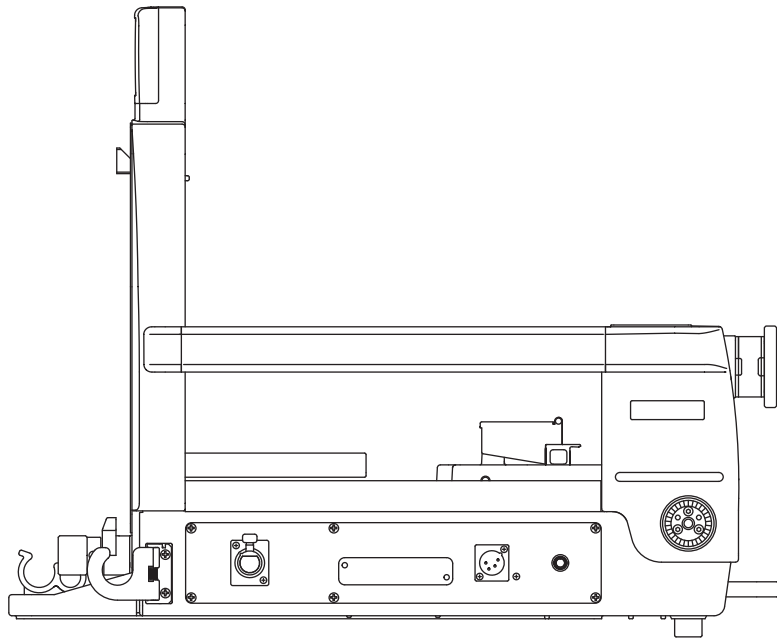


Panasonic[®]

Operating Instructions



Buildup Unit


Model No. **AK-HBU500G**




Please carefully read this manual, and save this manual for future use.
Before using this product, be sure to read "Read this first!" (pages 2 to 4) .

Read this first!

	<p>CAUTION</p> <p>RISK OF ELECTRIC SHOCK DO NOT OPEN</p>	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER TO SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

This equipment must be earthed.
To ensure safe operation, make sure that the camera's optical cable is securely connected to an earthed CCU when in use. The fact that the equipment operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

WARNING:

- To reduce the risk of fire, do not expose this equipment to rain or moisture.
- To reduce the risk of fire, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

WARNING:

Always keep accessories (camera number sheet) out of the reach of babies and small children.

CAUTION:

In order to maintain adequate ventilation, do not install or place this unit in a bookcase, built-in cabinet or any other confined space. To prevent risk of electric shock or fire hazard due to overheating, ensure that curtains and any other materials do not obstruct the ventilation.

CAUTION:

The optical cable connected to the camera shall remain readily operable.
To completely disconnect this equipment from the power supply, disconnect the optical cable from the equipment.

CAUTION:

To reduce the risk of fire or electric shock and annoying interference, use the recommended accessories only.

 indicates safety information.

FCC NOTICE(USA)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

CAUTION:

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Warning:

To assure continued FCC emission limit compliance, follow the attached installation instructions and the user must use only shielded interface cables when connecting to host computer or peripheral devices.
Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

NOTIFICATION(Canada)

CAN ICES-3 (A)/NMB-3(A)

 indicates safety information.

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cable from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



EMC NOTICE FOR THE PURCHASER/USER OF THE APPARATUS

1. Applicable standards and operating environment (AK-HBU500G)

The apparatus is compliant with:

- standards EN55103-1 and EN55103-2, and
- electromagnetic environments E1, E2, E3 and E4.

2. Pre-requisite conditions to achieving compliance with the above standards

<1> Peripheral equipment to be connected to the apparatus and special connecting cables

- The purchaser/user is urged to use only equipment which has been recommended by us as peripheral equipment to be connected to the apparatus.
- The purchaser/user is urged to use only the connecting cables described below.

<2> For the connecting cables, use shielded cables which suit the intended purpose of the apparatus.

- Video signal connecting cables
Use double shielded coaxial cables, which are designed for 75-ohm type high-frequency applications, for SDI (Serial Digital Interface).
Coaxial cables, which are designed for 75-ohm type high-frequency applications, are recommended for analog video signals.
- Audio signal connecting cables
If your apparatus supports AES/EBU serial digital audio signals, use cables designed for AES/EBU.
Use shielded cables, which provide quality performance for high-frequency transmission applications, for analog audio signals.
- Other connecting cables (LAN, RS-422)
Use shielded cables, which provide quality performance for high-frequency applications, as connecting cables.
- When connecting to the DVI signal terminal, use a cable with a ferrite core.
- If your apparatus is supplied with ferrite core(s), they must be attached on cable(s) following instructions in this manual.

3. Performance level

The performance level of the apparatus is equivalent to or better than the performance level required by these standards.

However, the apparatus may be adversely affected by interference if it is being used in an EMC environment, such as an area where strong electromagnetic fields are generated (by the presence of signal transmission towers, cellular phones, etc.). In order to minimize the adverse effects of the interference on the apparatus in cases like this, it is recommended that the following steps be taken with the apparatus being affected and with its operating environment:

1. Place the apparatus at a distance from the source of the interference.
2. Change the direction of the apparatus.
3. Change the connection method used for the apparatus.
4. Connect the apparatus to another power outlet where the power is not shared by any other appliances.

Декларація про Відповідність
Вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному
обладнанні
(затвердженого Постановою №1057 Кабінету Міністрів України)

Виріб відповідає вимогам Технічного Регламенту Обмеження Використання деяких Небезпечних Речовин в електричному та електронному обладнанні (ТР ОВНР).

Вміст небезпечних речовин у випадках, не обумовлених в Додатку №2 ТР ОВНР, :

1. свинець(Pb) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
2. кадмій (Cd)– не перевищує 0,01 % ваги речовини або в концентрації до 100 частин на мільйон;
3. ртуть(Hg) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
4. шестивалентний хром (Cr6+) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
5. полібромбіфеноли (PBB) – не перевищує 0,1% ваги речовини або в концентрації до 1000 частин на мільйон;
6. полібромдефенілові ефіри (PBDE) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон.

AEEE Yönetmeliğine Uygunudur.
AEEE Complies with Directive of Turkey.

Note:

The rating plate (serial number plate) is on the bottom of the unit.

Manufactured by: Panasonic Corporation, Osaka, Japan
Importer's name and address of pursuant to EU rules:
Panasonic Marketing Europe GmbH
Panasonic Testing Centre
Winsbergring 11, 22525 Hamburg, Germany



Disposal of Old Equipment

Only for European Union and countries with recycling systems

This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products must not be mixed with general household waste.

For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment. For more information about collection and recycling, please contact your local municipality, dealer or supplier.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

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Introduction

How to View This Manual

About trademarks and registered trademarks

- Names of companies or products in this manual are either registered trademarks or trademarks of their respective owners.

Illustrations and screen displays featured in the manual

- What is shown in the manual's illustrations may differ from how it actually appears.

Abbreviations

The following abbreviations are used in this manual.

- A studio handy camera is referred to as a camera in this manual.

For the purposes of this manual, the model numbers of the units are given as listed in the table below.

Model number of unit	Model number given in manual
AK-HC5000G	AK-HC5000
AK-HC5000GS	
AK-UC3000G	AK-UC3000
AK-UC3000GS	
AK-HRP1000	AK-HRP1000
AK-HRP1000G	
AK-HRP1005G	AK-HRP1005
AK-UCU500P	AK-UCU500
AK-UCU500PS	
AK-UCU500E	
AK-UCU500ES	
AK-MSU1000G	AK-MSU1000
AK-HVF100G	AK-HVF100
AK-HBU500G	AK-HBU500

Overview

This unit is a buildup unit for use with studio handy cameras (AK-UC3000, AK-HC5000).

When installed in the studio handy camera, it enables a large lens to be mounted, thus yielding the same range of operations as that afforded by a larger camera.

Accessories

Check the accessories.

- After unpacking the product, dispose of the packaging material appropriately.

Camera number sheets (1 to 12) 1 set

➡ "Tally lamp" (see page 8)

Precautions for Use

■ Power supply

- Use power supplied from the camera or from an external DC power supply.

■ Handle carefully

- Do not drop the product or subject it to a strong impact.

■ Use the product in an ambient temperature of -10°C to 45°C (14°F to 113°F)

- Avoid using the product in a cold place where the temperature drops below -10°C (14°F) or in a hot place where the temperature rises above 45°C (113°F) because an extremely low or high temperature will adversely affect the internal parts.

