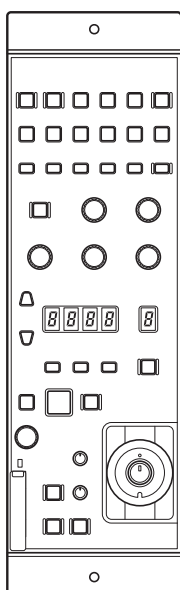


Operating Instructions <Basics>

Remote Operation Panel

Model No. **AK-HRP200G**



- How the operating instructions are organized
 - **Basics (this manual):**
This manual describes how to connect the unit to the required equipment and set it up.
Before installing the unit, be sure to read the <Basics> manual to ensure that you know how to install it correctly.
The <Basics> manual is provided as a PDF file on the CD-ROM supplied with the unit.
 - **Operations and Settings:**
Operations and Settings describe how to operate and set up the unit.
The <Operations and Settings> manual is provided as a PDF file on the CD-ROM supplied with the unit.
- **To read PDF files, you will need Adobe® Reader®.**
You can download it from Adobe Systems' website.



DEUTSCH

Für Erläuterungen in Deutsch, konsultieren Sie bitte die mitgelieferte CD-ROM.
(→ Seite 4)

FRANÇAIS

Pour des explications en français, veuillez vous reporter au CD-ROM fourni.
(→ page 4)

ITALIANO

Per le istruzioni in italiano, vedere il CD-ROM in dotazione. (→ pagina 4)

ESPAÑOL

Para la explicación en español, consulte el CD-ROM suministrado. (→ página 4)

日本語

日本語版の取扱説明書は付属のCD-ROMに納められています。(→4ページ)

This manual is also contained as a PDF file on the CD-ROM supplied with the unit. (→page 4)

Before operating this product, please read the instructions carefully and save this manual for future use.

Read this first!

■ DO NOT REMOVE PANEL COVERS BY UNSCREWING THEM.

No user serviceable parts inside.
Refer servicing to qualified service personnel.

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 memory cards (optional accessory) out of the reach of babies and small children.

CAUTION:

Do not remove panel covers by unscrewing.
To reduce the risk of electric shock, do not remove the covers. No user serviceable parts inside.
Refer servicing to qualified service personnel.

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.

AEEE Yönetmeliğine Uygundur.

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 Testing Centre

Panasonic Marketing Europe GmbH

Winsbergring 15, 22525 Hamburg, Germany

EMC NOTICE FOR THE PURCHASER/USER OF THE APPARATUS

1. Applicable standards and operating environment (AK-HRP200)

The apparatus is compliant with:

- standards EN55103-1 and EN55103-2, and
- electromagnetic environments E1, E2, E3, E4 and E5.

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 ОБНР).

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

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. полібромдифенілові ефіри (PBDE) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон.

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.



S3125A

ENGLISH

■ How to open the operating instruction manual PDF files

Discontinue installation if the installation screen of the software opens as a result of inserting the CD-ROM.

When [INDEX.pdf] on the CD-ROM is opened, a list of the operating instruction manuals will be displayed.

Click on the document name of the manual to be opened.

■ Adobe® Reader® is required to read PDF files.

It can be downloaded from the home page of Adobe Systems.

DEUTSCH

■ Öffnen der PDF-Dateien der Bedienungsanleitung

Brechen Sie die Installation ab, falls beim Einlegen der CD-ROM der Installationsbildschirm der Software erscheint.

Wenn [INDEX.pdf] auf der CD-ROM geöffnet wird, erscheint eine Liste der Bedienungsanleitungen.

Klicken Sie auf den Dokumentennamen der zu öffnenden Anleitung.

■ Zum Lesen der PDF-Dateien benötigen Sie Adobe® Reader®.

Dieses Programm kann von der Homepage von Adobe Systems heruntergeladen werden.

FRANÇAIS

■ Comment ouvrir les fichiers PDF des manuels du mode d'emploi

Arrêter l'installation si l'écran d'installation du logiciel s'ouvre quand le CD-ROM est inséré.

Quand [INDEX.pdf] sur le CD-ROM s'ouvre, la liste des manuels du mode d'emploi s'affiche.

Cliquer sur le nom du document correspondant au manuel à consulter.

■ Adobe® Reader® est nécessaire pour lire les fichiers PDF.

Ce logiciel peut être téléchargé depuis la page d'accueil d'Adobe Systems.

ITALIANO

■ Come aprire i file dei manuali di istruzioni per l'uso

Se inserendo il CD-ROM si apre la schermata di installazione del software, interrompere l'installazione.

Aperto [INDEX.pdf] sul CD-ROM, viene visualizzato un elenco di manuali di istruzioni per l'uso.

Fare clic sul nome del documento corrispondente al manuale da aprire.

■ Per leggere i file PDF è necessario Adobe® Reader®.

Il programma può essere scaricato dal sito Web di Adobe Systems.

ESPAÑOL

■ Modo de abrir los archivos PDF que contienen el manual de las instrucciones de funcionamiento

Interrumpa la instalación si la pantalla de instalación del software se abre como resultado de insertar el CD-ROM.

Cuando se abra [INDEX.pdf] en el CD-ROM se visualizará una lista de los manuales de instrucciones de funcionamiento.

Haga clic en el nombre de documento del manual que va a abrir.

■ Para leer los archivos PDF se necesita el programa Adobe® Reader®.

