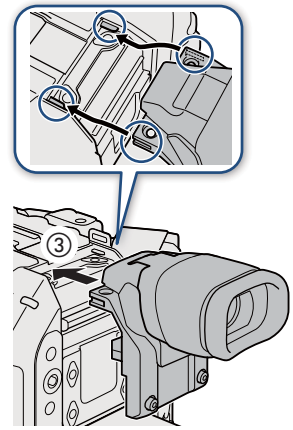
4. Secure the viewfinder in place.
   - First, fasten the 2 fixation bolts you removed in step 2 to the top (④-1). Then, fasten the 2 supplied M4 fixation bolts to the rear (④-2).
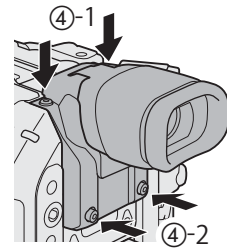
Using the Viewfinder

■ Adjusting the Viewfinder

1. Adjust the viewfinder's angle to a comfortable position.

2. Turn on the camera and adjust the dioptric adjustment lever until the viewfinder's image is sharp.

   - You can disable the eye sensor to turn on the viewfinder permanently. See the [Monitoring Setup] menu settings' table in the instruction manual of the camera being used.
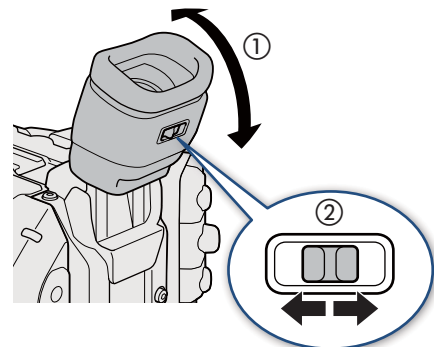
■ Attaching and Removing the Eye Cup
Attach the eye cup so that it covers the rubber rim of the viewfinder. To remove the eye cup, pull it gently in a "peeling off" motion.
- For left eye use, attach the eye cup so that the protruding part faces the opposite side.
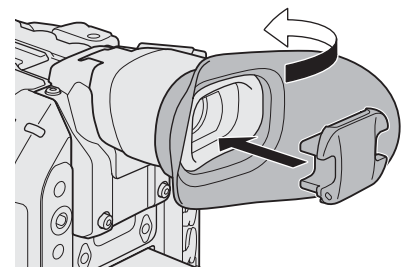
   - Pointing the viewfinder lens at the sun or other strong light sources may cause damage to internal components. When you are not using the viewfinder, make sure to attach the viewfinder cap to the viewfinder. This will also protect the viewfinder from scratches and dirt. Attach the viewfinder cap by inserting it into the rubber rim of the viewfinder unit.

Specifications

Screen	1280x720 resolution (1,770,000 dots)
Coverage	100%
Operating temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (W x H x D)	61 x 90 x 99 mm (2.4 x 3.5 x 3.9 in.)
Weight* (without connector cover)	170 g (6.0 oz.)

* All dimensions and weights are approximate.

■ Detailed Measurements
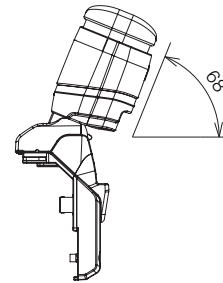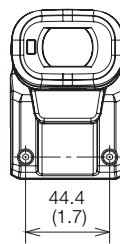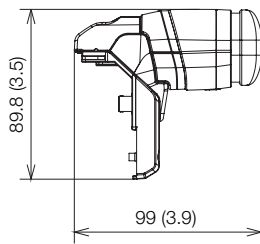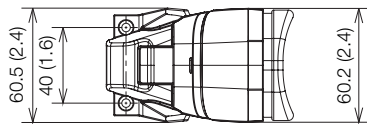
mm (inches)

EVF-V70 OLED Electronic Viewfinder

Connect the viewfinder to the camera to add a bright OLED monitoring screen that can be dimmed automatically thanks to an eye sensor. The EVF-V70 offer also additional dials, menu operation buttons (including 4 assignable buttons) and joystick that add functionality to the camera.

Supplied Accessories
☐ Clamp rail unit

UN-5 / UN-10 Unit Cable (optional)

VIDEO terminal
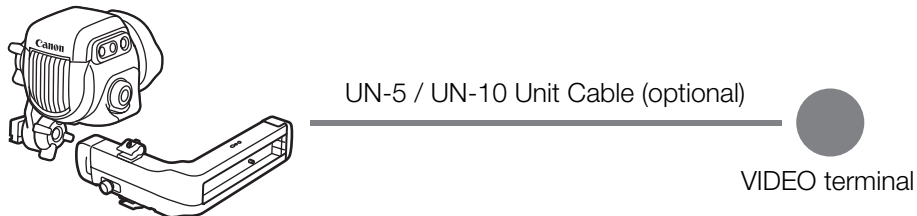
A clamp base is also required to attach the viewfinder to the camera.

■ About the Clamp Base

Use the clamp base to attach the viewfinder to the handle unit or to the camera's body itself. For details see the instruction manual of the camera being used.

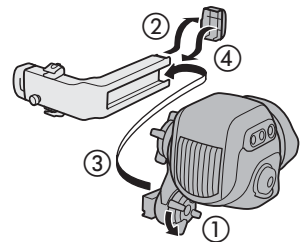|	Clamp base	
	CL-V2 (optional)	Supplied with the camera
EOS C700 (all models)	—	●
EOS C500 Mark II / EOS C200 / EOS C200B	●	—

Names of Parts
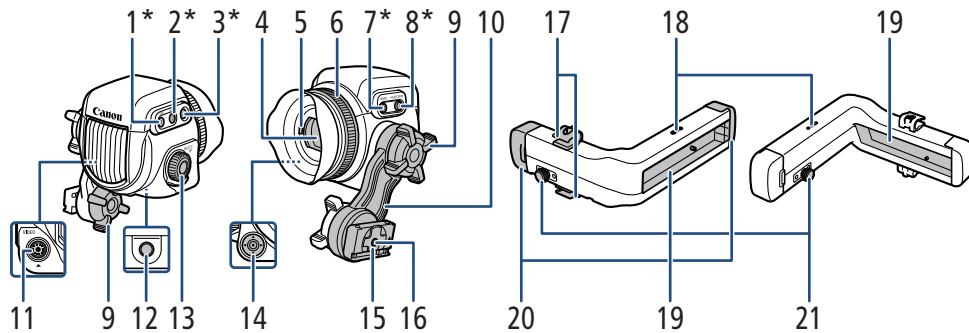
Depending on the camera used, some of the functions described below may not be available or may function differently. Buttons with an asterisk (*) in the illustration are illuminated when used with a camera that features the button illumination function.
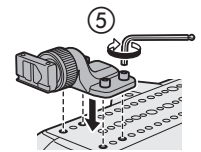
1   FUNC (main functions) button/
    Assignable button EVF-V70: 1
2   EVF (open the menu) button/
    Assignable button EVF-V70: 2
3   BACK (go back to previous screen) button
    • Use this button to return to the previous
      menu level.
4   Viewfinder
5   Eye sensor
6   Dioptric adjustment ring
7   MAGN. (magnification) button/
    Assignable button EVF-V70: 3
8   FALSE COLOR button/
    Assignable button EVF-V70: 4
9   Swing arm locking screw

10 Swing arm
11 VIDEO terminal
12 Screw hole for 1/4"-20 mounting screws
    (25 mm, 0.98 in. deep)
13 SELECT dial/SET button
14 Joystick/SET button
15 Swing arm slider
16 Screw hole for 1/4"-20 mounting screws
    (10 mm, 0.39 in. deep)
17 Clamp rail: cable clamps
18 Screw holes for the clamp rail's cable clamps
19 Rail
20 Clamp rail: rail end caps
21 Clamp rail: slider locking pin

## Attaching the Viewfinder to the Camera

1. If necessary, attach the handle unit to the camera.
   • For details see the camera's instruction manual.

2. Turn off the camera.

3. Loosen the swing arm's locking screw (clamp rail side, ①).

4. Remove the clamp rail's end cap (②). Insert the swing arm's slider into the clamp rail with the "TOP" label facing up (③).

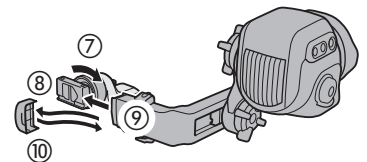5. Attach the end cap that was removed in step 4 to the clamp rail (④).

6. Attach the clamp base to the camera.
   • EOS C700 series:
     Attach the clamp base supplied with the camera to the top of the camera (⑤). Secure it firmly using 4 hex socket head bolts and the hex wrench for 0.64 cm, 1/4" screws.
   • EOS C500 Mark II / EOS C200 / EOS C200B:
     Attach the optional CL-V2 Clamp Base to the handle unit (⑥). Secure it firmly using 2 hex socket head bolts and the hex wrench for 0.64 cm, 1/4" screws.
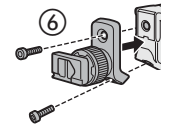
7. Loosen the clamp rail locking screw (⑦).

8. Remove the end cap from the other arm of the clamp rail (⑧) and insert the slider at the front of the clamp rail base into the clamp rail (⑨).

9. Attach the end cap that was removed in step 8 to the clamp rail (⑩).

10. Loosen the other swing arm's locking screw (viewfinder side, ⑪), adjust the viewfinder to the desired position (up/down, front/back; ⑫) and then fasten all the screws (⑬).
    • Be sure to firmly hold the viewfinder with one hand as you adjust the position.
   • Fasten the two locking screws of the swing arm and the clamp rail locking screw on the clamp base.
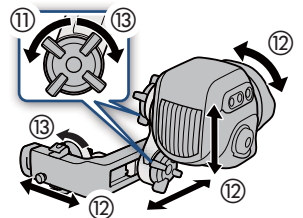
11. Connect the viewfinder's VIDEO terminal to the camera's VIDEO terminal using an optional UN-5 or UN-10 Unit Cable (⑭).
    • Align the ▼ marks on the cable's plugs and the terminals.
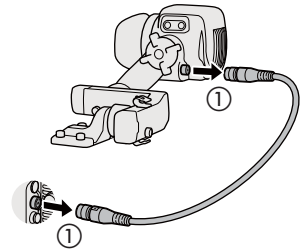
12. Put the unit cable through one of the cable clamps on the clamp rail (⑮).
    • The clamp has 4 screw holes for the cable clamps so you can adjust their position as needed.
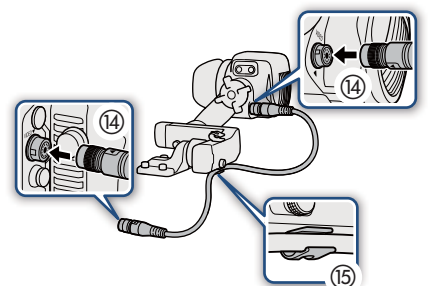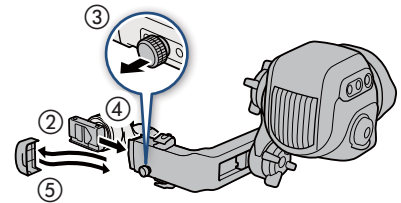
Removing the Viewfinder

1. Turn off the camera.

2. Disconnect the unit cable from the camera and viewfinder (①).

3. Remove the end cap from the clamp rail's arm attached to the clamp rail base (②).

4. While pulling out the locking pin at the other side of the clamp rail (③), remove the viewfinder and clamp rail from the clamp rail base (④).