■ Power off before connecting or disconnecting cables

- Before connecting or disconnecting the cables, be sure to turn the power off.

■ Use in wet environments

- When operating the unit in the rain or snow or at a beach or waterfront, cover it with a rain cover (optional accessory) or use some other means to protect the unit from getting wet and prevent water from entering the unit.

■ Distance from the monitor

- Install the unit at a distance of at least 1 meter (3.3 ft.) from the monitor.

■ Cleaning

- Disconnect the power plug, and wipe the unit with a dry cloth. To remove stubborn dirt, wipe the unit gently with a cloth that has been dipped in a dilute solution of kitchen detergent and wrung out thoroughly, and then wipe the unit with a cloth dampened with water. Finally, wipe the unit with a dry cloth.

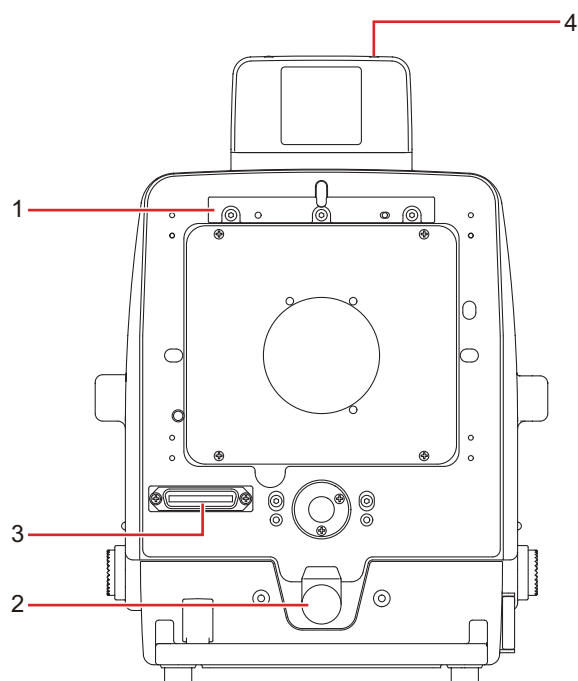


NOTE

- Avoid using benzene, paint thinners and other volatile fluids.
- If a chemical cleaning cloth is to be used, carefully read through the precautions for its use.
- Consult your dealer for grease servicing of the optical axis adjustment parts at least once a year.

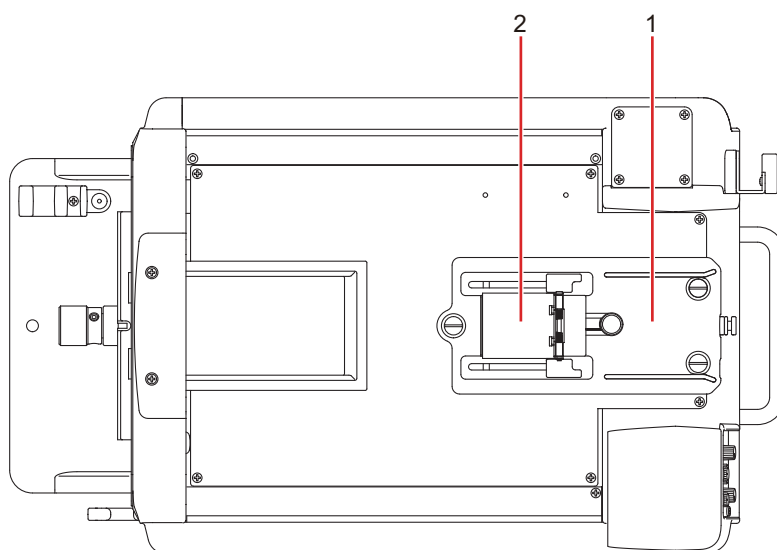
Parts and their functions

Front panel



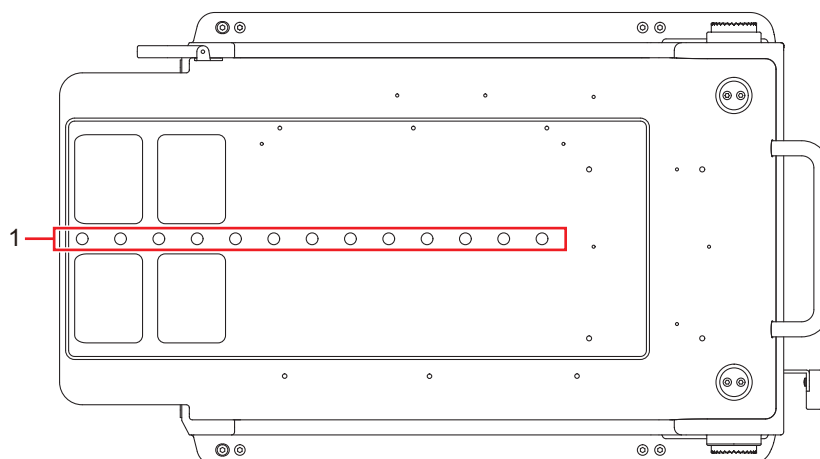
1	Lens guide	The 2/3-type large lens is attached by hooking it onto this guide. Align the guide pin of the lens with the center groove, and attach. ➡ "Mounting the large lens" (see page 15)
2	Lens anchoring knob	This is rotated clockwise to anchor the large lens. ➡ "Mounting the large lens" (see page 15)
3	LENS I/F connector	This is the interface connector for a large lens.
4	Tally lamp	This lights when tally signals are sent to the camera. If you do not want this lamp to light, set the [UP TALLY] switch on the operation panel to the [OFF] position. The camera number is displayed at the center. Alternatively, the camera number sheet (1 to 12) can be attached here.

Top panel



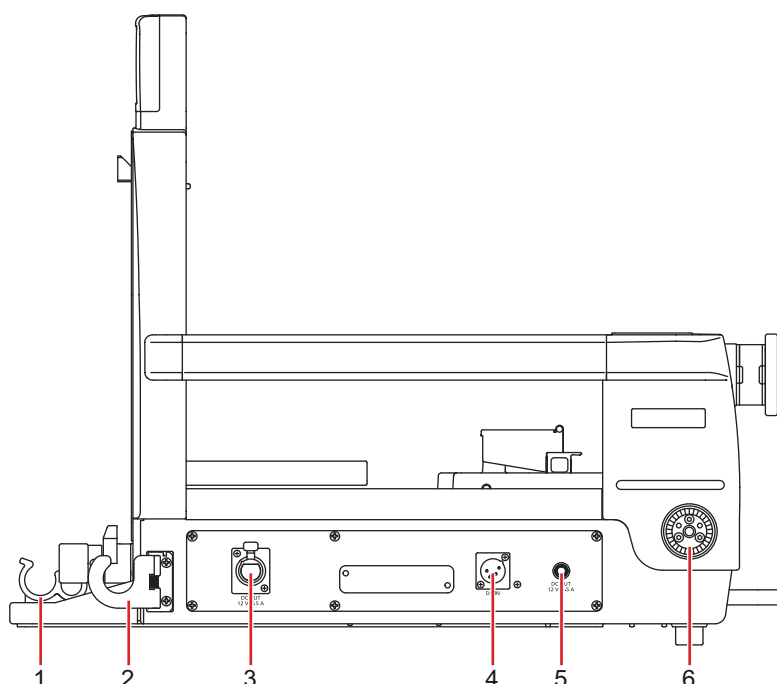
1	Camera mount base (rear)	This is used to attach the camera. ➡ “Mounting the camera” (see page 18)
2	Camera I/F connector	This is the interface connector which is used when connecting the camera.