Este programa se puede descargar de la página inicial de Adobe Systems.

日本語

■取扱説明書PDFファイルの聞き方

CD-ROMを挿入してソフトウェアのインストール画面が立ち上がる場合は、インストールを中止してください。

CD-ROM内の[INDEX.pdf]を開くと取扱説明書の一覧が表示されます。

開きたい取扱説明書のドキュメント名をクリックしてください。

■PDFファイルをご覧いただくには、Adobe® Reader® が必要です。

アドビシステムズ社のホームページからダウンロードしてください。

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■ About copyright

Distributing, copying, disassembling, reverse compiling, reverse engineering and also exporting in violation of export laws of the software provided with this unit are expressly prohibited.

■ Abbreviations

- The following abbreviations are used in this manual.
- The AK-HRP200G is referred to as the AK-HRP200 in this manual.
 - The term memory card will be used below as a generic term for both SD and SDHC memory cards.
SD or SDHC will be used in descriptions that refer to only one of the two card types.
 - A studio handy camera is referred to as a camera in this manual.
 - A camera control unit is referred to as a CCU in this manual.
 - A remote operation panel is referred to as an ROP in this manual.
 - A master setup unit is referred to as an MSU in this manual.
 - The memory card camera recorder is referred to as the camera recorder in this manual.

■ Illustrations and screen displays in this manual

- Illustrations and screen displays in the manual may differ from those actually displayed.

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Introduction

■ Overview

This unit is a remote operation panel for controlling a studio handy camera (AK-HC3800/AK-HC3500A) and a camera control unit (AK-HCU200/AK-HCU355A).

Use a dedicated optical fiber cable to connect a studio handy camera to a camera control unit and use an ROP cable or IP connection to connect this unit to the camera control unit. Furthermore, a remote camera or camera recorder can be connected via a serial connection or IP connection.

When IP connections are used, up to 19 studio handy cameras, remote cameras, and camera recorders can be controlled.

■ Required personal computer environment

For the software supplied with the unit, use a personal computer specified on the following website.

<http://pro-av.panasonic.net/>

■ Memory Cards

Use only memory cards that comply with the SD and SDHC specifications in this unit.

Be sure to format memory cards in this unit.

This unit supports the following memory card capacities.

It does not support SDXC memory cards.

SD memory cards: 8 MB to 2 GB

SDHC memory cards: 4 GB to 32 GB

For the latest information not available in the Operating Instructions, visit the following Web site.

<http://pro-av.panasonic.net/>

Pay attention to the following when using and storing the unit.

- Avoid locations exposed to high temperature and humidity
- Avoid exposure to condensation
- Avoid static electricity.

■ Software upgrades

Upgrades can be obtained from Service and Support on the following website.

<http://pro-av.panasonic.net/>

Follow the instructions included in the download file to perform the upgrade.

■ Network security

As you will use this unit connected to a network, your attention is called to the following security risks.

- (1) Leakage or disclosure of information transmitted via this unit
- (2) Unauthorized use of this unit by a third person with malicious intent
- (3) Interference or stoppage of this unit by a third person with malicious intent

It is your responsibility to take sufficient network security measures such as those described below to protect yourself against the above risks.

- Use this unit in a network secured by a firewall, etc.
- If this unit is used in a system with a personal computer connected, make sure that checks for and removal of computer viruses and malicious programs are implemented regularly.
- Do not install the unit in a location where the unit, cables, and other parts may be easily damaged.

User authentication

In order to protect device settings from exposure on the network, when connecting to a network, please enable user authentication to restrict access as appropriate.

When connecting this unit to a camera recorder, you must always enable user authentication.

Restrictions on use

It is recommended that the remote operation panel and all devices to be used with the remote operation panel be connected to the same network segment.

Events related to settings of network devices may occur if devices are connected to different segments, so verify operation carefully before placing devices into service.

■ Disclaimer

Panasonic Corporation will not accept any liability whatsoever for any of the following.

- (1) Any direct, indirect, accidental, special or consequential damage or loss related to this unit
- (2) Personal injury or equipment damage caused by inappropriate use or negligent operation of the user
- (3) Disassembly, repair or modification of the unit by the user
- (4) Inconvenience, loss or damage when images cannot be displayed for whatever reason including unit failure or defects
- (5) Any defect or inconvenience, loss or damage resulting from such a defect arising when the unit is combined with the device of a third party
- (6) Loss of recorded data for whatever reason

Features

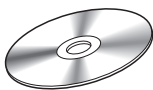
- This unit is a remote operation panel for controlling a studio handy camera (AK-HC3800/AK-HC3500A) and a camera control unit (AK-HCU200/AK-HCU355A). It can also control remote cameras and camera recorders.
- A simple button layout and an IRIS control lever ensure intuitive and stable operation.
- Scene files, user files, and lens files can be saved to a memory card. (AK-HC3800 only)
- One CCU*¹, remote camera*², or camera recorder*³ can be connected via a serial connection.
 - *¹ Serial connection compatible CCUs: AK-HCU200/AK-HCU355A
 - *² Serial connection compatible remote cameras:
AW-HE50/AW-HE60/AW-HE120/AW-HE870/AK-HC1500/
AK-HC1800
 - *³ Serial connection compatible camera recorder: AJ-PX5000
- Up to 19 CCUs*⁴, remote cameras*⁵, or camera recorders*⁶ can be connected via a network hub (switching hub) (100base-TX).
 - *⁴ IP connection compatible CCU: AK-HCU200
 - *⁵ IP connection compatible remote cameras:
AW-HE50/AW-HE60/AW-HE120/AW-HE2
 - *⁶ IP connection compatible camera recorder
See the Operating Instructions for the camera recorder to check whether it is IP connection compatible.
- The supplied Easy IP Setup Software can be used to set the IP addresses of the unit and CCUs or remote cameras.
- The supplied ROP Setup Software can be used to set the camera connections.