5. Attach the end cap that was removed in step 3 to the clamp rail (⑤).

6. Repeat steps 3 to 5 for the clamp rail's arm attached to the viewfinder.

Specifications

Screen	1920x1080 resolution (6,220,000 dots)
Coverage	100%
Operating temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (W x H x D)	243 x 88 x 185 mm (9.6 x 3.5 x 7.3 in.)
Weight* (without connector cover)	830 g (1.8 lb.)

* All dimensions and weights are approximate.

■ Detailed Measurements
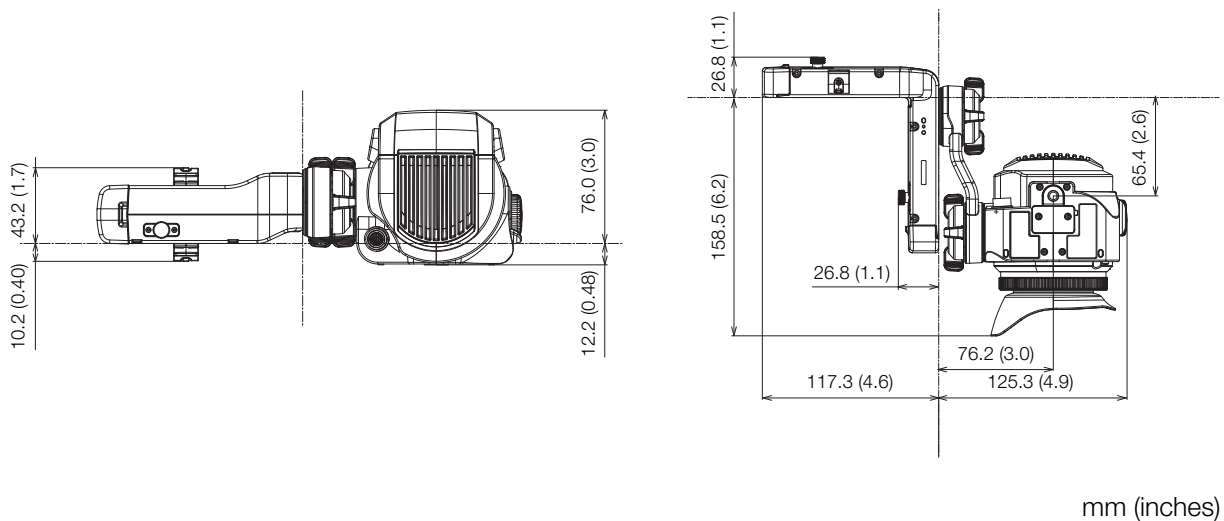
mm (inches)

Added Functionality and Lens Compatibility

OU-700 Remote Operation Unit

Connect the remote operation unit to the camera to operate the camera's functions in exactly the same way as using the control display, SELECT dial and physical buttons on the camera. For details about the various functions, refer to the instruction manual of the camera being used.
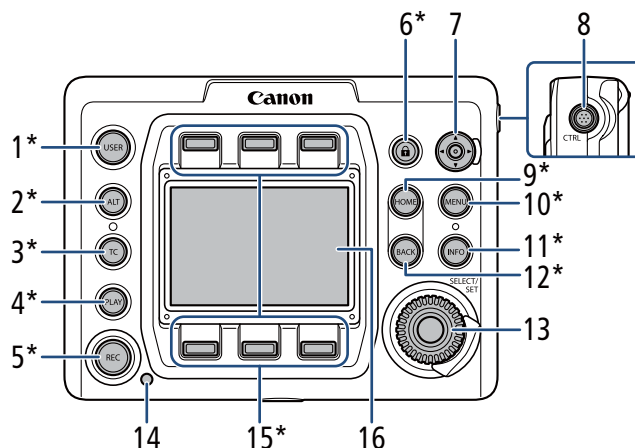
> Supplied Accessories
> ☐ Control display cover (pre-attached to the unit)
> ☐ 0.64 cm, 1/4" hex socket head bolts (x2)

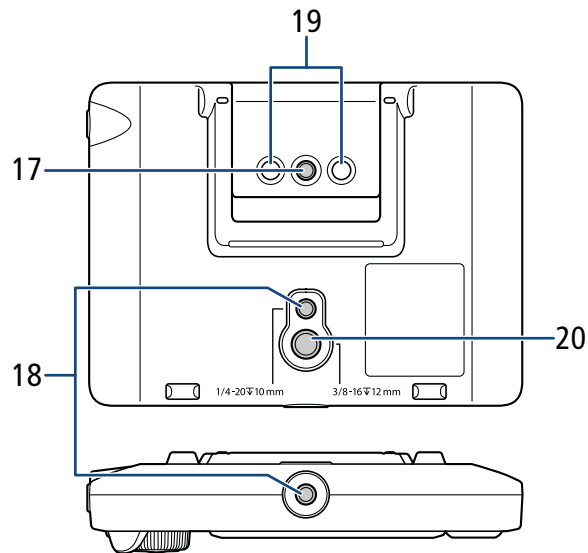UC-V75 / UC-V1000
Remote Operation Unit Cable

CTRL terminal
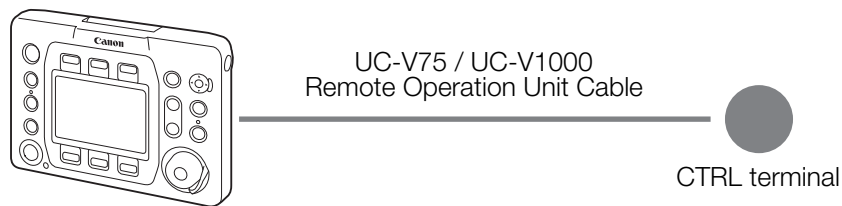
Names of Parts

Buttons with an asterisk (*) in the illustration are illuminated when used with a camera that features button illumination.

1   USER (user-defined setup screen) button
2   ALT (alternative setup screen) button
3   TC (time code) button
4   PLAY (playback mode) button
5   REC (recording) button
6   🔒 (key lock) button
7   Joystick
   • Push (▲▼/◄►) to move the AF frame, face detection frame and magnification area.
   • When using the tracking function, push (▲▼/◄►) to move the ⸾ mark to the desired subject and then press the joystick to start tracking.

   • When the second frame of the focus guide function is displayed, press the joystick to switch the display from one frame to the other.
8   CTRL (controller) terminal
9   HOME (home setup screen) button
10 MENU (camera menu) button
11 INFO (information screens) button
12 BACK (go back to the previous screen) button
13 SELECT dial/SET button
14 Tally lamp
15 Screen buttons
16 Control display

17 Screw hole for 1/4"-20 mounting screws
18 Screw hole for 1/4"-20 mounting screws
    (10 mm (0.39 in.) deep)

19 Camera mount
20 Screw hole for 3/8"-20 mounting screws
   (12 mm (0.47 in.) deep)

- When operating the camera, you can look at an external monitor that the camera is connected to.
- If necessary, you can remove the control display's protective cover inserting a fingernail or other thin object under the bottom center of the cover and pulling it. After cleaning the control display place back the protective cover on the control display and push all four corners to secure it in place.
- You can adjust the brightness of the control display using the camera's menus.

## Connecting the Remote Operation Unit to the Camera

■ Using an Optional Unit Cable

1. Turn off the camera.

2. Connect the optional UC-V75 (75 cm, 2.5 ft.) or UC-V1000 (10 m, 32.8 ft.) Remote Operation Unit Cable to the CTRL terminals on the controller and the camera.
   • Align the red marks on the cable's plugs and the terminals.

3. Turn on the camera.
   • The OU-700 will turn on as well.
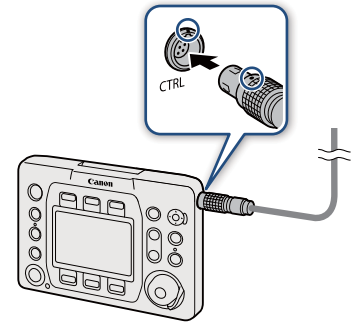
■ Attaching to the Camera

1. Turn off the camera.

2. Attach the remote operation unit to the camera and connect the remote operation unit cable (previous procedure).
   • Secure it firmly using the 2 supplied hex socket head bolts and the hex wrench for 0.64 cm, 1/4" screws.

3. Turn on the camera.
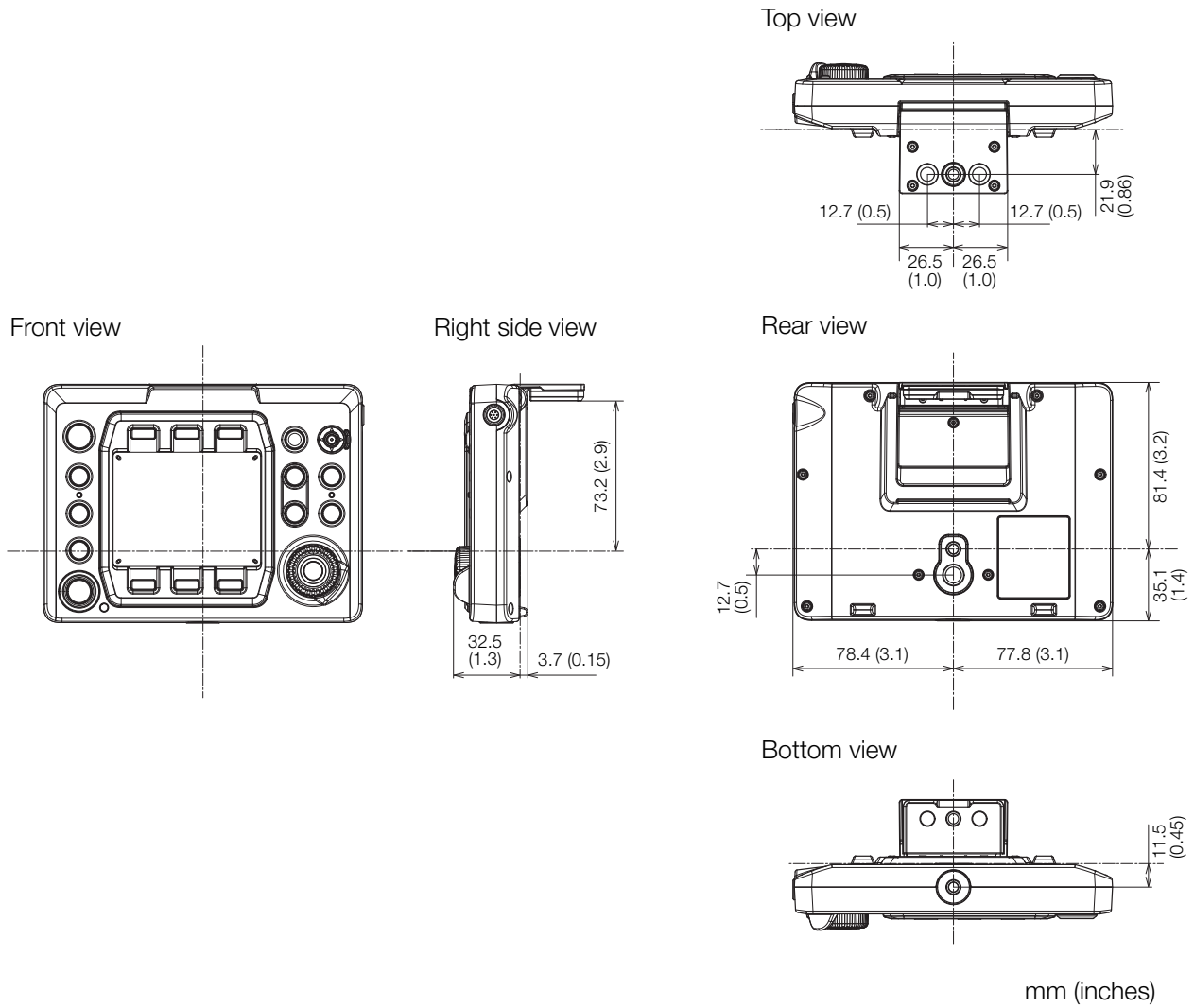   • The OU-700 will turn on as well.
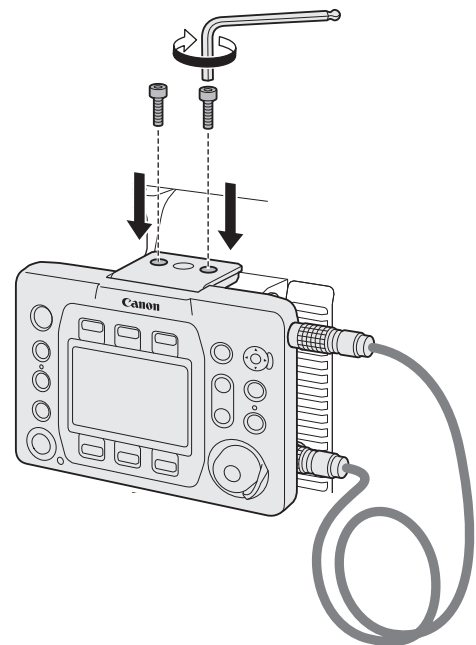
   • To disconnect the cable, pull the plug's metal connector forward and then remove the cable.