Bottom panel



1	Tripod screw socket (3/8-16UNC)	This is used to attach the unit to a tripod or other accessory.
---	--	---

Right side panel



1	Clamp for optical fiber cable	The optical fiber cable connected to the camera from the unit is secured to this clamp.
2	Hook for securing cable	The camera's optical fiber cable is fastened to this hook.
3	[DC OUT 12V 7.5A] connector	<p>This is a 12 V DC output connector. It accepts currents up to 7.5 A. When a current that exceeds the specification is used, the current will be cut off. Power will not be supplied from this connector when an external DC power is being supplied via the [DC IN] connector and the [POWER] switch on the camera (AK-UC3000/AK-HC5000) is set to [EXT].</p> <ul style="list-style-type: none"> • If the power supply to an external device cuts off intermittently, disconnect the external device immediately. Failure to obey may result in damage. • When connecting an external device, be sure to verify its polarity and current consumption beforehand. Failure to obey may result in damage.
4	[DC IN] connector	<p>This is the external DC power supply input connector. It connects to an external DC power supply (10.8 V - 17 V DC).</p> <ul style="list-style-type: none"> • When operating the unit using an external DC power supply, connect the external DC power supply to the camera as well, and set the [POWER] switch on the camera to [EXT]. ➡ “■ External DC power supply” (see page 10)
5	[DC OUT 12V 1.5A] connector	<p>This is a 12 V DC output connector. It accepts currents up to 1.5 A. When a current that exceeds the specification is used, the current will be cut off.</p> <ul style="list-style-type: none"> • If the power supply to an external device cuts off intermittently, disconnect the external device immediately. Failure to obey may result in damage. • When connecting an external device, be sure to verify its polarity and current consumption beforehand. Failure to obey may result in damage.
6	Clip	This is used to attach the accessories.

■ External DC power supply

Connect after making sure that the output voltage of the external DC power supply is compatible with the rated voltage of the buildup unit.

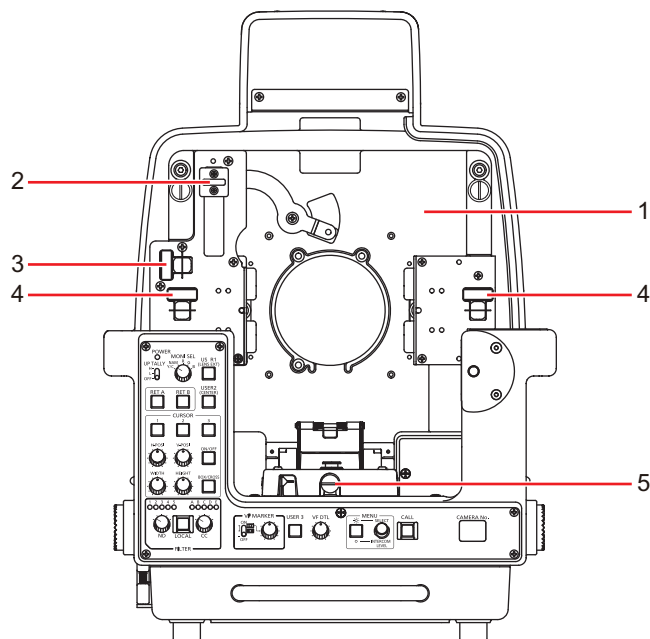
Select an output amperage for the external DC power supply with a margin above the total amperage of the connected devices.
The total amperage of connected devices can be calculated with the following formula.

Total power consumption ÷ voltage

When the power of the buildup unit is turned on, inrush current is generated. Insufficient power supply when turning on the power may cause a malfunction. We recommend that you use an external DC power supply that can assure double the capacity of the total power consumption of the buildup unit and connected devices that are turned on by interlock when the power of the buildup unit is turned on (such as lenses). For the DC cable, use a dual-core shielded cord of AWG18 (nominal cross section area 0.824 mm²) or thicker.

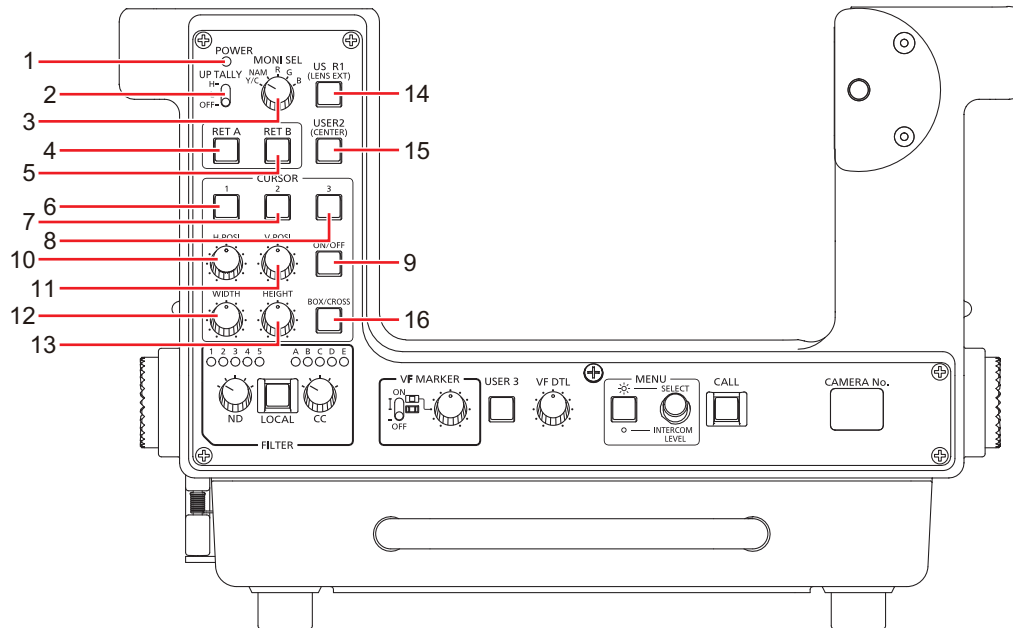
- Make sure of the pin alignment of the DC output terminal of the external DC power supply and the buildup unit [DC IN] terminal, and connect the polarity correctly.
If the +12 V power supply is mistakenly connected to the UNREG GND terminal, it may cause fire or malfunction.

Rear panel



1	Camera mount base (front)	This is used to attach the camera. ➡ "Mounting the camera" (see page 18)
2	Camera lock lever	This is used to secure or release the camera. ➡ "Mounting the camera" (see page 18)
3	Optical axis adjustment knob (L/R)	This adjusts the optical axis position in the horizontal (left and right) direction. ➡ "Optical axis adjustments" (see page 20)
4	Optical axis adjustment knobs (UP/DOWN)	These adjust the optical axis position in the vertical (up and down) direction. ➡ "Optical axis adjustments" (see page 20)
5	Camera height screw	This adjusts the height of the camera's rear. ➡ "Optical axis adjustments" (see page 20)