Accessories

Make sure that the following accessories are supplied.

- Be sure to appropriately dispose of the packing material when you have unpacked the product.

CD-ROM.....	1
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- Operating Instructions <Basics>
- Operating Instructions <Operations and Settings>
- Easy IP Setup Software
- ROP Setup Software

Precautions for use

Observe the following in addition to the information included in “Read this first!”.

■ Handle carefully

Do not drop the unit or expose it to strong impacts or vibrations. Do not carry the unit by the iris lever. The unit could be damaged or cause an accident.

■ Use the unit within a temperature range of 0°C to 40°C (32°F to 104°F).

Exposure to temperatures below 0°C (32°F) or above 40°C (104°F) could adversely affect internal components.

■ Power off before connecting or disconnecting cables

Connect and disconnect cables when the unit is turned off (when the CCU is off, the ROP cable is disconnected and an external DC power supply is not connected).

■ Avoid humidity and dust

Avoid using the unit in an excessively humid or dusty location to prevent damage to internal components.

■ Maintenance

Turn the unit off and wipe it with a dry cloth. To remove stubborn soiling, immerse a cloth in a solution of a neutral kitchen detergent and water, wring it out thoroughly and wipe the unit gently. Then wipe it with a dry cloth to remove any moisture.

<Note>

- Do not use benzine, paint thinner or other volatile fluids.
- If you use a chemical cloth for cleaning, read through the precautions before use.

■ Avoid exposure to water

Make sure that the unit is not directly exposed to water. Exposure to water could damage it.

■ Disposal

When the unit reaches the end of its service life, ask a special contractor to dispose of it properly according to environmental regulations.

Precautions for installation

Observe the following in addition to the information included in “Read this first!”.

Have your supplier install the unit and handle connections.

■ Cable connections

- Be sure to use dedicated remote operation panel (ROP) cables.
- If the unit will not be used for an extended period of time, disconnect the ROP cables to save electricity.

■ Handle carefully

- Make sure you do not drop or expose the unit to strong impacts or vibrations that could damage the product or cause accidents.

■ Do not insert foreign material in the unit.

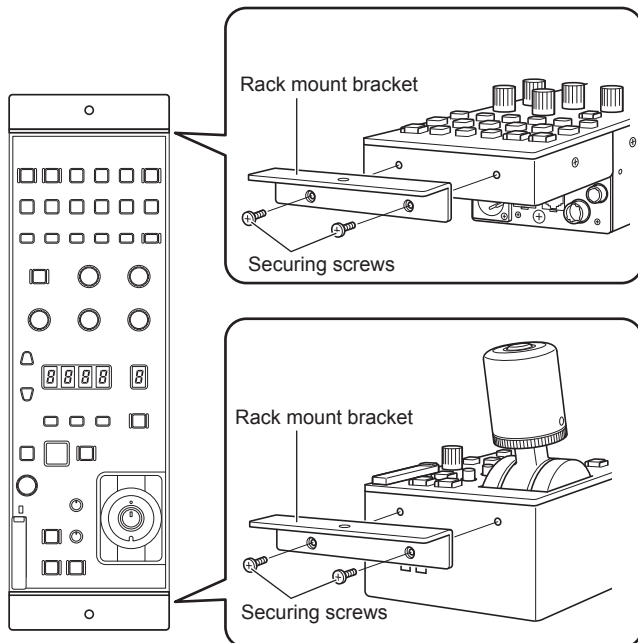
- Foreign materials such as water, metal objects, food or drink that enter the unit could cause a fire or electrical shock.

■ Installation location

- This unit is designed for indoor use.
- Use the unit on a stable and horizontal surface that is sufficiently capable of supporting its weight.
- When the unit will be recessed into a panel or table, make sure that enough space is provided for ventilation and cables.
- Do not install the unit in a location where it and the cables can be easily damaged.
- Do not install the unit in a location where the temperature drops to 0°C (32°F) or lower or reaches 40°C (104°F) or higher.
- Do not install the unit in a location exposed to direct sunlight or near exhaust vents that expel hot air.
- Do not install the unit in a location exposed to excessive humidity, dust or vibrations to prevent malfunction.

Setting up the unit

Installing and removing rack mount brackets



The unit is shipped from the factory with the rack mount brackets installed.

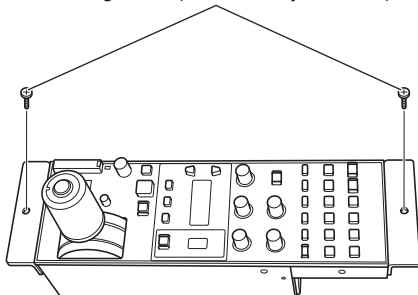
The customer can remove the four screws that hold the rack mount brackets in place using a Phillips screwdriver.