Specifications

CTRL Terminal	LEMO circular 7-pin jack
Control Display	TFT color LCD, approx. 1,030,000 dots
Operating Temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (W x H x D)	156 x 117 x 36 mm (6.1 x 4.6 x 1.4 in.)
Weight*	Body only, not including cable: 375 g (13.2 oz.)

* All dimensions and weights are approximate.

■ Detailed Measurements

Top view

12.7 (0.5)   12.7 (0.5)

21.9 (0.86)

26.5 (1.0)   26.5 (1.0)

Front view

Right side view

73.2 (2.9)

32.5 (1.3)   3.7 (0.15)

Rear view

81.4 (3.2)

12.7 (0.5)

35.1 (1.4)

78.4 (3.1)   77.8 (3.1)

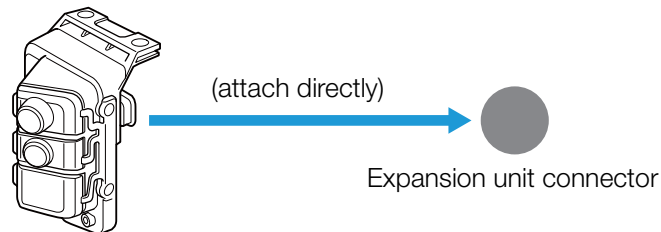Bottom view
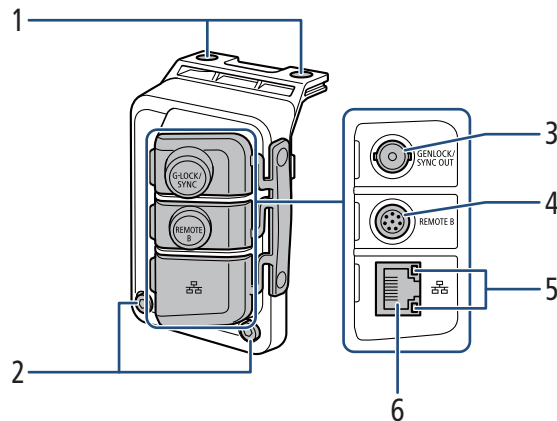
11.5 (0.45)

mm (inches)

EU-V1 Expansion Unit 1

This expansion unit offers additional terminals that add Genlock synchronization, advanced remote control (circular 8-pin jack) and wired network (Ethernet) functionality to the camera.

Supplied Accessories
☐ Connector cover
☐ M4 hex socket head bolts (x2)

(attach directly) →

Expansion unit connector

Names of Parts

1   Screw holes for fixation bolts (x2)
2   Accessory fixation bolts (M4, x2)
3   G-LOCK/SYNC OUT (Genlock/
    synchronization) terminal
    • The terminal's function (Genlock input/
    reference signal output) is changed using the
    menu. See the [System Setup] menu
    settings' table in the instruction manual of the
    camera being used.

4   REMOTE B terminal
    • For connecting the optional RC-V100
    Remote Controller.
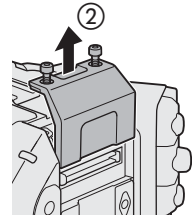5   Ethernet access indicator
6   品 (Ethernet) terminal

For details on the terminals' functions and how to use them, see the instruction manual of the camera being used.
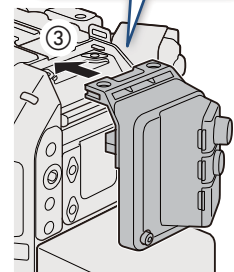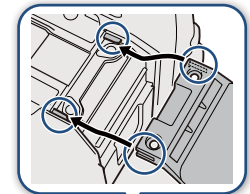
📝 | • You can remove all the terminals' covers by removing the two screws fixing them in place with a commercially available Phillips head ("crosshead") screwdriver.
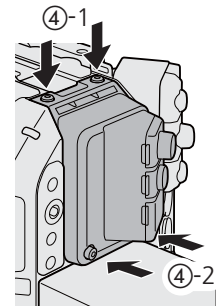
Attaching the Expansion Unit to the Camera

1. **Turn off the camera.**
   - The accessory will not work if it is attached while the camera is turned on.

2. **Remove the camera's expansion unit cover.**
   - Remove the 2 bolts in the illustration using the hex wrench for M4 bolts.

3. **Attach the expansion unit.**
   - Remove the expansion unit's connector cover. Align the ridges on the expansion unit with the protruding tabs on the camera and push the expansion unit straight, all the way forward.

4. **Secure the expansion unit in place.**
   - First, fasten the 2 fixation bolts you removed in step 2 to the top (④-1). Then, fasten the 2 supplied M4 fixation bolts to the rear (④-2).

Specifications

G-LOCK/SYNC OUT terminal	BNC jack, 1.0 Vp-p / 75 Ω
	G-LOCK (Genlock) setting: input only SYNC OUT setting: output only, tri-level HD signal The terminal's function can be changed using the camera's menu.
REMOTE B terminal	Circular 8-pin jack (for the optional RC-V100 Remote Controller, RS-422 interface)
品 (Ethernet) terminal	Ethernet, 1000BASE-T compatible
Operating temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (W x H x D)	62 x 92 x 69 mm (2.4 x 3.6 x 2.7 in.)
Weight* (without connector cover)	114 g (4.0 oz.)

* All dimensions and weights are approximate.

■ Detailed Measurements

40 (1.6)

68.7 (2.7)

91.9 (3.6)

81.5 (3.2)

61.7 (2.4)

44.4 (1.7)
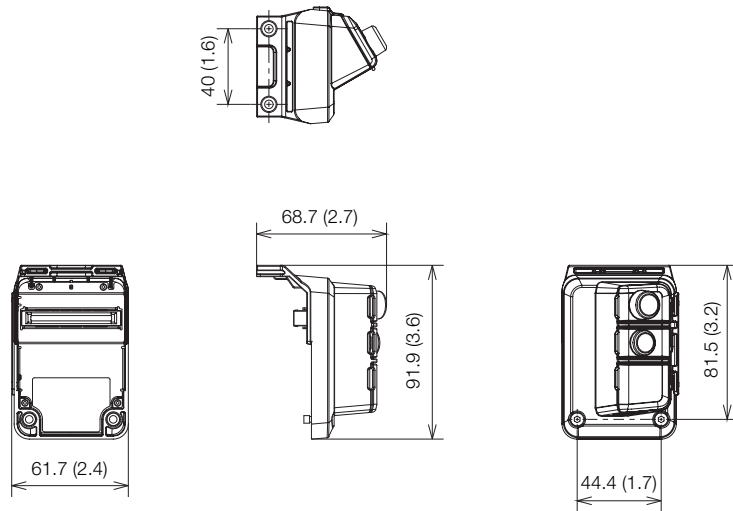
mm (inches)

EU-V2 Expansion Unit 2

This expansion unit offers additional terminals and controls that add functionality to the camera. These include: a V-lock mount for commercially available large-capacity batteries, menu operation buttons and joystick (including one assignable button), Genlock synchronization, advanced remote control (circular 8-pin jack), wired network (Ethernet) functionality, additional audio inputs and controls, lens communication (12-pin serial) and power outputs.
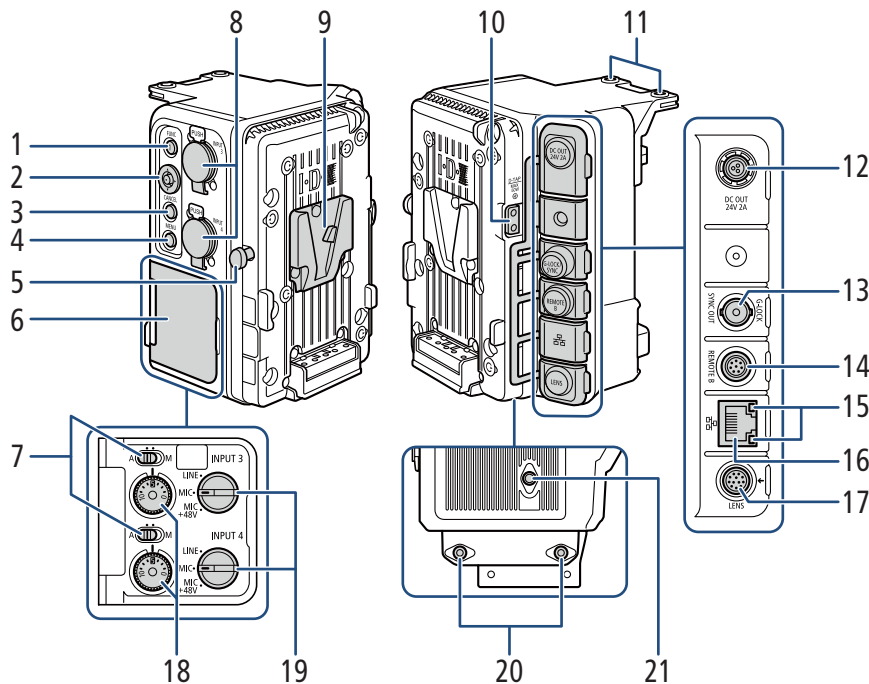
Depending on the terminal/function used, power is supplied either from the camera, or from a commercially available V-mount battery attached to the EU-V2.