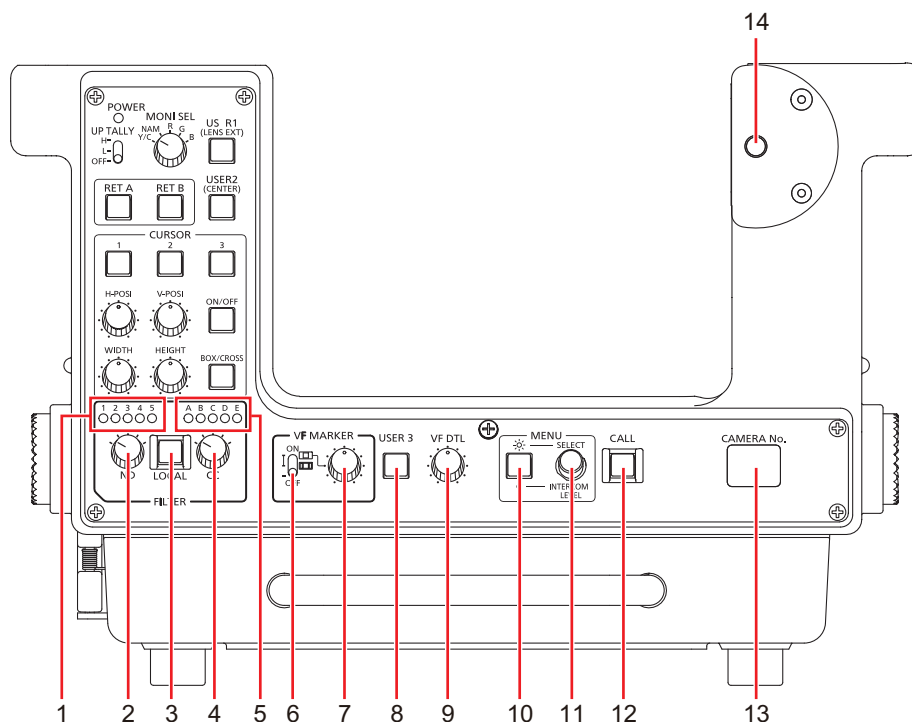
Operation panel 1



1	[POWER] lamp	<p>This lights green when the buildup unit is turned on.</p> <p>Flashing lamp</p> <p>When external DC power is being supplied via the [DC IN] connector and the [POWER] switch on the camera (AK-UC3000/AK-HC5000) is set to [EXT]:</p> <ul style="list-style-type: none"> ■ If a total current consumption level that includes the external DC output and exceeds the specifications is detected, the lamp flashes red. ■ If an external DC output that exceeds the specifications is detected, the lamp flashes orange. <p>When the [POWER] switch on the camera (AK-UC3000/AK-HC5000) is set to [CCU]:</p> <ul style="list-style-type: none"> ■ If a supplied voltage that is below the specifications is detected from the CCU, the lamp flashes red. ■ If an external DC output that exceeds the specifications is detected, the lamp flashes orange.
2	[UP TALLY] switch	<p>This is used to set the viewfinder and lens tally lamp to ON or OFF. You can change the brightness of the tally lamp with [H] and [L].</p> <p>Status displays</p> <p>H: Sets the tally lamp to light brightly. L: Sets the tally lamp to light. OFF: Turns the tally lamp off.</p>
3	[MONI SEL] dial	This is used to select the viewfinder's video output from the Y/C, NAM, R, G or B camera video signals.
4	[RET A] button	<p>This lights when the RET A switch is selected.</p> <p>The RET A video signals selected by the RET-A selector switch on the camera (AK-UC3000/AK-HC5000) are output to the viewfinder.</p>
5	[RET B] button	<p>This lights when the RET B switch is selected.</p> <p>The RET B video signals selected by the RET-B selector switch on the camera (AK-UC3000/AK-HC5000) are output to the viewfinder.</p>
6	[CURSOR 1] button	<p>When all the [CURSOR] buttons (1 to 3) are unlit and the [CURSOR ON/OFF] button is set to ON, you can press and hold the [CURSOR 1] button for about 2 seconds to store the current cursor state to memory.</p> <p>When set to ON, you can display the cursor that was stored to memory with the [CURSOR 1] button.</p>
7	[CURSOR 2] button	<p>When all the [CURSOR] buttons (1 to 3) are unlit and the [CURSOR ON/OFF] button is set to ON, you can press and hold the [CURSOR 2] button for about 2 seconds to store the current cursor state to memory.</p> <p>When set to ON, you can display the cursor that was stored to memory with the [CURSOR 2] button.</p>

8	[CURSOR 3] button	When all the [CURSOR] buttons (1 to 3) are unlit and the [CURSOR ON/OFF] button is set to ON, you can press and hold the [CURSOR 3] button for about 2 seconds to store the current cursor state to memory. When set to ON, you can display the cursor that was stored to memory with the [CURSOR 3] button.
9	[CURSOR ON/OFF] button	This is used to set the viewfinder's cursor to ON or OFF. When it is lighted, the cursor is ON.
10	[H-POS] dial	Adjusts the horizontal position of the cursor.
11	[V-POS] dial	Adjusts the vertical position of the cursor.
12	[WIDTH] dial	Adjusts the width of the cursor.
13	[HEIGHT] dial	Adjusts the height of the cursor.
14	[USER1 (LENS EXT)] button	This performs ON/OFF controls for items selected on the camera's (AK-UC3000/AK-HC5000) menus. The default setting is lens extender. It may not function when the lens extender is involved.
15	[USER2 (CENTER)] button	This performs ON/OFF controls for items selected on the camera's (AK-UC3000/AK-HC5000) menus. The default setting is the ON/OFF button for the center marker.
16	[BOX/CROSS] button	Switch between BOX and CROSS displays. When this is lit, BOX is enabled.

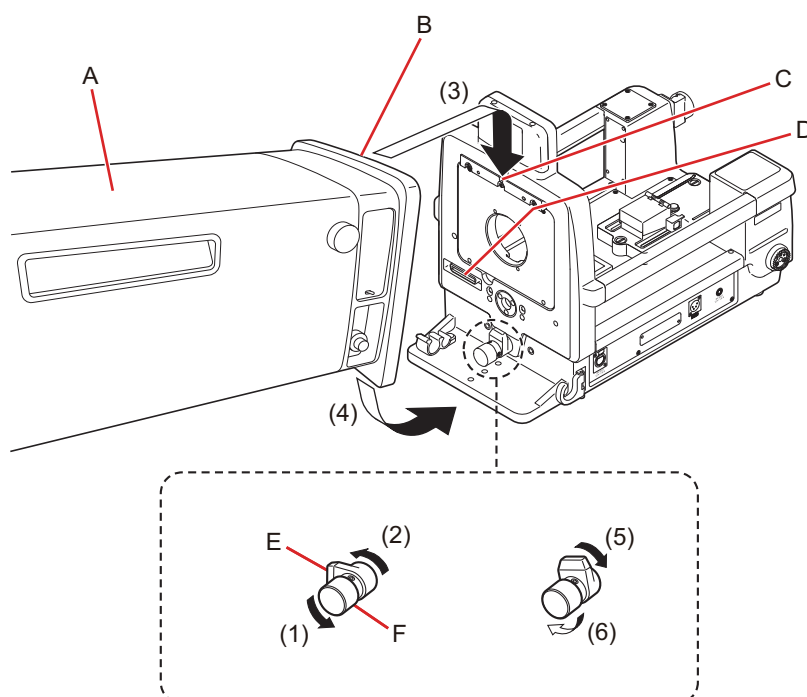
Operation panel 2



1	[ND (1, 2, 3, 4, 5)] indicator	These indicate the positions of the ND filter. 2 lights green, and 1, 3, 4, and 5 light orange.
2	[ND] dial	This is used to select the ND filter position. It is effective when the [LOCAL] button is held down.
3	[LOCAL] button	This button allows the ND/CC filter to be selected using the buildup unit's [ND] dial and [CC] dial. The LOCAL mode is established while its lamp is lighted.
4	[CC] dial	This is used to select the CC filter position. It is effective when the [LOCAL] button is held down.
5	[CC (A, B, C, D, E)] indicator	These indicate the positions of the CC filter. B lights green, and A, C, D and E light orange.
6	[VF MARKER] switch	This is the viewfinder's 4:3 marker ON/OFF switch. When the 4:3 marker is ON, the brightness modulation can be set to ON or OFF.
7	[VF MARKER] dial	This is used to vary the brightness modulation level outside of the 4:3 marker.
8	[USER3] button	This performs ON/OFF controls for items selected on the camera's (AK-UC3000, AK-HC5000) menus.
9	[VF DTL] dial	This is used to adjust the amount of detail to be added to the viewfinder's video output.
10	[MENU INTERCOM LEVEL] button	This is used to turn the camera's menu ON or OFF, display the status, and select the INTERCOM LEVEL.
11	[SELECT] dial	When the [MENU INTERCOM LEVEL] button is lit, this is used to change the menu page and select the data. For details, refer to the operating instructions for the camera (AK-UC3000, AK-HC5000). When the [MENU INTERCOM LEVEL] button is unlit, this is used to adjust the INTERCOM LEVEL. You can select the INTERCOM to adjust under [MAIN MENU] > [INTERCOM SETTING] > [LEVEL/PGM1/PGM2 VR SETTING] > [B/U INTERCOM LEVEL] in the camera's menu. However, the [LEVEL] knob's setting on the camera (AK-UC3000, AK-HC5000) will be given priority.
12	[CALL] button	While this button is pressed, the ROP and CCU call lamps will light, and the ROP buzzer will sound. (If the ROP buzzer setting is enabled.) <ul style="list-style-type: none"> The ROP call lamp will not light when the [CALL] button is pressed if the camera is operating on an external DC power supply and [MAIN MENU] > [SYSTEM MODE] > [CABLE CONNECTION] is set to [HYBRID] in the camera's menu.
13	[CAMERA No.] display	This indicates the camera number.
14	Hole for large lens push-pull rod	This is used when attaching the large lens push-pull rod.

Mounting

Mounting the large lens



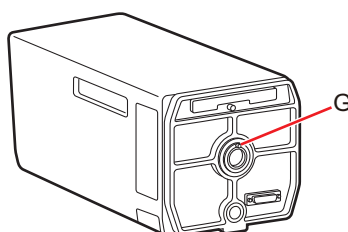
- A. Lens
- B. Pin
- C. U-shaped groove
- D. Connectors
- E. Lens clamp lever
- F. Lens anchoring knob

The procedure

1. Loosen the lens anchoring knob (F) (1), and push down the lens clamp lever (E) to the left side (2).
2. Align the lens pin (B) with the unit's U-shaped groove (C) (3) and hook the lens (A) onto it, and then mount the lens (A) while connecting the unit's connector (D) with the lens connector (4).
3. Pull up the lens clamp lever (E) (5). Turn the lens anchoring knob (F) clockwise and tighten it securely (6) to anchor the lens (A).