<Note>

- After detaching, store the rack mount brackets and the screws in a location easily accessible when required.
- Next time you use the rack mount brackets to secure the unit, tighten the four screws to a torque of 50 N•cm or more.

Rack installation (rack mounting)

Securing screw (commercially available)



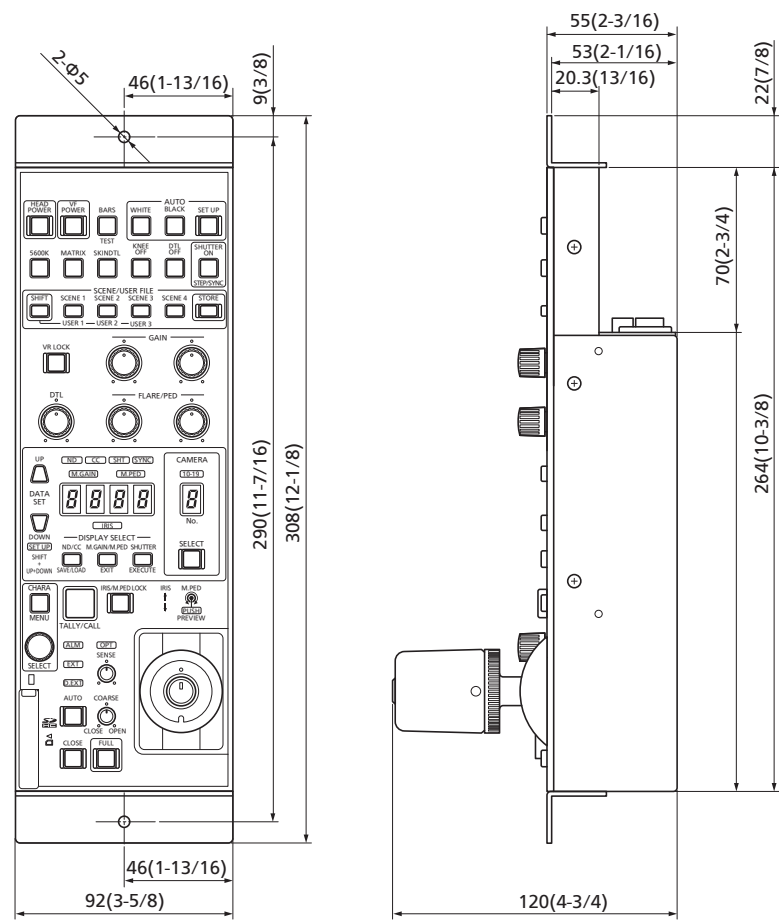
Secure the unit to the rack using two screws.

<Note>

- The securing screws are not supplied with the unit. Purchase screws that will fit the 5 mm (3/16 inch) in diameter holes before rack mounting.
- The temperature in the rack must be between 0 °C (32°F) and 40 °C (104°F).

Outside dimension drawing

Unit: mm (inch)



Operation modes

Operation modes

The unit has a serial connection mode and an IP connection mode.

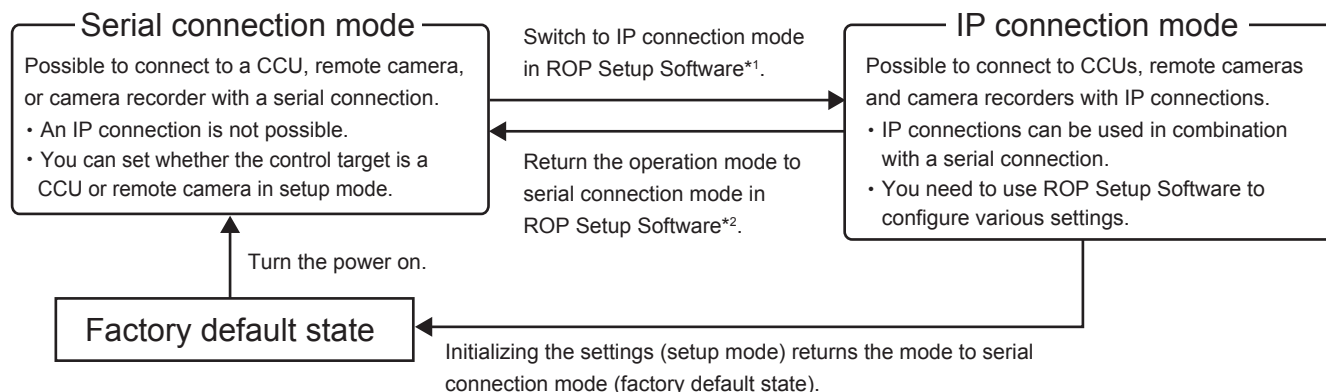
Serial connection mode	The operation mode for use with a single CCU, remote camera, or camera recorder connected via a serial connection. Only one CCU, remote camera, or camera recorder can be controlled. (The camera switching operation is not possible.) The mode set at the time of shipment is serial connection mode.
IP connection mode	The operation mode for use with CCUs, remote cameras and camera recorders used with IP connections. A serial connection to a single CCU, remote camera, or camera recorder can be used at the same time as the IP connections. Up to 19 CCUs, remote cameras or camera recorders can be controlled. (The camera switching operation is possible.) Use ROP Setup Software to configure various settings.