> **Supplied Accessories**
> ☐ Connector cover
> ☐ M4 hex socket head bolts (x4)

V-mount battery
(commercially available)

(attach directly)

Expansion unit
connector
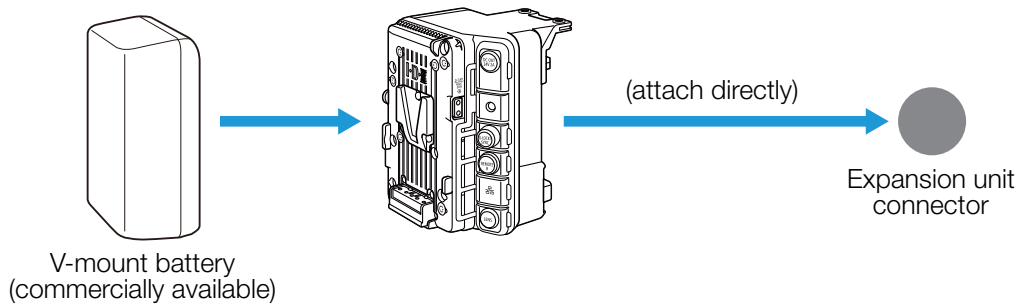
Names of Parts

1 FUNC (main functions) button[1]/
   Assignable button Exp. Unit EU-V2: 1
2 Joystick[1]
3 CANCEL button[1]
4 MENU button[1]
5 V-mount battery release latch
6 Cover for audio controls
7 Audio level switches for CH3 (top) and CH4
   (bottom)[1]
8 INPUT terminals (XLR): INPUT 3 (top), INPUT 4
   (bottom)[1, 2]
9 V-shaped battery mount (V-mount)
10 D-TAP terminal[2]
11 Screw holes for fixation bolts (x2)
12 DC OUT 24V 2A terminal[2]
13 G-LOCK/SYNC OUT (Genlock/
   synchronization) terminal[1]
   • The terminal's function (Genlock input/
     reference signal output) is changed using the
     menu. See the [System Setup] menu
     settings' table in the instruction manual of the
     camera being used.

14 REMOTE B terminal[1]
   • For connecting the optional RC-V100
     Remote Controller.
15 Ethernet access indicator[1]
16 品 (Ethernet) terminal[1]
17 LENS terminal[2]
18 Audio level dials for CH3 (top) and CH4
   (bottom)[1]
19 INPUT 3 (top) / INPUT 4 (bottom) switches
   (audio source selection)[1, 2]
20 Screw holes for M4 bolts (7.5 mm (0.30 in.)
   deep, x2)
21 Screw hole for 1/4"-20 bolts (7.5 mm (0.30 in.)
   deep)

[1] For details on the terminals' functions and how to use them, see the instruction manual of the camera being used.
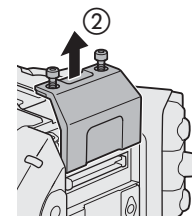
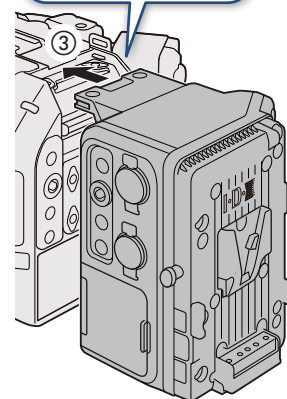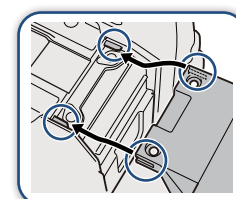[2] These controls can be used only when a commercially available V-mount battery is attached to the EU-V2.

> • You can remove all the terminals' covers by removing the two screws fixing them in place with a commercially available Phillips head ("crosshead") screwdriver.

## Attaching the Expansion Unit to the Camera

1. **Turn off the camera.**
   - The accessory will not work if it is attached while the camera is turned on.

2. **Remove the camera's expansion unit cover.**
   - Remove the 2 bolts in the illustration using the hex wrench for M4 bolts.

3. **Attach the expansion unit.**
   - Remove the expansion unit's connector cover. Align the ridges on the expansion unit with the protruding tabs on the camera and push the expansion unit straight, all the way forward.

4. **Secure the expansion unit in place.**
   - First, fasten the 2 fixation bolts you removed in step 2 to the top (④-1). Then, fasten the 2 supplied M4 fixation bolts to the bottom (④-2).
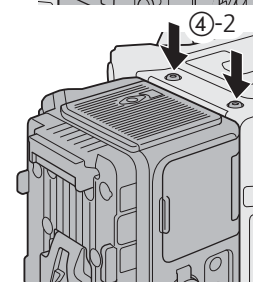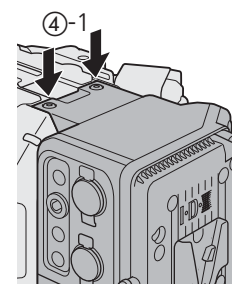
Power Supply and Power Outputs

You can attach commercially available V-mount batteries to the EU-V2. If you connect an AC adapter to the camera's DC IN 12V terminal with a V-mount battery attached to the EU-V2, the camera will draw power from the AC adapter. Attaching a V-mount battery is necessary to use some of the expansion unit's terminals and functions (□ 29).

■ Acceptable Batteries

When selecting commercially available batteries, make sure the battery meets the following specifications and all the safety standards of the country/region where it is used. Closely follow the manufacturer's instructions regarding the use and maintenance of power sources.

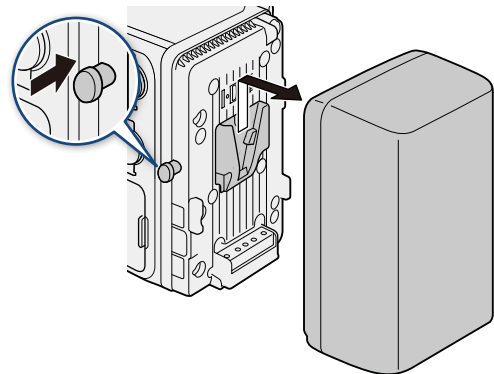V-mount battery: 12 V to 20 V DC

■ Attaching a Battery

1. Make sure the camera is turned off.

2. Align the V-shaped wedge on the battery to the V-mount on the battery plate.

3. Gently press the battery down until it clicks in place.
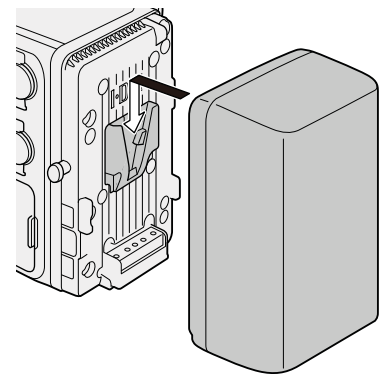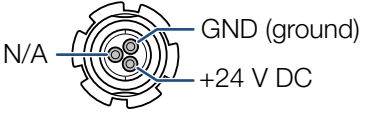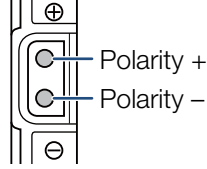
■ Removing a Battery

1. Turn off the camera.

2. While holding the battery release latch pressed down, slide the battery up and remove it.

■ Power Outputs

The expansion unit features two power outputs for accessories: the DC OUT 24V 2A terminal and the D-TAP terminal.

Power output	Specifications*	Terminal pin layout
DC OUT 24V 2A terminal	Fischer 3-pin connector, 24 V DC, 2.0 A (max.)	N/A — GND (ground) / +24 V DC
D-TAP terminal	D-Tap connector, 50 W (max.)	Polarity + / Polarity –

* Actual levels may vary depending on the power source supplying the camera.

> ! • Be sure to use the camera's power outputs within the specifications given.
> • When supplying power to external accessories, be careful of the polarity of the power connections. Connecting the power supply incorrectly can cause malfunctions.

Lens Connection

When a commercially available V-mount battery is attached to the expansion unit, you can connect the lens's 12-pin camera interface cable to the EU-V2's LENS terminal to be able to zoom and use the push auto iris function from the camera. When using a B4 (broadcast) lens compatible with the L.C.A.C. (automatic lens chromatic aberration correction) function, if the 12-pin interface cable is connected to the EU-V2, the lens's chromatic aberration can also be corrected.

1. Attach the expansion unit (📖 30) and the lens to the camera.
   • For details about preparing the lens, see the instruction manual of the camera being used.

2. Attach a V-mount battery to the expansion unit (📖 31).

3. Connect the lens's 12-pin cable to the LENS terminal on the expansion unit.
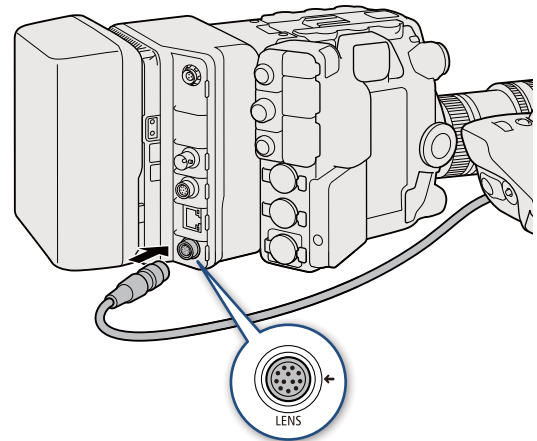
> ! • Make sure to turn off the camera before connecting/disconnecting a lens's 12-pin interface cable to/from the LENS terminal. Failing to do so can cause a malfunction of the camera or lens.
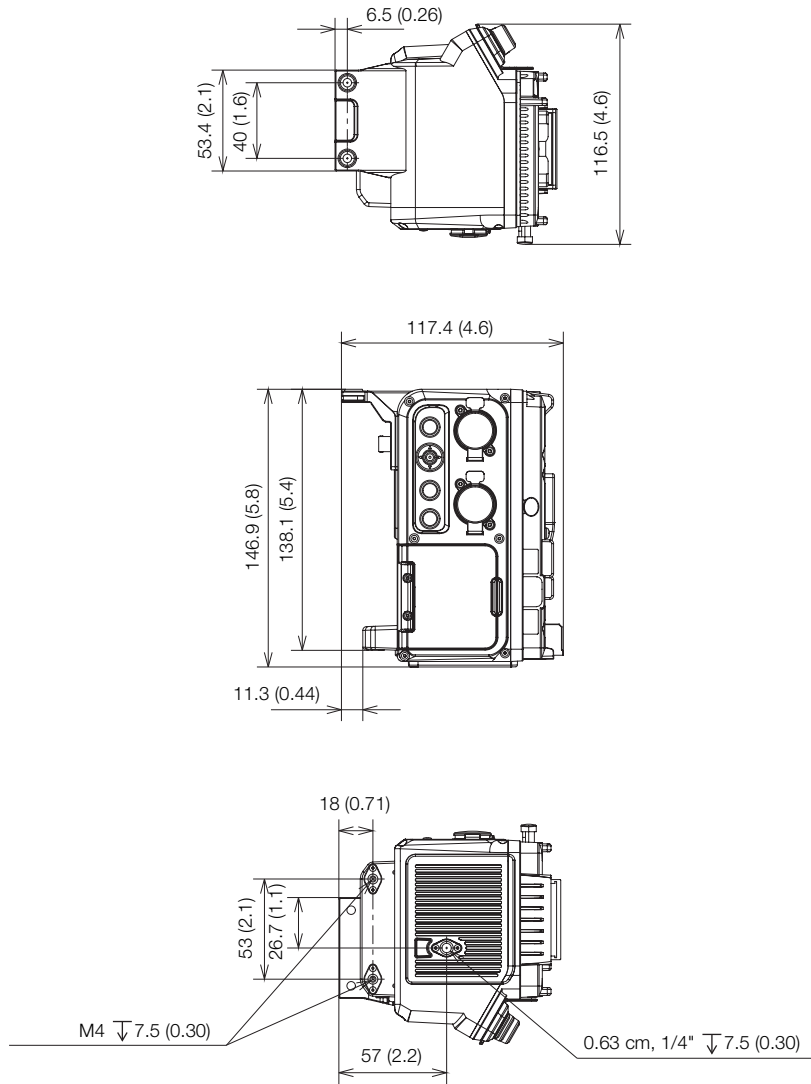
> 📝 • If necessary, use a commercially available extension cable for 12-pin interface cables in order to connect the 12-pin interface cable to the EU-V2's LENS terminal.