NOTE

- If the lens has a guide pin (G) in the area shown in the figure below, remove it. Keep the guide pin in a safe place since it may be used with another unit. (If the guide pin cannot be removed, consult your lens dealer.)

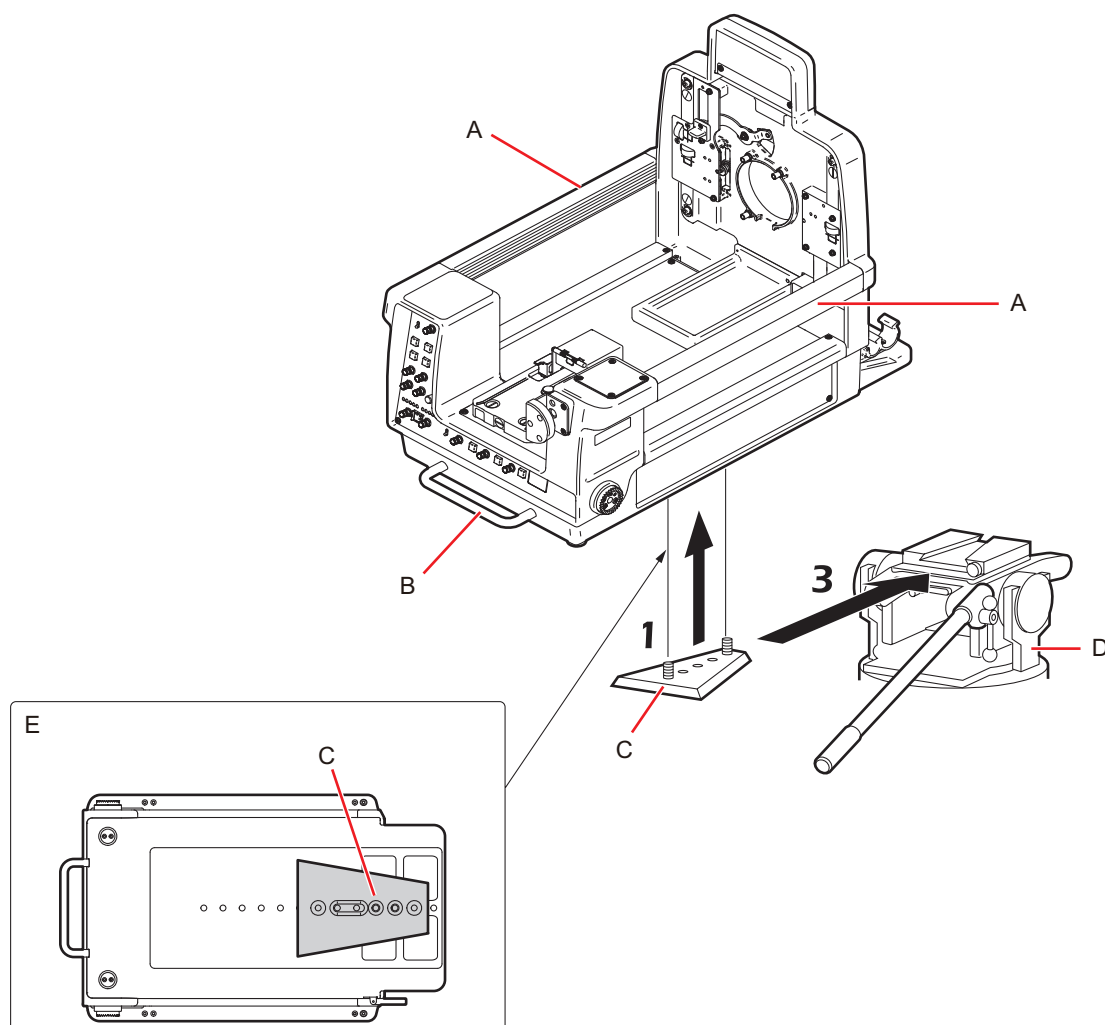


G. Guide pin

- Secure the lens firmly using the lens anchoring lever. If these parts are not mounted properly, the unit may fall off, possibly causing trouble and/or injury.
- When the lens is to be engaged or disengaged while the buildup unit is still mounted on the tripod, check that the tripod is secured safety.

Mounting the buildup unit on a tripod

An illustration of the lens has been omitted.



- A. Grip
- B. Rear handle
- C. V-edge
- D. Tripod
- E. Bottom panel of buildup unit

The procedure

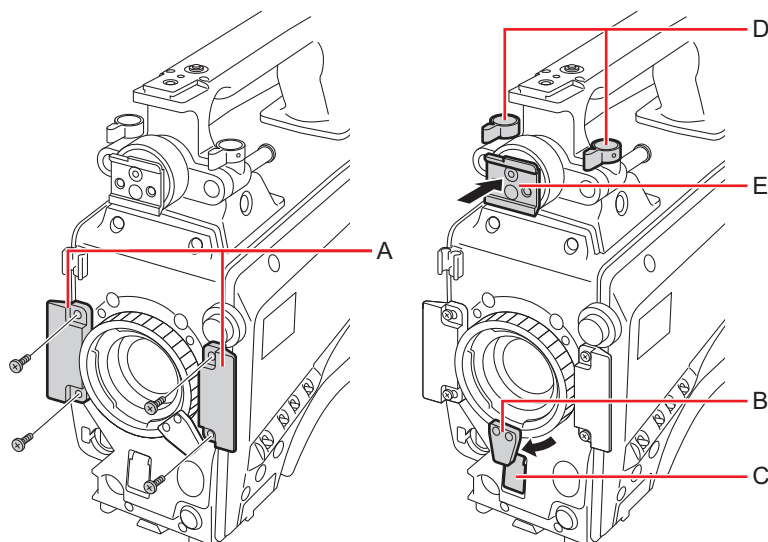
1. **Attach the V-edge (C) supplied with the tripod to the tripod mounting area on the bottom panel of the buildup unit (E) using the two screws.**
Take into account the balance in the weight when determining the actual mounting position of the V-edge.
2. **Check that the pan lock lever and tilt lock lever of the tripod (D) are secured.**
3. **After taking hold of the grips (A) on the sides, mount the unit on the tripod (D) and secure it.**



NOTE

- Attach the V-edge to the tripod, and firmly secure it. If these parts are not mounted properly, the unit may fall off, possibly causing trouble and/or injury.
- Do not carry the buildup unit by holding its rear handle (B).

Preparing the camera



- A. Camera hangers x 2 (supplied with camera)
- B. Lens clamp lever
- C. Shutter switch cover
- D. Viewfinder front/back anchoring lever
- E. Viewfinder mount

The procedure

1. Remove the portable lens mounted on the camera or the mount cap supplied with the camera.
2. Attach the two camera hangers (A) (supplied with the camera) using the four screws (supplied with the camera).

Remove the four screws attached to the camera hanger attachment positions beforehand.
Store the removed screws safely, and do not use them to attach the camera hangers.

NOTE

- If the screws are not tightened up sufficiently, the camera may fall off, possibly causing trouble and/or injury.

3. Turn the lens clamp lever (B) so that it points straight down.
4. Check that the shutter switch cover (C) is closed.
5. Loosen the viewfinder front/back anchoring lever (D).
6. Return the viewfinder mount (E) to the handle side, and tighten up the viewfinder front/back anchoring lever (D) to secure it.

Mounting the camera

The instructions for mounting the camera given here are for when a large lens is not mounted on the buildup unit.

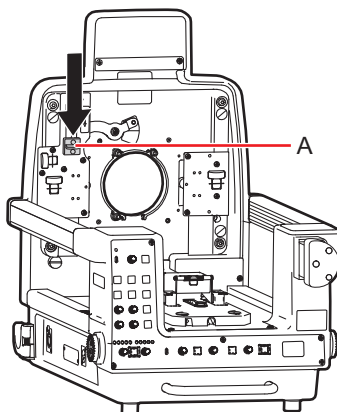
The procedure is the same even when a large lens has already been mounted.

NOTE

- Before mounting the camera, turn off the power of the camera without fail.