Operation mode	Connection configuration	Serial connection			IP connection	Use of ROP Setup Software
		CCU	Remote camera	Camera recorder		
Serial connection mode	Configuration with CCU connected with a serial connection	✓ (1 device only)	(Connection not possible)	(Connection not possible)	(Do not connect)	Not required
	Configuration with remote camera connected with a serial connection	(Connection not possible)	✓ (1 device only)	(Connection not possible)	(Do not connect)	
	Configuration with camera recorder connected with a serial connection	(Connection not possible)	(Connection not possible)	✓ (1 device only)	(Do not connect)	
IP connection mode	Configuration with IP connections only	(Do not connect)	(Do not connect)	(Do not connect)	✓ (Total of up to 19 devices)	Required
	Configuration with a combination of a CCU connected with a serial connection and CCUs and remote cameras connected with IP connections	✓ (1 device only)	(Connection not possible)	(Connection not possible)	✓ (Total of up to 18 devices)	
	Configuration with a combination of a remote camera connected with a serial connection and CCUs and remote cameras connected with IP connections	(Connection not possible)	✓ (1 device only)	(Connection not possible)	✓ (Total of up to 18 devices)	
	Configuration with camera recorder connected with a combination of a serial connection and IP connection	(Connection not possible)	(Connection not possible)	✓ (1 device only)	✓ (Total of up to 18 devices)	

Switching between serial connection mode and IP connection mode

Switch between serial connection mode and IP connection mode in ROP Setup Software. For details on ROP Setup Software, refer to Operations and Settings on the supplied CD-ROM.

When the settings are initialized (setup mode), the mode returns to serial connection mode (factory default state).



In IP connection mode, you can switch control to any of up to 19 CCUs, remote cameras or camera recorders during operation.

In serial connection mode, you can only control one CCU, remote camera, or camera recorder during operation.

*1 When serial connection mode

If an ROP configuration file that was saved to a memory card in IP connection mode is loaded, the operation mode becomes IP connection mode.

*2 When IP connection mode

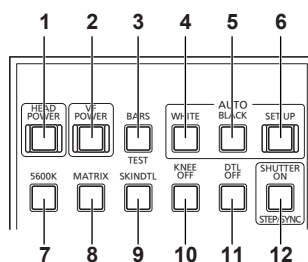
If an ROP configuration file that was saved to a memory card in serial mode is loaded, the operation mode becomes serial mode.

Parts and their functions (when operating a studio handy camera)

This section describes the operation of studio handy cameras (AK-HC3800/AK-HC3500A).

Operation panel

A beep (buzzer) sounds when a button is pressed. However, buttons do not beep when the buzzer is set to Off in setup mode.



1. Camera power button <HEAD POWER>

Use this button to control camera power remotely. However, it will not function unless the CCU and the camera are turned on. Each press of the button turns the power on and off.

On (green):	The camera is turned on.
On (red):	The camera is turned off.
Flashing (red):	The unit is off.
Short flashes (red)*1:	Network authentication not possible in IP connection mode.
Off:	The CCU itself is powered off.

*1 Short flashes have an interval of about 0.5 second.

When the camera is powered from an external DC power supply, the button lights green and the camera power supply cannot be remotely controlled from this unit.

2. Viewfinder power button <VF POWER>

Use this button to control camera viewfinder power remotely. It lights when the unit is ON.

When the camera is turned on by the unit, the viewfinder is also turned on.

Each press of the button turns the power On (power on) and Off (power off).

On (green):	Both the camera and viewfinder are On.
Off:	The viewfinder has been turned off from the unit

<Note>

Although remote control is not possible while the viewfinder's power switch is turned off, the button lights (green) or goes off each time it is pressed.

3. Color Bar Signal Output button <BARS/TEST>

Use this button to output the camera color bar signal from the camera via the camera video output on the CCU rear panel.

To select a CCU color bar type, choose [SYSTEM(1/2)] → [HD COLOR BAR] in the ROP menu. (For details, refer to Operations and Settings on the supplied CD-ROM)

Select the camera color bar from the camera menu. (Refer to the operating instructions supplied with the camera.)

When the video signal is a camera signal or a color bar signal, press and hold the Color Bar Signal Output <BARS/TEST> button to select the TEST signal. To switch from TEST signal output, press the Color Bar Signal Output button <BARS/TEST> to select camera video output.

On (yellow):	CCU color bar and camera color bar On
On (green):	TEST signal On
Off:	Camera video

4. Auto White Balance button <WHITE>

Use this button to automatically adjust the white balance.

On:	This indicates that the auto white balance adjustment has started.
Flashing:	This warns that the automatic white balance adjustment ended without being completed. When highlights and lowlights are lost, white balance is returned to its previous value. When correct white balance cannot be obtained, adjustment stops at the last obtained value.
Off:	This indicates that the white balance has been adjusted correctly.

Pressing the Auto White Balance button <WHITE> during white balance adjustment (lamp on) cancels adjustment and turns the lamp off. Then the white balance value returns to the value it had prior to auto white balance adjustment.

<Note>

If the auto white balance adjustment is not completed, check the message on the picture monitor (PM) on the CCU.

5. Auto Black Balance button <BLACK>

Use this button to automatically adjust the black balance.

Automatic white spot correction is performed simultaneously.

On:	This indicates that the automatic black balance adjustment has started.
Flashing:	This warns that the automatic black balance adjustment ended without being completed. Auto black balance returns to the value it had prior to adjustment.
Off:	This indicates that the black balance has been adjusted correctly.