Specifications

INPUT 3, INPUT 4 terminals	XLR 3-pin jack (pin1: shield, pin2: hot, pin3: cold), 2 sets, balanced Sensitivity: MIC setting: –60 dBu (volume center, full scale –18 dB) / 600 Ω, microphone attenuator: 20 dB LINE setting: 4 dBu (volume center, full scale –18 dB) / 10 kΩ
G-LOCK/SYNC OUT terminal	BNC jack, 1.0 Vp-p / 75 Ω G-LOCK (Genlock) setting: input only SYNC OUT setting: output only, tri-level HD signal The terminal's function can be changed using the camera's menu.
REMOTE B terminal	Circular 8-pin jack (for the optional RC-V100 Remote Controller, RS-422 interface)
品 (Ethernet) terminal	Ethernet, 1000BASE-T compatible
LENS terminal	Circular 12-pin jack (12-pin serial interface)
DC OUT 24V 2A terminal	Fischer 3-pin connector, rated output: 24 V DC, maximum current: 2.0 A
D-TAP terminal	D-Tap connector, maximum output: 50 W (nominal)
Operating temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (W x H x D)	117 x 147 x 117 mm (4.6 x 5.8 x 4.6 in.)
Weight* (without connector cover)	654 g (1.4 lb.)

* All dimensions and weights are approximate.

■ Detailed Measurements

6.5 (0.26)

53.4 (2.1)

40 (1.6)

116.5 (4.6)

117.4 (4.6)

146.9 (5.8)

138.1 (5.4)

11.3 (0.44)

18 (0.71)

53 (2.1)

26.7 (1.1)

M4 ⤓ 7.5 (0.30)

57 (2.2)

0.63 cm, 1/4" ⤓ 7.5 (0.30)

mm (inches)

MO-4E / MO-4P B4 Mount Adapter

Attach the mount adapter to the camera to use professional B4 broadcast lenses. Use the MO-4E with cameras with an EF mount and the MO-4P with cameras with a PL mount. For details about compatible lenses, refer to the instruction manual of the camera being used.


Supplied Accessories

☐ Lens Cap

☐ Dust Cap

☐ Lens Support Bracket A*

☐ Lens Support Bracket B*

* The lens support bracket required depends on the lens used. Check the following list of compatible lenses and make sure to use the correct lens support bracket.

- Lens Support Bracket A: HJ14ex4.3B / HJ17ex7.6B
- Lens Support Bracket B: HJ18ex7.6B / HJ22ex7.6B / HJ24ex7.5B

Names of Parts

MO-4E   MO-4P
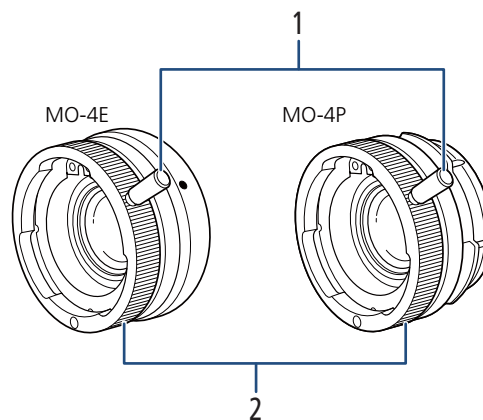
1   Bayonet ring handle
2   Bayonet ring

Attaching the Adapter and a B4 Lens

1. Attach the supplied lens support bracket to the bottom of the lens.
    - Make sure the lens support bracket is facing the correct direction as shown in the illustration (①) and tighten both screws (②).

2. Turn off the camera.

3. Remove the lens cap and dust cap from the adapter (③) and attach the adapter to the camera (④).
    - MO-4E adapter: Align the red dot on the adapter with the same mark on the lens mount.
    - MO-4P adapter: Align the groove on the adapter with the PL lens index pin on the lens mount.

4. Check that the adapter's bayonet ring handle is at the correct position for attaching a lens (⑤).

5. Attach the lens to the adapter (⑥).
    - Align the index pin on the lens with the groove at the top part of the adapter.
    - Hold the lens horizontal while supporting it from beneath and turn the adapter's bayonet ring handle clockwise to lock the lens in place (⑦).

6. Attach the supplied lens support bracket to a commercially available lens support.

7. Connect the lens's 12-pin interface cable to the LENS terminal on the camera or optional EU-V2 Expansion Unit 2 (⑧).
    - Align the ▼ mark on the plug with the ↓ mark on the terminal.
    - You can adjust the cable's length.

8. Turn on the camera and change the menu settings to optimize the camera for the use of the adapter.
    - See the [Camera Setup] menu settings' table in the instruction manual of the camera being used.
    - Refer also to the instruction manual of the camera being used.
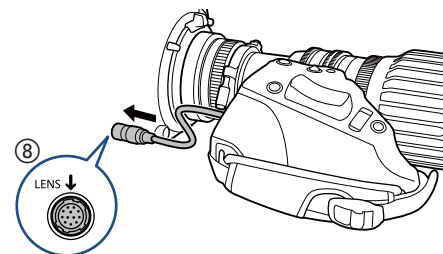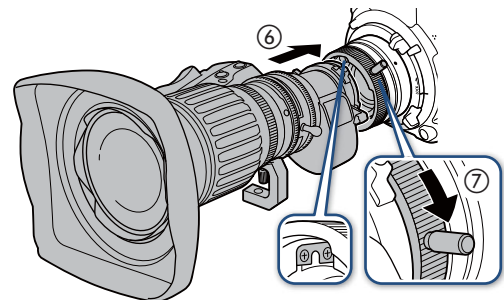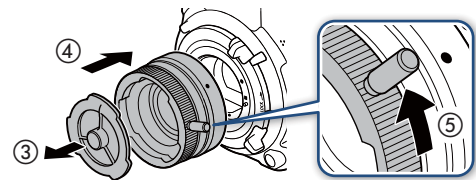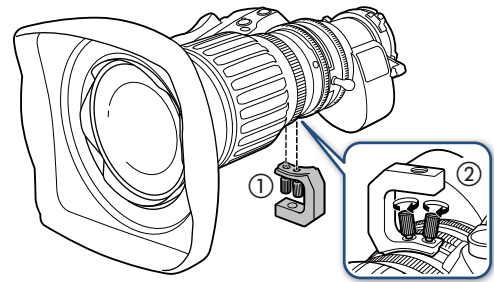
Removing the Adapter

1. Set the [Mount Adapter] setting to [Off].

2. Turn off the camera.

3. Disconnect the lens's 12-pin interface cable from the camera.

4. Remove the supplied lens support bracket from the lens.

5. Remove the lens from the adapter.
   - While taking care to support the lens, turn the adapter's bayonet ring handle counter-clockwise to unlock the lens and then remove it from the camera.

6. Remove the adapter from the camera.
   - Place the body cap back on the lens mount and the dust caps back on the adapter.

Specifications

Lens configuration	4 elements in 3 groups
Image circle	Ø 14.1 mm (Ø 0.6 in.)
Multiplication factor	1.3x
Operating temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (diameter x length)	MO-4E: Ø 69 x 39 mm (Ø 2.7 x 1.5 in.) MO-4P: Ø 68 x 39 mm (Ø 2.7 x 1.5 in.)
Weight*	MO-4E: 230 g (8.1 oz.), MO-4P: 248 g (8.7 oz.) Support bracket A / B: 23 g (0.8 oz.)

* All dimensions and weights are approximate.

■ Detailed Measurements

mm (inches)
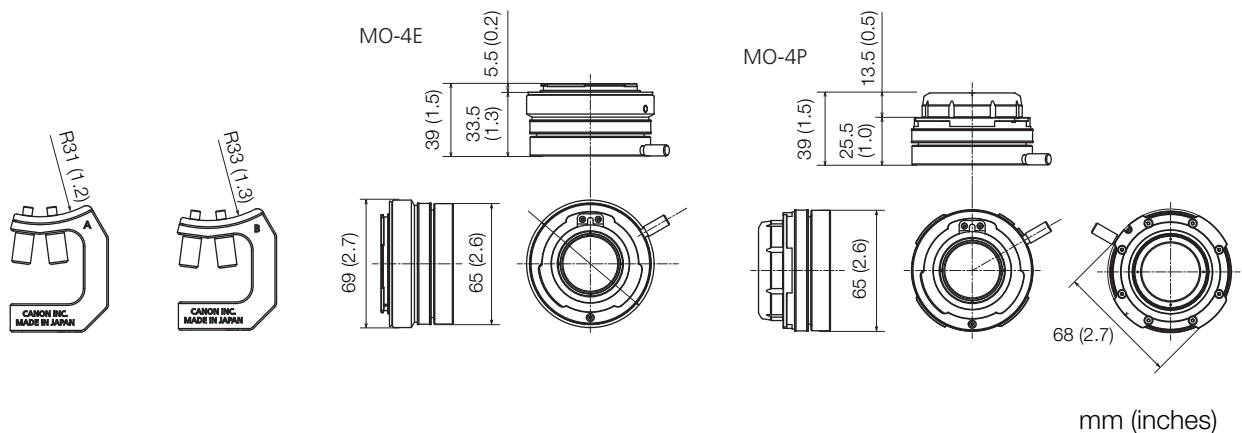
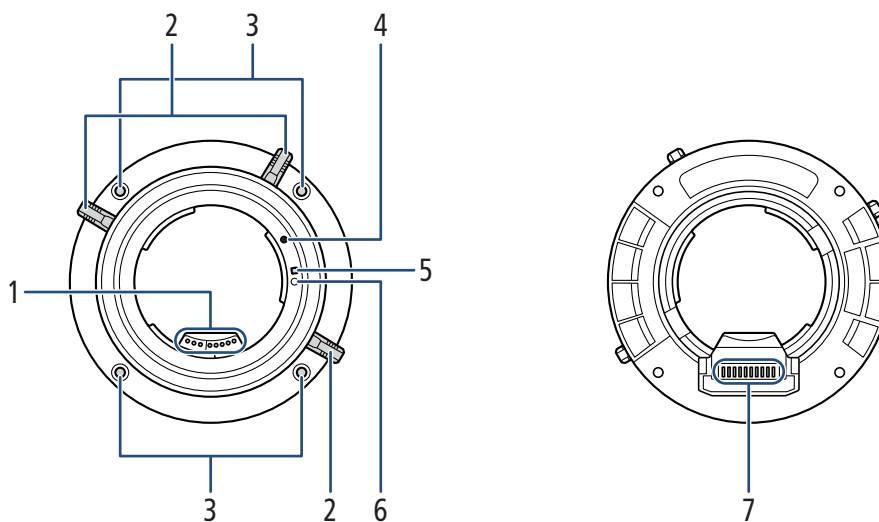# CM-V1 EF Cinema Lock Mount Kit

PM-V1 PL Mount Kit

These mount kits allow you to easily replace the camera's lens mount with an EF cinema lock mount (CM-V1 kit) or PL mount (PM-V1 kit).