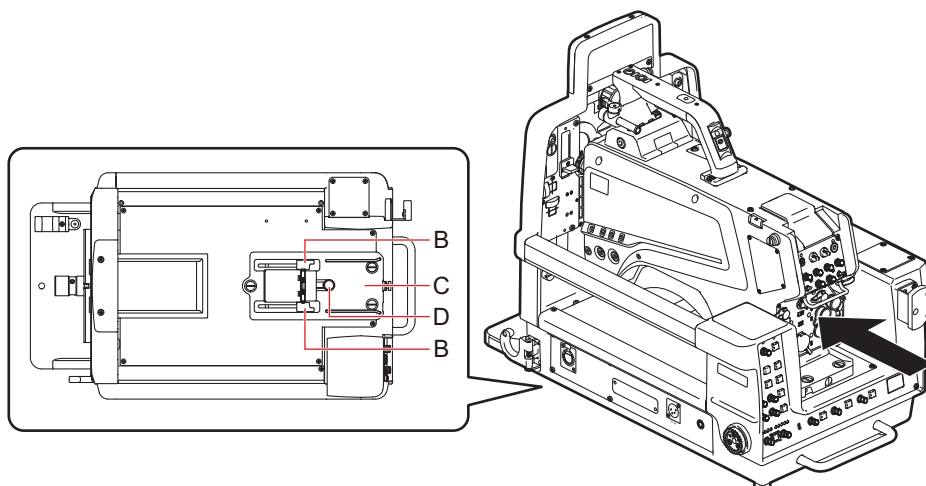
The procedure

1. Check that the camera lock lever (A) is at the down position.



A. Camera lock lever

2. Place the camera from behind onto the camera mount base (rear) (C) so that it is aligned with the guide pin (D) and guide catch (B) of the base, and slide the camera forward until it locks into position.



B. Guide catch
C. Camera mount base (rear)
D. Guide pin

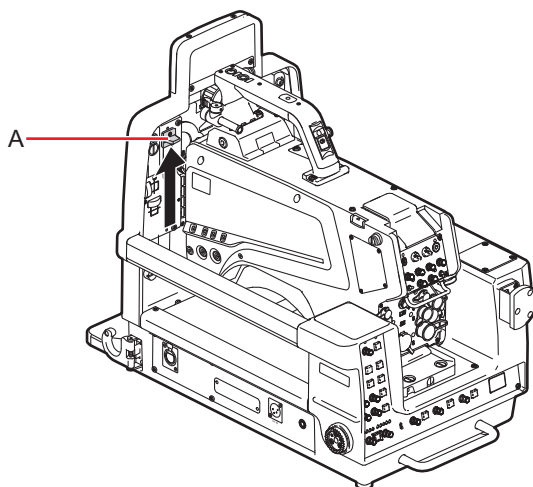
NOTE

- Rather than holding the handle and sliding, always press the rear of the camera.

3. Push up the camera lock lever (A) to secure the camera.



- The camera will not be securely locked if the camera lock lever is not pushed up all the way.



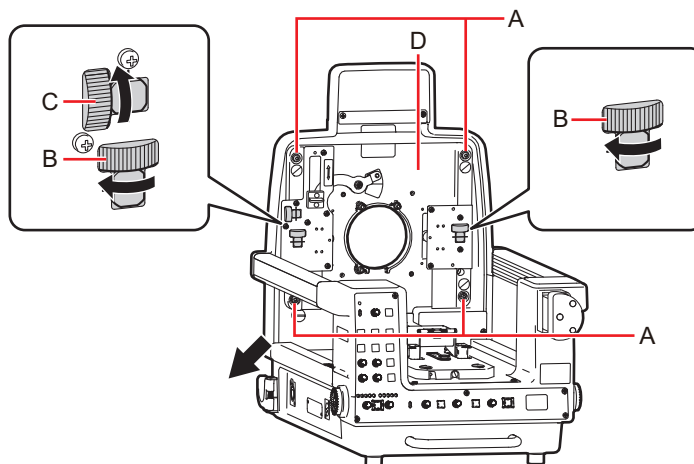
A. Camera lock lever

Optical axis adjustments

Display an image, and if the camera's optical axis is out of alignment (if the center of the image is different at the telephoto and wide-angle ends as a result of zooming the lens), the optical axis position can be adjusted by following the steps below.

The procedure

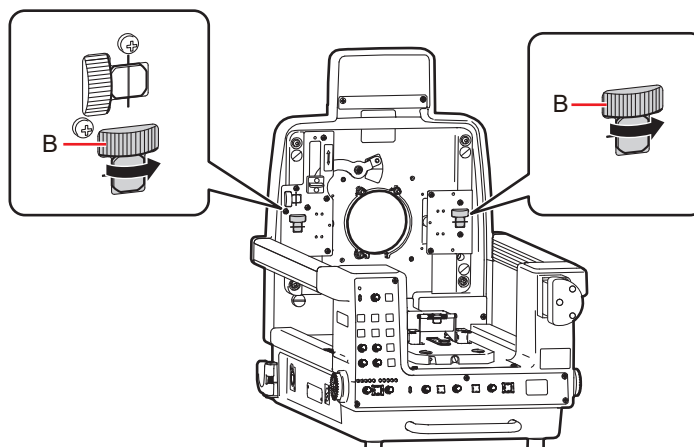
1. Loosen the four screws (A), turn the optical axis adjustment knobs (UP/DOWN) (B) in the DOWN direction and the optical axis adjustment knobs (L/R) (C) in the L direction, and position the camera mount base (front) (D) at the bottom left.



- A. Screws
- B. Optical axis adjustment knobs (UP/DOWN)
- C. Optical axis adjustment knob (L/R)
- D. Camera mount base (front)

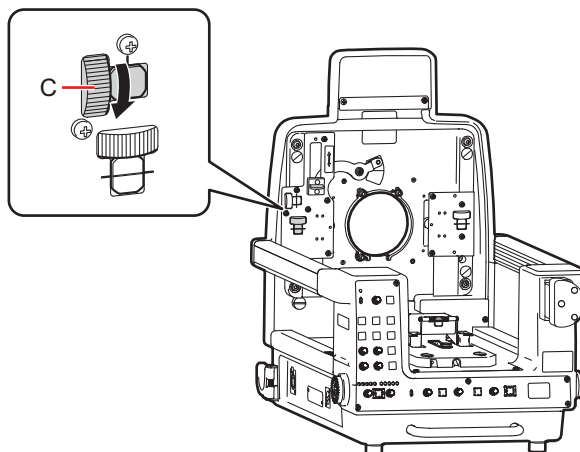
2. With an image displayed, turn the optical axis adjustment knobs (UP/DOWN) (B) on the left and right sides in the UP direction to align the vertical optical axis position.

- As the left and right optical axis adjustment knobs (UP/DOWN) can be turned individually, you can also adjust the screen's tilt.



- B. Optical axis adjustment knobs (UP/DOWN)

3. Turn the optical axis adjustment knob (L/R) (C) in the R direction to align the horizontal optical axis position.



C. Optical axis adjustment knob (L/R)

NOTE

- Always perform the procedure in the proper order (1→2→3). There is backlash (unsteadiness in operation) in the optical axis adjustment knobs that can make alignment of the optical axis position difficult, unless you adjust from a single direction at a time.
If the positioning is exceeded, revert the optical adjustment knob significantly (i.e., more than the backlash), and perform adjustment again.

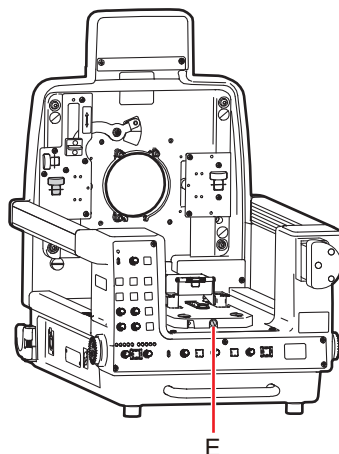
4. After the optical axis position has been aligned, tighten the four screws.

NOTE

- When tightening the screws, do so carefully while avoiding contact with the camera mount base (front) and camera unit. Failure to obey may result in optical axis misalignment equal to the amount of backlash.

5. If the camera cannot be attached or detached smoothly, turn the camera height screw (E) to adjust.

- As a general guide for camera height screw adjustment, position to the line (center position).