Pressing the Auto Black Balance button <BLACK> during black balance adjustment (lamp on) cancels adjustment and turns the lamp off. Then the black balance value returns to the value it had prior to auto black balance adjustment.

<Note>

- If the auto black balance adjustment is not completed, check the message on the picture monitor (PM) on the CCU.
- Pressing and holding the Auto Black Balance button <BLACK> performs black shading correction.

6. Auto Setup button <SETUP>

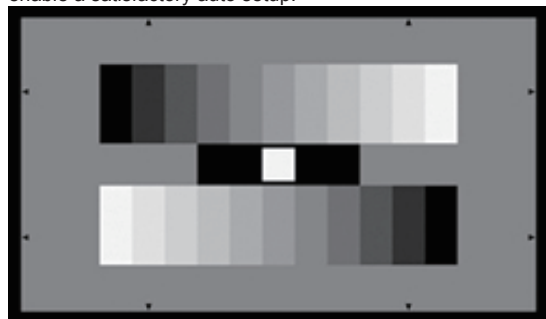
Use this button to start auto setup.

The setup status is output to the picture monitor.

Choose [FUNCTION] → [ASU SETUP] in the ROP menu to select [OUT FULL] or [OUT EASY] mode. (For details, refer to Operations and Settings on the supplied CD-ROM)

	Standard setup based on an outdoor shooting chart
	<Sequence of operation execution>
	When AK-HC3800:
OUT FULL:	AWB→ABB→BSHD→ABB→AWB→FLARE→AWB
	When AK-HC3500A:
	AWB→ABB→BSHD→ABB→AWB→GAMMA→FLARE→BSHD→ABB→AWB→GAMMA→FLARE→AWB
	Easy setup based on an outdoor shooting chart
	<Sequence of operation execution>
	When AK-HC3800:
OUT EASY:	AWB→ABB→AWB→FLARE→AWB
	When AK-HC3500A:
	AWB→ABB→AWB→GAMMA→FLARE→ABB→AWB→GAMMA→FLARE→AWB

Align the position of the gray scale wedge with the angle of view in the vertical direction of the viewfinder. Be sure to correctly select the position from which you shoot the chart since some positions may not enable a satisfactory auto setup.



(Recommended gray scale)

● Starting auto setup

1) Press <SETUP>.

<SETUP> flashes at about 2-second intervals while the auto setup start preparation mode is established, and a square marker appears in the center of the camera viewfinder. Align the white at the center of the gray scale with this square marker. (To cancel setup button, press and hold the switch.)

2) Press <SETUP> again.

<SETUP> lights as auto setup starts. (Pressing <SETUP> during the auto setup operation will abort auto setup.)
<SETUP> goes off when auto setup ends successfully.
If <SETUP> flashes at approximately 1-second intervals, auto setup has ended without being completed. During the auto setup operation, the picture monitor (PM) displays characters to indicate operation status.

<Note>

If auto setup is not completed, check the message on the picture monitor (PM) on the CCU.

7. 5600 K button <5600K>

Use this function to change the amplification rate of the RB signals by an electrical circuit to achieve a white balance that corresponds to a 5600K color temperature. When the 5600K button <5600K> is set to On, the B video signal is attenuated by about -6 dB, the R video signal is boosted by about 3 dB while the G video signal is not attenuated.

Select this setting for shooting under a 5600K light source or when shooting outdoors.

On:	ON
Off:	OFF

8. Matrix button <MATRIX>

Use this function to correct saturation and color phase according to the gain setting of each color component in matrix memory. Each press of the button turns the function on or off.

On:	ON
Off:	OFF

9. Skin Detail button <SKINDTL>

Use this button to apply coring to the detail enhancement of the skin tone areas in the HDTV video output signals to soften or increase the enhancement of skin tone details. Each press of the button turns the function on or off.

On:	ON
Off:	OFF

10. Knee OFF button <KNEE OFF>

Use this button to cancel the knee function that attenuates those areas of the video signals where a particular level (knee point) has been exceeded so that they will not become saturated as easily.

On:	Knee function is canceled. (Knee OFF)
Off:	Knee function is on.

11. Detail OFF button <DTL OFF>

Use this button to cancel contour enhancement (hard/soft) (detail enhancer) of image output.

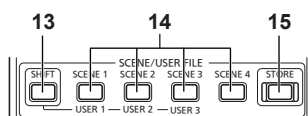
On:	Turns off contour enhancement (detail enhancer off)
Off:	Turns on contour enhancement (detail enhancer on)

12. Shutter On/Off button <SHUTTER ON>

STEP/SYNC select button <STEP/SYNC>

Use this button to turn the SHUTTER on or off. Press and hold the button to switch between STEP and SYNCHRO. In SHUTTER ON mode, the SHUTTER display select button <SHUTTER> and the SHUTTER display <SHT> goes on, and the setting appears on the setting display for about 2 seconds.

On:	SHUTTER ON (STEP/SYNCHRO setting is available)
Off:	SHUTTER OFF (STEP/SYNCHRO setting is available)



13.Scene/User File selector button <SHIFT>

Use this button to determine whether the SCENE/USER FILE select button will be used for selecting scene files or user files. Simultaneously pressing this button and a SCENE/USER FILE select button 1 to 3 <SCENE1/USER1> to <SCENE3/USER3> allows you to select user files 1 to 3.