Supplied Accessories
☐ M3 hex socket head bolts (x4)

☐ 15 µm shims (x6)

☐ 20 µm shims (x6)

☐ 50 µm shims (x4)

☐ 100 µm shims (x4)

Names of Parts

■ CM-V1

1 EF lens contacts	5 EF-S lens mount index
2 Mount handles	6 Lens locking pin
3 Screw holes for lens mount fixation bolts (x4)	7 Lens mount contacts
4 EF lens mount index	

■ PM-V1
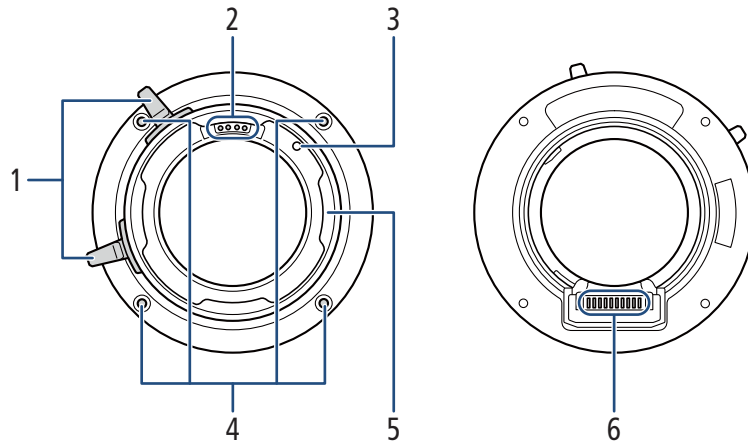

|			
1	Bayonet ring handles	4	Screw holes for lens mount fixation bolts (x4)
2	PL lens contacts	5	Bayonet ring
3	PL lens index pin	6	Lens mount contacts

Replacing the Lens Mount

As much as possible, replace the camera's lens mount in a clean environment free of dust. The following procedure and illustrations explain the replacement of an EF lens mount on the camera with an EF lens mount with Cinema Lock but the procedure is the same for a PL lens mount.

1. Turn off the camera and remove all power sources.
   • If an AC adapter is connected or battery back is attached to the camera, remove them.

2. Place the body cap on the camera's EF lens mount.

3. Lay the camera on a flat surface with the lens mount facing up.

4. Remove the 4 lens mount fixation bolts using the hex wrench for M3 bolts.

5. Holding down the camera pull the camera's lens mount straight up to remove it.

6. Attach the EF lens mount with Cinema Lock to the camera.
   • Align the lens mount contacts on the camera and the lens mount and push the lens mount gently down.
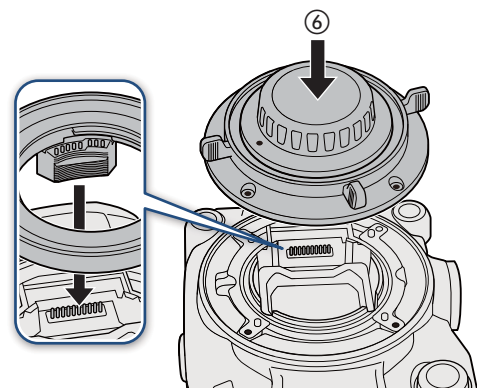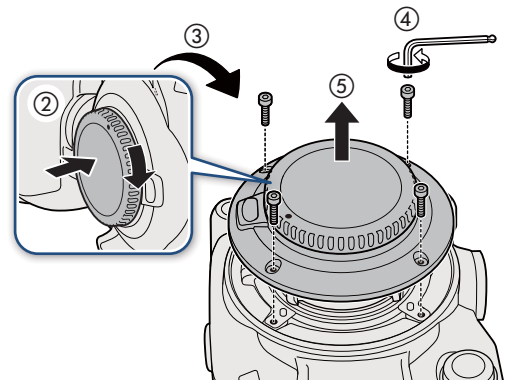
7. Screw in the 4 lens mount fixation bolts and fasten them but not too tightly.
   • Partially tighten the bolts removed in step 4 in a balanced fashion in the sequence shown in the illustration, using the hex wrench for M3 bolts.
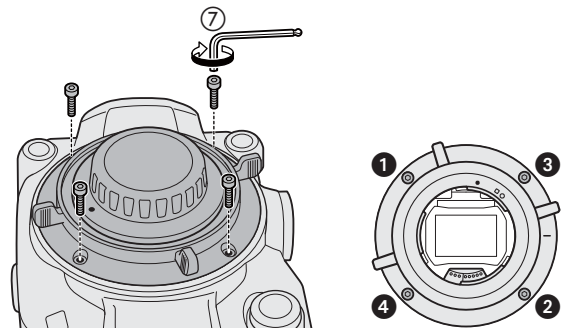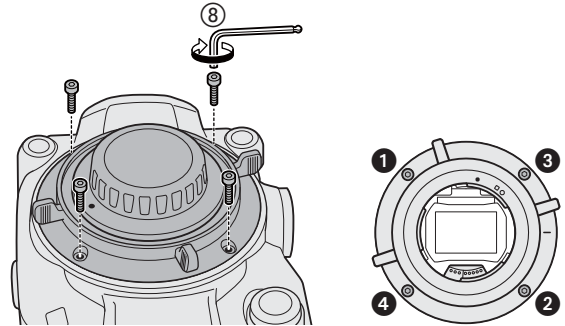
8. Secure the lens mount in place.
   • Fasten the lens mount fixation bolts firmly in a balanced fashion in the sequence shown in the illustration.
   Recommended torque: 80 N·cm
   Maximum torque: 100 N·cm

   ! • Applying a torque exceeding the maximum torque may damage the camera and lens mount.

   ✍ • The camera is shipped with the flange back correctly adjusted.
   For details about the initial thickness of the lens mount shims, see *Specifications* in the instruction manual of the camera being used. If the flange back need to be adjusted after replacing the lens mount, use the supplied shims as necessary.

If necessary you can add shims also to the top position

The camera is shipped with lens mount shims on the right and left
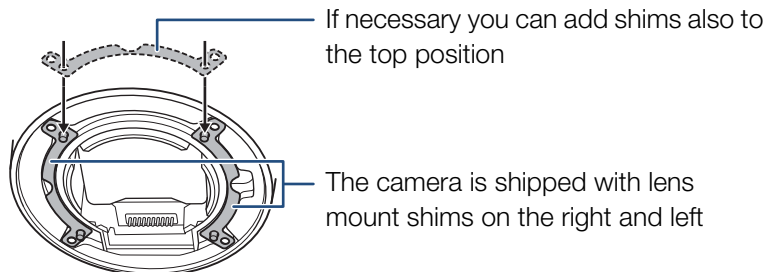
Attaching a Lens

■ EF Lens Mount with Cinema Lock

1. Turn off the camera.

2. Turn the mount handle clockwise until it stops.

3. Remove the body cap from the camera and any dust caps from the lens.

4. Check that the mount handle is at the correct position for attaching a lens.

5. Align the lens with the corresponding index mark and insert the lens into the lens mount.
   - EF lenses: Align the red dot on the lens with the red EF lens mount index mark on the camera.
   - EF-S lenses: Align the white square on the lens with the white EF-S lens mount index mark on the camera.

6. Without turning the lens, turn the mount handle counter-clockwise until it is tightened firmly.
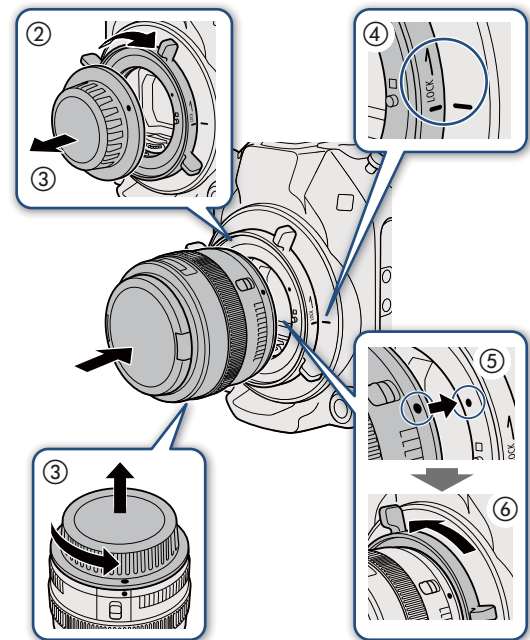
■ PL Mount

1. Turn off the camera.

2. Turn the bayonet ring counter-clockwise to remove the body cap from the lens mount and remove any dust caps from the lens.

3. Align a groove on the lens with the PL lens index pin on the mount and insert the lens into the lens mount.

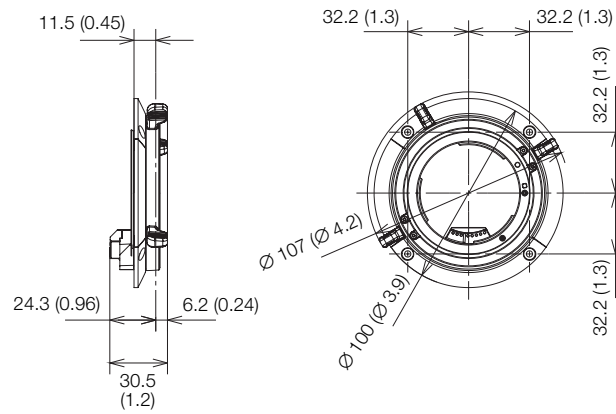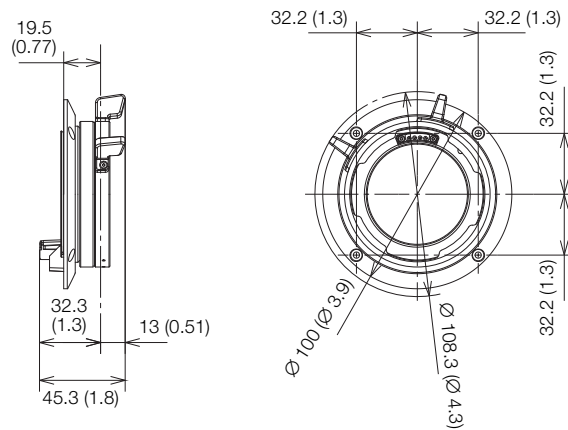4. Turn the bayonet ring clockwise to fix the lens in place.

PL lens index pin
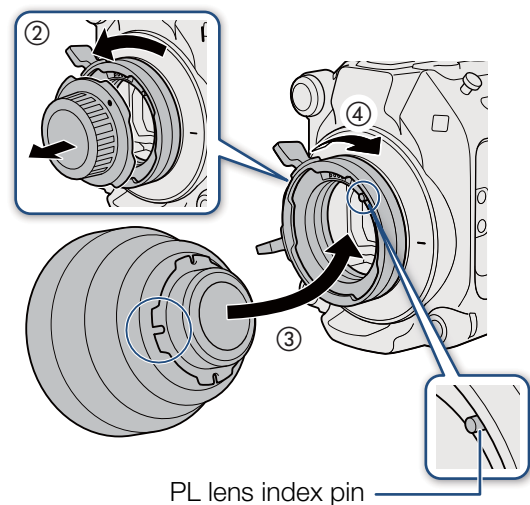
Specifications

	Lens Mount Kit	
	CM-V1	PM-V1
Dimensions* (diameter x length)	Ø 107 x 31 mm (Ø 4.2 x 1.2 in.)	Ø 108 x 45 mm (Ø 4.3 x 1.8 in.)
Weight*	170 g (6.0 oz.)	345 g (12.2 oz.)