E. Camera height screw

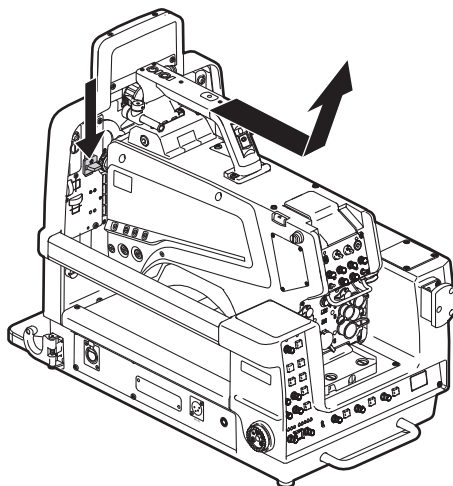
Detaching the camera

The instructions for detaching the camera given here are for when a large lens is not mounted on the buildup unit.

The procedure is the same even when a large lens has already been mounted.

NOTE

- If the buildup unit is mounted on a tripod, secure the pan lock lever and tilt lock lever of the tripod. If these levers are not secured, the center of gravity will shift, causing the tripod to topple over and possibly causing trouble and/or injury.



The procedure

1. Detach the camera by pulling it away from you by its handle while at the same time pushing down the camera lock lever.

NOTE

- Be absolutely sure to detach the camera while gripping its handle firmly. Attempting to detach the camera by holding any other part may cause the camera to fall off, possibly causing trouble and/or injury.

Adjustments

Adjusting the light-emitting components

Each light-emitting component can be adjusted from the connected camera.

Refer to [MAINTENANCE] > [BUILDUP LIGHT ADJUST] of the camera's menu.

BUILDUP LIGHT ADJUST

Setting item	Corresponding light-emitting component
BOX SW (PUSH SW)	[USER1 (LENS EXT)] button [USER2 (CENTER)] button [USER3] button [RET A] button [RET B] button [CURSOR 1] button [CURSOR 2] button [CURSOR 3] button [ON/OFF] button [BOX/CROSS] button [LOCAL] button [MENU INTERCOM LEVEL] button [CALL] button
LED (POWER/ND/CC)	[POWER] lamp [ND (1, 2, 3, 4, 5)] indicator [CC (A, B, C, D, E)] indicator
CAM NO. (REAR)	[CAMERA No.] display
CAM NO. (FRONT)	Tally lamp

Assigning functions to USER buttons

Function assignments for the USER buttons can be performed from the connected camera.

Refer to [SWITCH MODE] > [USER SWITCH] of the camera's menu.

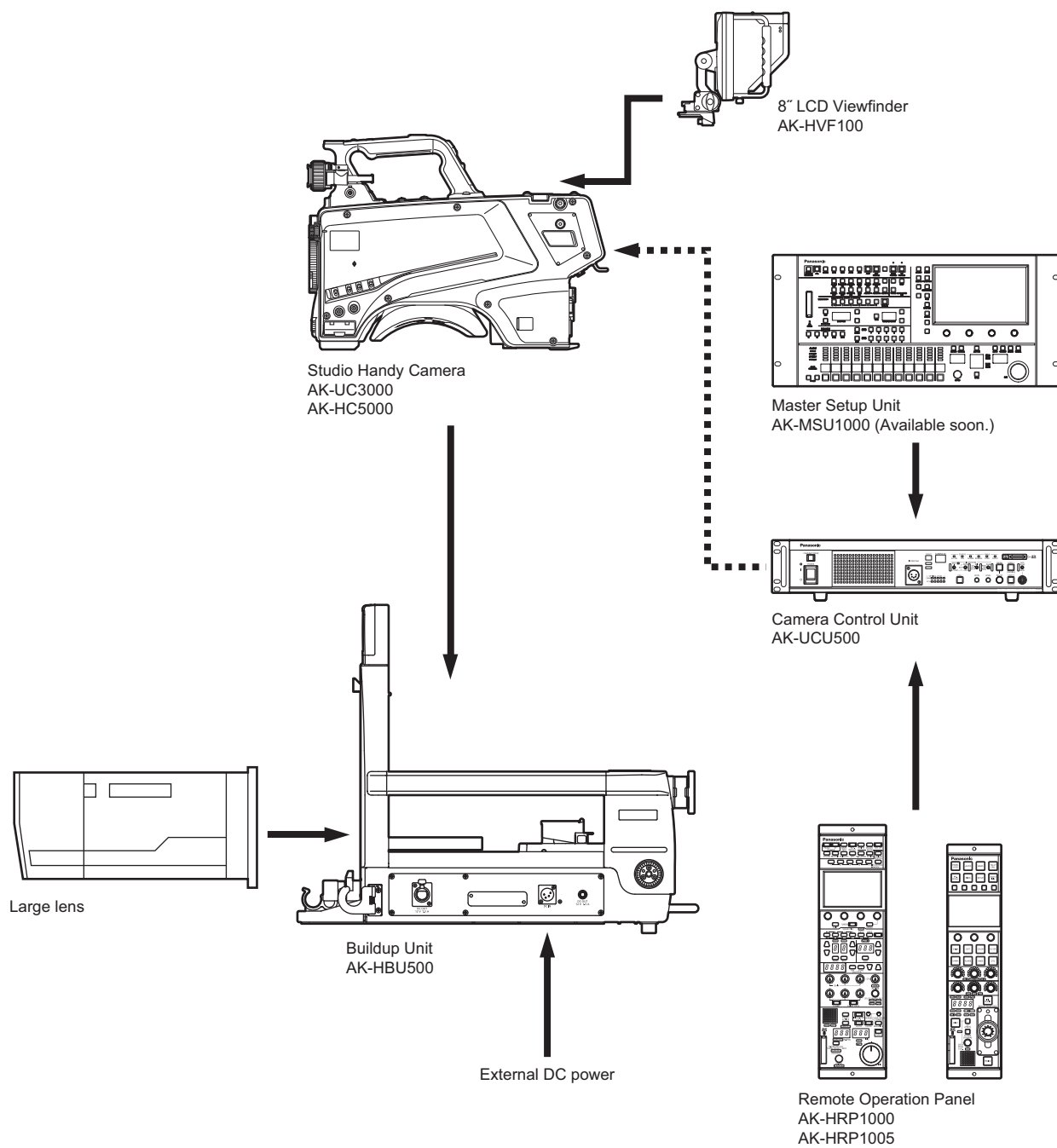
USER SWITCH (2/2)

The following functions can be assigned to the [USER1], [USER2], and [USER3] buttons.

Setting item	Assigned function
USER B/U SWITCH1	RETURN A RETURN B RETURN C PTT
USER B/U SWITCH2	DISP MARK OFF LENS EXT D.EXT
USER B/U SWITCH3	C.TEMP CENTER ASSIST

Connection

Connect the camera (and lens) and the buildup unit as shown in the figure below.



Troubleshooting

Symptom	Cause and Measure
The power indicator LED [POWER] does not light. (No power is supplied to the buildup unit.)	Check whether the camera has been mounted properly on the buildup unit.
	Try turning off the power of the camera and then turning it back on.
A large lens cannot be mounted.	<ul style="list-style-type: none"> • Does the lens come with a guide pin? If so, remove the guide pin, and then mount the lens onto the buildup unit. ➡ “Mounting the large lens” (see page 15) If the guide pin cannot be removed, consult your lens dealer.

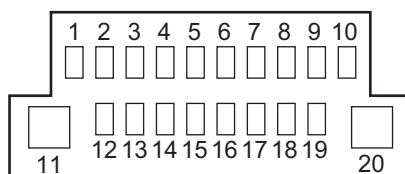
- If the symptom persists, contact your dealer.