Scene file	Scene files are mainly used by video engineers (VE) to create the required image characteristics.
User file	A user file is system setting data (reference file) composed of scene files and operation data. The user can record user files.

For details on scene files and user files, refer to Operations and Settings on the supplied CD-ROM and also Operating Instructions of studio handy camera (AK-HC3800).

<Note>

Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

14.SCENE/USER FILE select buttons

<SCENE 1/USER1> to <SCENE 3/USER 3> <SCENE 4>

Use these buttons to open previously saved scene files (1 to 4) or user files (1 to 3) when needed. You can also use them to store your own scene files (1 to 4) or user files (1 to 3).

On:	A scene file is selected
Off:	A scene file is not selected
The button lights for about 1 second before going off.	
A user file is selected	

● Opening a scene file

Press the SCENE/USER FILE select button <SCENE1/USER1> to <SCENE3/USER3> or <SCENE4> for the number of the scene file (1 to 4) you want to open.

The pressed button lights and the scene file opens.

The button remains lit even after the file has opened.

To cancel opening a scene file, press the SCENE/USER FILE select button that is on to turn it off.

The setting information that was temporarily saved before the scene file was opened is now restored, and the settings made prior to the scene file call are also restored.

Pressing a SCENE/USER FILE select button other than the lit scene/user file select button lights the button of that scene/user file and opens it.

<Note>

- Settings that are adjusted while the scene file is being opened or after it has opened will persist when the power is turned off.
- When scene file 5 is selected while AK-HC3500A is connected, the Scene File 1 <SCENE1/USER1> button on the unit flashes. Likewise, for scene files 6 to 8, each of the Scene File 2 to 4 <SCENE2/USER2> to <SCENE4> buttons flashes. Scene files 5 to 8 cannot be opened from the unit.

● Opening a user file

Hold down <SHIFT> while pressing the SCENE/USER FILE select button <SCENE1/USER1> to <SCENE3/USER3> for the number of the scene file (1 to 3) you want to open.

The pressed button lights and the user file opens in about 1 second. About a second later the button goes off.

<Note>

Opening a user file will cancel a previously selected scene file.

- Hold down <TALLY/CALL> and press <SHIFT> and <SCENE4> to return camera scene files and user files to their factory default settings. Then turn off the CCU.
- To return the CCU scene files and user files to their factory default settings, choose [MAINTENANCE]> [SYSTEM] > [INITIALIZE] in the CCU menu.

15.Scene/user file store button <STORE>

Use this button to store your own scene files (1 to 4) or user files (1 to 3).

On:	Indicates that a scene or user file can be stored
Off:	Indicates that the scene or user file has been stored or canceled

● Storing scene files to buttons 1 to 4

1) Press <STORE>.

The button lights.

2) Press the SCENE/USER FILE select button <SCENE1/USER1> to <SCENE3/USER3> or <SCENE4> for the number of the scene file or user file you want to store.

The button lights and scene file storage starts.

The button goes off when storage ends.

When the file has been stored, it is selected and the SCENE/USER FILE select button lights.

<Note>

- Adjustments made after opening a scene file that is later stored will be stored with the adjustments. The stored scene file is then selected and the corresponding SCENE/USER FILE select button lights.
- Scene files 5 to 8 cannot be stored while AK-HC3500A is connected.

● Storing settings to user files 1 to 3

1) Adjust and set up the camera to the status you want to store in a file.

2) Press <STORE>.

The button lights.

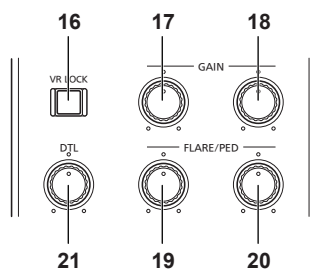
3) In this condition, hold down <SHIFT> and press the SCENE/USER FILE select button <SCENE1/USER1> to <SCENE3/USER3> for the number of the user file you want to store the settings in.

The button lights and file storage starts.

When storage is completed, the scene/user file <STORE> button goes off. The SCENE/USER FILE select button also goes off.

<Note>

A scene file that is open or about to open will remain selected when stored in a user file.



16.Control lock button <VR LOCK>

Use this button to lock (disable) the paint control operation. It controls GAIN (R, B), PED/FLARE (R,B) and DTL paint.

Each press of the button turns the function on or off.

On:	ON (locks the paint control value)
Off:	OFF (the paint control value changes)

● Using the control lock button <VR LOCK>

1) Use the controls (17 to 21) to make adjustments.

2) Press <VR LOCK>.

The button lights.

The unit will register this paint control value.

3) Turn the control to its center position.

4) Press <VR LOCK> again.

The button goes off and the control lock is released.

Then the control is set to the paint control value stored in step 2.

17.R gain control <GAIN R>

Use this control to adjust the red (R) components of the white balance.

It is controlled by control lock (VR LOCK).

18.B gain control <GAIN B>

Use this control to adjust the blue (B) components of the white balance.

It is controlled by the control lock (VR LOCK).

19.R flare/pedestal control <FLARE/PED R>

Use this control to adjust the red (R) components in pedestal or flare.

Setup mode determines whether it controls pedestal or flare.

It is controlled by the control lock (VR LOCK).