* All dimensions and weights are approximate.

■ CM-V1 Detailed Measurements

11.5 (0.45)
32.2 (1.3)   32.2 (1.3)
32.2 (1.3)
Ø 107 (Ø 4.2)
Ø 100 (Ø 3.9)
32.2 (1.3)
24.3 (0.96)   6.2 (0.24)
30.5 (1.2)

■ PM-V1 Detailed Measurements

19.5 (0.77)
32.2 (1.3)   32.2 (1.3)
32.2 (1.3)
Ø 100 (Ø 3.9)
Ø 108.3 (Ø 4.3)
32.2 (1.3)
32.3 (1.3)   13 (0.51)
45.3 (1.8)

mm (inches)

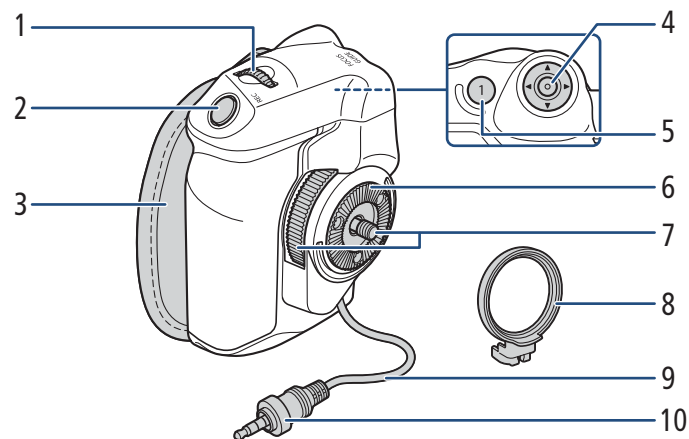# Shooting Styles and Configuration

GR-V1 Camera Grip

Attach the camera grip to the camera to comfortably hold and operate the camera. The camera grip allows you to start/stop recording and features also a joystick, control dial and one assignable button.
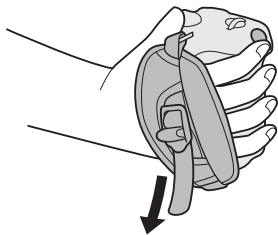

Supplied Accessories
☐ Grip attachment ring

Names of Parts

1 Control dial
2 REC (start/stop recording) button
3 Grip belt
  • Adjust the grip belt so that you can reach the REC button on the camera grip with your index finger but still have a comfortable but secure grip.

4 Joystick
5 FOCUS GUIDE button/
  Assignable button Camera Grip 1
6 Rosette
  • Compliant with ARRI rosettes.
7 Locking screw
8 Grip attachment ring
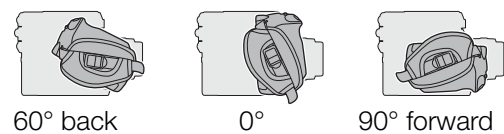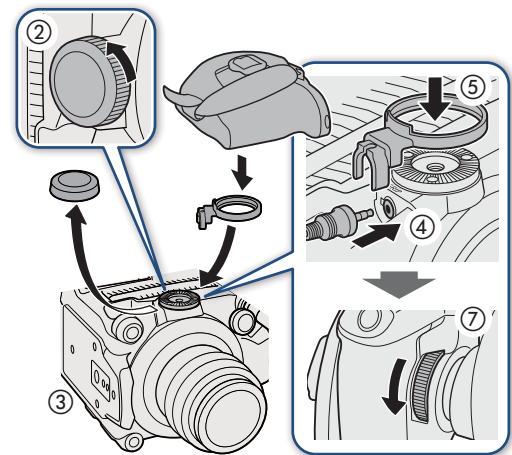9 Grip connection cable
10 Connection plug

Removing and Attaching the Camera Grip

The camera grip comes originally attached to the camera. You can remove it and replace it with the thumb rest when a minimal configuration is necessary.

### ■ Attaching the Camera Grip

The camera grip can be attached in a number of positions from 90° toward the lens to 60° toward the back at 6° intervals.

1. Turn off the camera.

2. Unscrew the thumb rest and remove it from the camera.

3. Lay the camera on a flat, stable surface with the rosette facing up.

4. Firmly insert the camera grip's connection plug all the way into the GRIP terminal on the camera.
   - Make sure to insert the plug all the way in, until the terminal is not visible.
   - If the plug is not correctly connected, all the controls on the camera may be disabled.

5. Attach the grip attachment ring.

6. Return the camera to an upright position.

7. Attach the camera grip to the camera aligning it at the desired angle and tighten the camera grip's locking screw.

60° back   0°   90° forward

■ Removing the Camera Grip

1. Turn off the camera.

2. Unscrew the camera grip's locking screw and gently detach the grip.
   - The camera grip contains an internal connection cable so be sure not to pull it too forcefully.

3. Remove the grip attachment ring and disconnect the camera grip's connection plug.
   - You can attach the grip attachment ring to the connection cable so that you do not lose it.
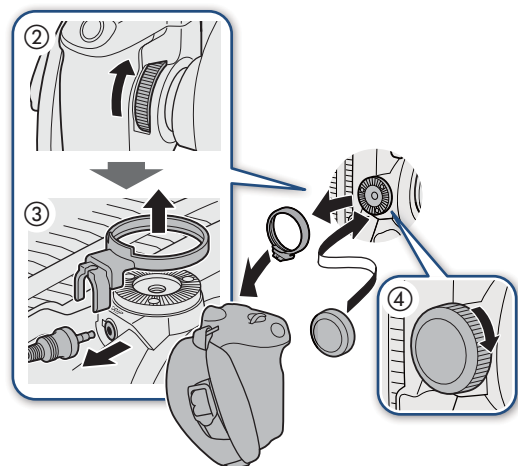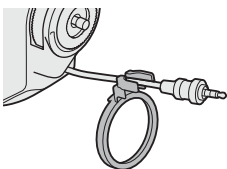

4. Screw the thumb rest onto the camera.

Specifications

Characteristics	Modular unit can be attached at any of 24 positions (6° intervals); includes limited recording controls.
Operating temperature	0 °C – 40 °C (32 °F – 104 °F)
Dimensions* (W x H x D)	60 x 124 x 75 mm (6.1 x 4.6 x 3.0 in.)
Weight* (without connector cover)	260 g (9.2 oz.)

* All dimensions and weights are approximate.

### ■ Detailed Measurements
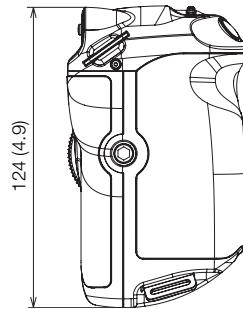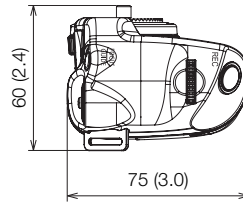
mm (inches)

SU-15 Shoulder Support Unit

Attach the shoulder support to the camera to use it for ENG-style hand-held shooting. It features rods for additional accessories and an adjustable shoulder pad for optimal balance.

Supplied Accessories
- ☐ Ø 15 mm rods (x2)
- ☐ Rod stoppers (x2)
- ☐ M4 hex socket head bolts (x2)
- ☐ 0.64 cm, 1/4" hex socket head bolts (x4)
- ☐ Bolt retainers (x4)

Names of Parts
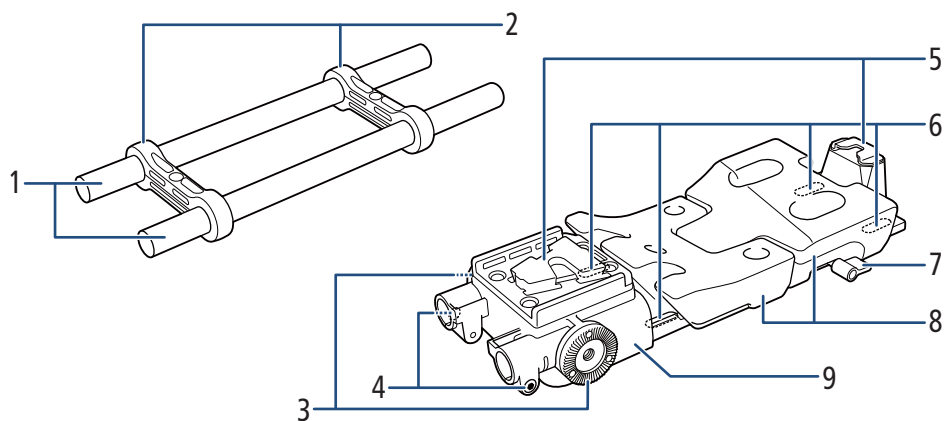
|			
1	Ø 15 mm rod	5	Tripod base
	• Compliant with ARRI's Lightweight Support.	6	Camera mount through-holes
2	Rod clamp	7	Shoulder pad screw
3	Rosette	8	Shoulder pad
	• Compliant with ARRI rosettes.	9	Shoulder support
4	Hex socket head bolt (M4)		

Attaching and Adjusting the Support Unit

1. Turn off the camera.

2. Turn the shoulder pad screw counter-clockwise and loosen it (①).

3. Adjust the shoulder pad position (front/back; ②).

4. Turn the shoulder pad screw clockwise to secure the shoulder pad in place (③).

    • If the screw is facing down, pull the screw and turn it so that it faces diagonally upward.

5. Insert one of the supplied 0.64 cm, 1/4" bolts into a camera mount through-hole and affix a supplied bolt retainer to the underside of the bolt.

    • Repeat for the other three through holes.

6. Attach the shoulder support to the bottom of the camera (④) and use the hex wrench for 0.64 cm, 1/4" screws to partially tighten the 4 supplied fixation bolts for a provisional fix.

7. Adjust the shoulder pad (front/back) to the desired position and then fasten the bolts firmly (⑤).
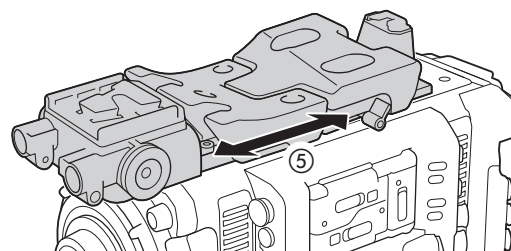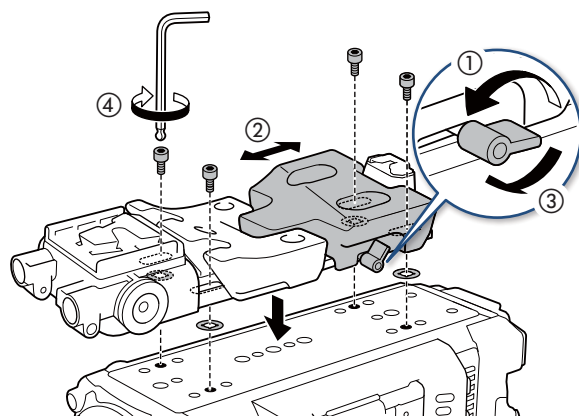
■ Attaching the Accessory Rods

1. Pass the rods through the rod stoppers and use the hex wrench for M4 bolts to fasten one of the supplied M4 bolts to the rod stopper to fix the rods (①).

2. Insert the assembled rods into the shoulder support (②) and fasten the other supplied M4 bolt to secure the rod assembly in place (③).