Reference

Connector pin assignment table

CAMERA I/F connector

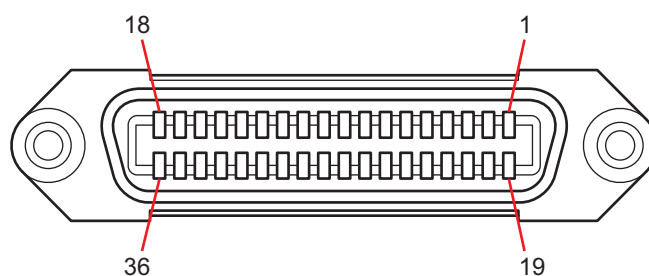
QR/P8-20P-C(01) by Hirose Electric



Pin No.	Signal
1	
2	VF PB OUT GND
3	VF PB OUT
4	VF PR OUT GND
5	VF PR OUT
6	VF Y OUT
7	VF Y OUT GND
8	CAM DATA
9	CAM CONT
10	
11	AC(H)
12	
13	IRIS POS
14	GND
15	IRIS CNT
16	FOCUS POS/L2C DATA
17	C2L DATA
18	BU ACT
19	
20	AC(C)

LENS I/F connector

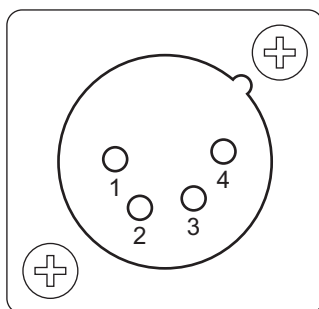
57-20360 made by DDK



Pin No.	Signal
1	
2	
3	
4	UNREG +12 V
5	UNREG_GND
6	AGND
7	FGND
8	EXT_MODE_A/S_IN
9	EXT MODE_B
10	EXT MODE_C
11	16:9/4:3 SEL
12	IRIS_POSI
13	ZOOM_POSI
14	RET1
15	RET2
16	FOCUS_POSI
17	IRIS_CONT
18	IRIS_A/R/S_OUT
19	PROJECTOR_ON
20	2*LIGHT_ON
21	TALLY_CONT
22	
23	RET3
24	LENS_CODE_A
25	LENS_CODE_B
26	LENS_CODE_C
27	LENS_CODE_D
28	EXT_CONT_A
29	EXT_CONT_B
30	
31	INCOM1_ENG/PD
32	INCOM2_ENG/PD
33	INCOM1_MIC_ON
34	INCOM2_MIC_ON
35	
36	

DC IN connector

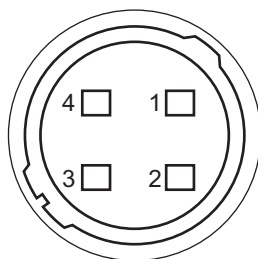
HA16RA-4P (77) by Hirose Electric



Pin No.	Signal
1	UNREG GND
2	
3	
4	+12 V

DC OUT 12V 1.5A connector

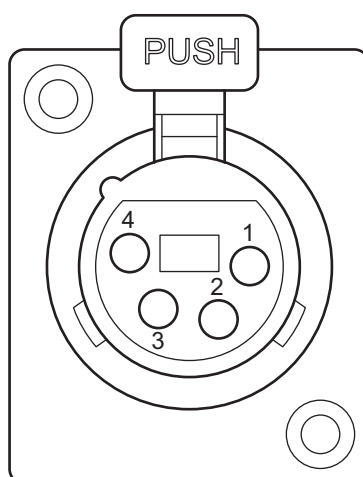
HR10A-7R-4SB by Hirose Electric



Pin No.	Signal
1	GND
2	
3	
4	UNREG +12 V

DC OUT 12V 7.5A connector

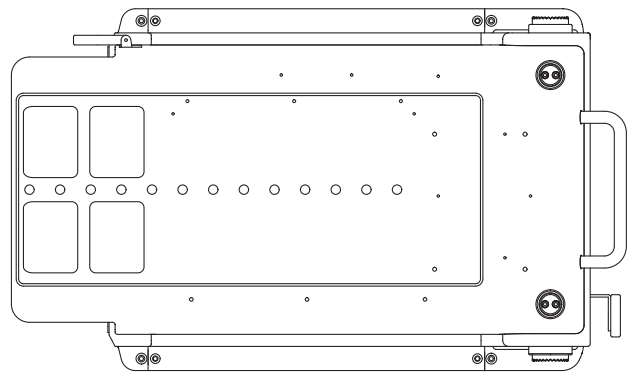
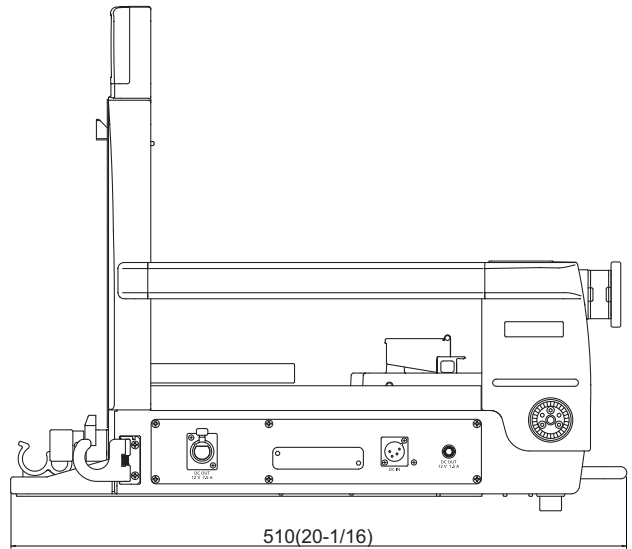
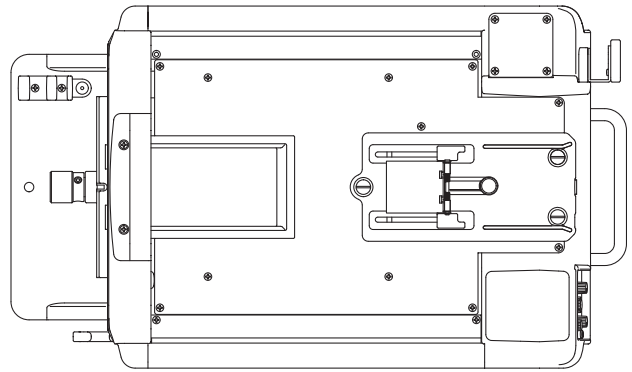
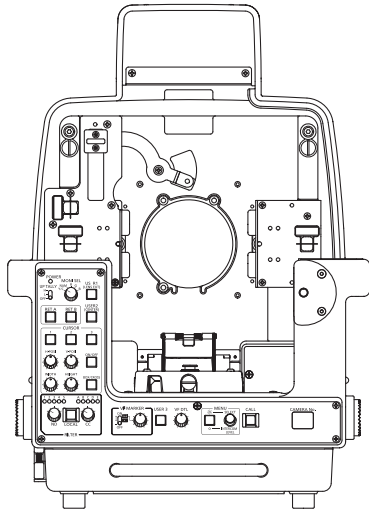
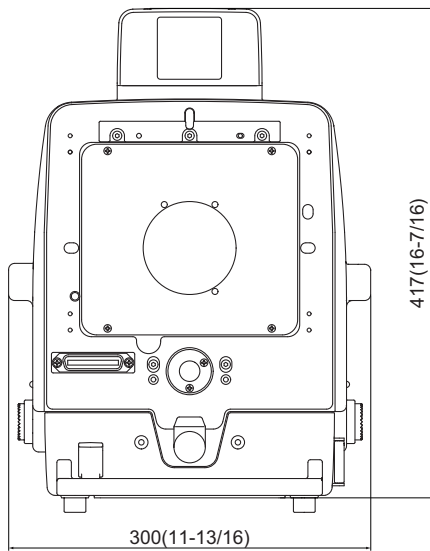
HA16PRK-4S by Hirose Electric



Pin No.	Signal
1	GND
2	
3	
4	UNREG +12 V

Appearance


Unit: mm (inch)



Specifications

Power input

Powers supply	12 V DC (==) (when external power is supplied) 240 V AC (~) 50/60 Hz (when AK-UCU500 is connected)
Power consumption	70 W (when external power is supplied) 165 W (when AK-UCU500 is connected)

 indicates safety information.

Body

Camera number display	1 to 15 (depending on system settings)
LENS I/F connector	36-pin ×1
CAMERA I/F connector	20-pin ×1
[DC IN] connector	XLR ×1, 4-pin, 12 V DC
[DC OUT 12V 1.5A] connector	4-pin ×1
[DC OUT 12V 7.5A] connector	XLR ×1, 4-pin
Operating temperature	-10°C to 45°C (14°F to 113°F)
Storage temperature	-20°C to 60°C (-4°F to 140°F)
Operating humidity range	85% or less (relative humidity)
Weight	Approx. 12.8 kg (28.22 lb) (unit only)
Dimensions (Width×Height×Depth)	300 mm x 417 mm x 510 mm (16-7/16 inches x 20-1/16 inches x 11-13/16 inches)

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A series of horizontal dashed lines for writing.