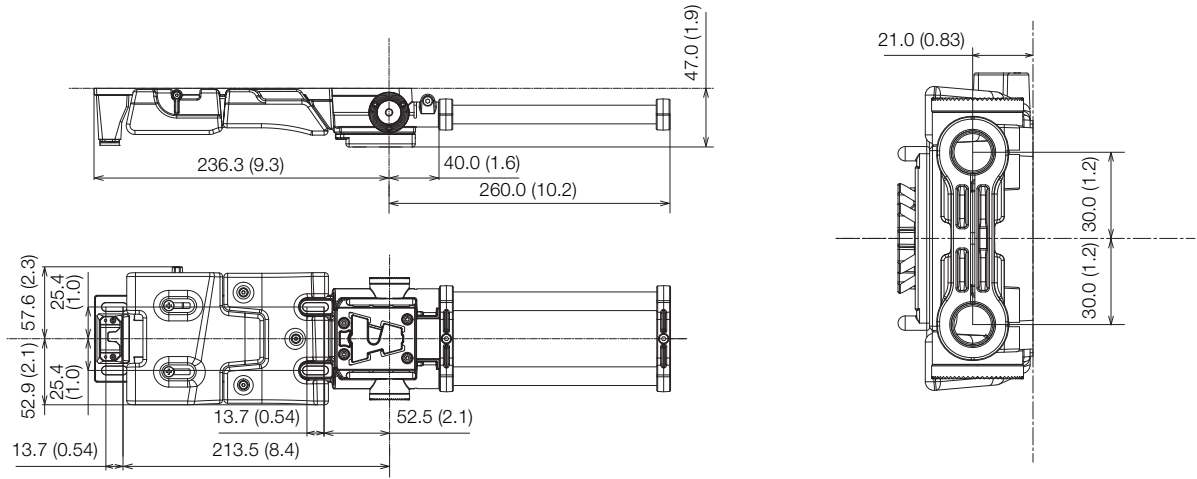   • Make sure the rods go past the side slits.
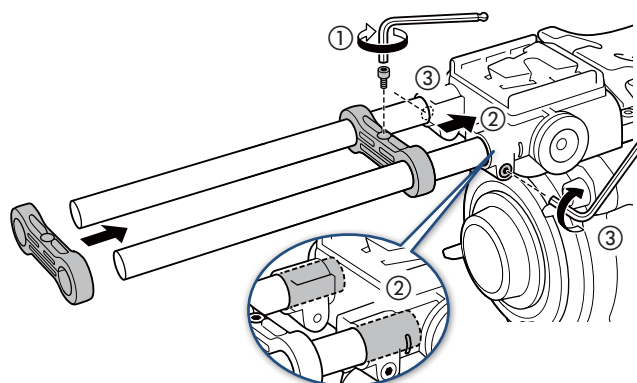
Specifications

Dimensions* (W x H x D)	111 x 47 x 496 mm (4.4 x 1.9 x 19.5 in.)
Weight* (without connector cover)	930 g (2.1 lb.)

* All dimensions and weights are approximate.

■ Detailed Measurements

47.0 (1.9)

236.3 (9.3)　40.0 (1.6)

260.0 (10.2)

21.0 (0.83)

30.0 (1.2) 30.0 (1.2)

57.6 (2.3)
25.4 (1.0)
52.9 (2.1)
25.4 (1.0)

13.7 (0.54)　52.5 (2.1)

13.7 (0.54)　213.5 (8.4)

mm (inches)

SG-1 Shoulder Style Grip Unit

Mount the grip unit on the rods of the optional SU-15 Shoulder Support Unit (□ 46) to control the lens during ENG-style hand-held shooting. When the shoulder-style grip is connected to the LENS terminal, you can use the following controls on the grip: REC button to start/stop recording, joystick for menu operation, aperture/zoom controls (with compatible lenses), and one assignable button.

**Supplied Accessories**
☐ Grip connecting arm
☐ Hex wrench for M6 bolts
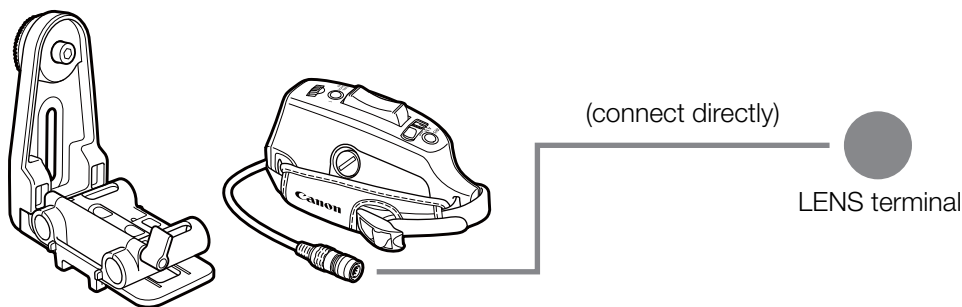
Names of Parts
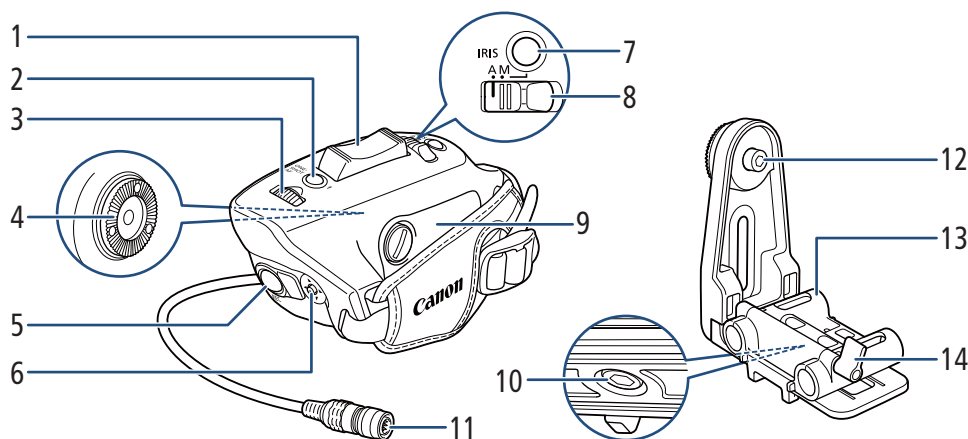
1 Grip zoom rocker
  • Press gently for a slow zoom; press harder for faster zooms.
2 ONE-SHOT AF (focus automatically once) button/Assignable button Grip SG-1: 1
3 Grip control dial
4 Rosette
  • Compliant with ARRI rosettes.
5 REC (recording) button

6 Joystick
7 IRIS (aperture control) button
8 IRIS (aperture control) switch
9 Cable compartment cover
10 0.64 cm, 1/4" hex socket head bolt
11 12-pin interface cable
12 M6 hex socket head bolt
13 Grip connecting arm
14 Grip connecting arm screw

Attaching the Grip Unit

1. Turn off the camera.

2. Pass the rods of the optional SU-15 Shoulder
   Support Unit through the grip connecting arm
   (①), adjust the arm's position (front/back), and
   turn the grip connecting arm screw clockwise to
   secure the arm (②).
   - After securing the arm, attach the rod stoppers
     supplied with the SU-15 (③, 📖 47).

3. Attach the grip unit to the grip connecting arm
   (④).
   - Partially tighten the M6 bolt using the hex wrench
     for a provisional fix. Adjust the angle of the grip unit to the desired position and then fasten the bolt
     firmly.

4. Using the hex wrench for 0.64 cm, 1/4" screws, loosen the bolt at the bottom of the grip
   connecting arm (⑤). Adjust the grip unit's position (left/right) as necessary and then fasten the
   bolt to secure the grip unit in place.

5. Connect the grip unit's 12-pin interface cable to the LENS terminal on the camera or optional
   EU-V2 Expansion Unit 2 (⑥).
   - Align the ▼ mark on the plug with the ↓ mark on the terminal.
   - You can adjust the cable's length.
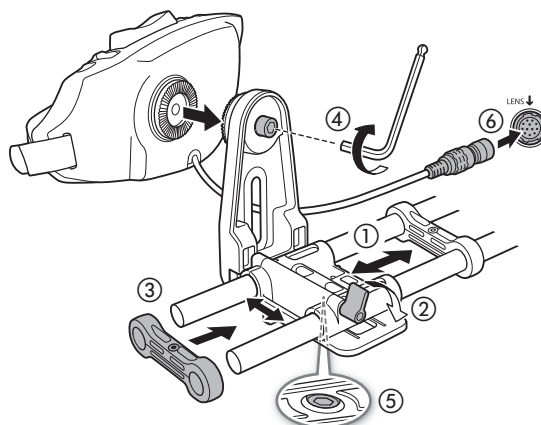
■ Adjusting the 12-pin Interface Cable's Length

1. Remove the grip belt and use a coin or similar
   item to open the cable compartment cover
   (①).

2. Adjust the cable's length (②).

3. Close the cable compartment cover (③).
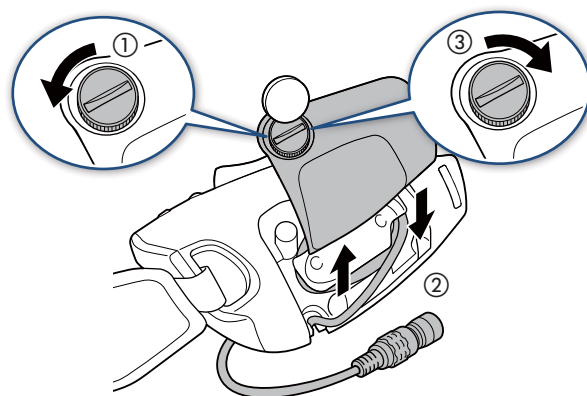
Controlling the Aperture using the Grip

1. Set the IRIS switch to M (manual) (①).
   - You can set the switch to A instead to control
     the aperture from the camera or another
     accessory connected to it.

2. Turn the grip control dial to set the aperture
   value (②).

3. Even when the IRIS switch is set to M, you
   can control the aperture from the camera or
   another accessory connected to it as long as
   you hold the IRIS button pressed down (③).
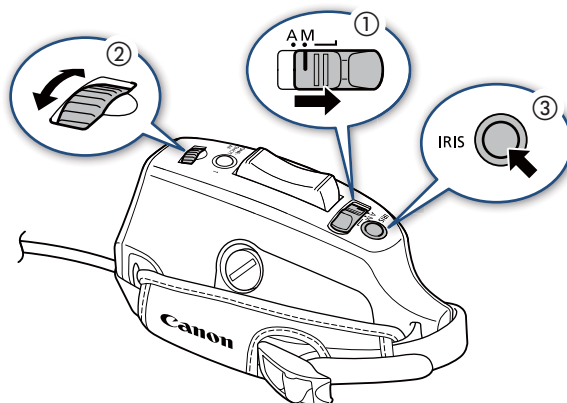
Specifications

Dimensions* (W x H x D)	220 x 148 x 148 mm (8.7 x 5.8 x 5.8 in.)
Weight* (without connector cover)	565 g (1.2 lb.)

* All dimensions and weights are approximate.

■ Detailed Measurements

33.1 (1.3) 33.1 (1.3)

70.7 (2.8) 77.5 (3.1)

127.9 (5.0)

30.0 (1.2) 30.0 (1.2)

20.2 (0.8)

166.5 (6.6) 53.0 (2.1)

mm (inches)