20.B flare/pedestal control <FLARE/PED B>

Use this control to adjust the blue (B) components in pedestal or flare.

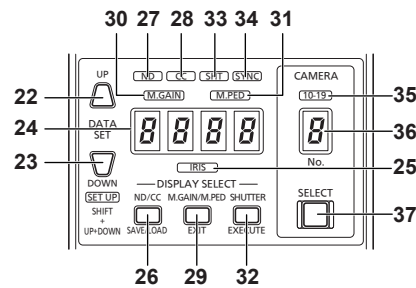
Setup mode determines whether it controls pedestal or flare.

It is controlled by the control lock (VR LOCK).

21.DTL control <DTL>

Use this control to adjust detail enhancer effects.

It is controlled by the control lock (VR LOCK).



22.DATA SET button <UP>

Use this button to increase set values when ND filter/CC filter, M.GAIN or SHUTTER/SYNCHRO is displayed. Each press of the button increases the set value.

On:	Enabled
Off:	Disabled

<Note>

- The CC filter cannot be used on the AK-HC3800 studio handy camera.
- Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode. For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

23.DATA SET button <DOWN>

Use this button to decrease set values when ND filter/CC filter, M.GAIN or SHUTTER/SYNCHRO is displayed. Each press of the button decreases the set value.

On:	Enabled
Off:	Disabled

<Note>

- The CC filter cannot be used on the AK-HC3800 studio handy camera.
- Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode. For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

24.Setting display (4 digits)

This function indicates settings.

It indicates IRIS values when the power is on. Pressing one of the display select buttons displays the selected setting. It displays the range of settings and standard position (default setting).

Item	Adjustable range With the AK-HC3800	Display	Standard position
IRIS		—■■■	
ND	1 to 4 1: Clear 2: 1/4 3: 1/16 4: 1/64	■—	1
CC	Not supported by the AK-HC3800.	—■—	A
M.GAIN	−3 to 12 (in 3 dB steps), 18, 27, 36 • Depends on camera setting.	■■—	0
M.PED	From −99 to 0, 0 to 12	—■■■	0
SHUTTER	- At 59.94 Hz STEP: 1/100 to 1/2000 SYNCHRO: 61.7 to 6130 - At 50 Hz STEP: 1/60 to 1/2000 SYNCHRO: 51.5 to 6250	■■■■	-

<Note>

Adjustment range and standard position vary depending on the connected camera.

25.IRIS display <IRIS>

This display is lit green when an IRIS setting is displayed on the setting display.

The IRIS value is displayed when the power is turned on.

Also, when the Iris lever is operated while something other than IRIS is displayed on the setting display, the IRIS value will be displayed for about 2 seconds.

26.ND filter/CC filter DISPLAY SELECT button <ND/CC>

SAVE/LOAD button <SAVE/LOAD> (In setup mode)

Press this button to display and change set values for the ND or CC filters.

On (yellow):	Displays the ND filter and CC filter settings
Off:	Displays settings other than the ND filter and CC filter settings

<Note>

The CC filter cannot be used on the AK-HC3800 studio handy camera.

● Setting and displaying the ND filter and CC filter

1) Press <ND/CC> when IRIS display or another (M.GAIN/ M.PED or SHUTTER) display is selected.

The button lights and the ND filter display <ND> lights green. (However, when the ND filter or CC filter is not at the standard position, the display always lights yellow)

2) Press the lit DATA SET button <UP> <DOWN>.

This allows you to change the ND filter setting.

3) Press <ND/CC> again.

The ND filter display <ND> goes off, the CC filter display <CC> lights green and the setting display indicates the CC setting. Press the lit DATA SET button <UP> <DOWN> to change the CC filter setting.

Since the AK-HC3800 is not equipped with a CC filter function, a bar display appears.

4) Press <ND/CC> again.

The button goes off and the ND filter display <ND> and CC filter display <CC> go off. (However, when the ND filter or CC filter is not at the standard position, the display stays yellow) Then the setting display returns to IRIS indication. Pressing another DISPLAY SELECT button (<M.GAIN/M.PED> or <SHUTTER>) turns off the button and lights the selected button.

In setup mode, use it to switch submenus.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

27.ND filter display <ND>

The setting display lights green when ND filter settings are displayed. When the ND filter setting is not at the standard position, the setting display always lights yellow regardless of what it shows. (Standard position: 1)

28.CC filter display <CC>

The setting display lights green when CC filter settings are displayed. When the CC filter setting is not at the standard position, the setting display always lights yellow regardless of what it shows. (Standard position: A)

<Note>

The CC filter cannot be used on the AK-HC3800 studio handy camera.

29.M.GAIN/M.PED DISPLAY SELECT button <M.GAIN/M.PED>

EXIT button <EXIT> (In setup mode)

Press this button to display and change M.GAIN or M.PED settings. M.PED settings are only displayed, the DATA SET buttons <UP> <DOWN> cannot be used to make settings. Use the Master pedestal control <M.PED> of the iris lever.

● Setting and Displaying M.GAIN/M.PED

- 1) Press <M.GAIN/M.PED> when IRIS display or another (ND/CC or SHUTTER) display is selected.

The button lights and the M.GAIN display <M.GAIN> lights green. (However, when M.GAIN is not at the standard position, the display always lights yellow)

- 2) Press the lit DATA SET button <UP> <DOWN>.

This allows you to change the M.GAIN setting.

- 3) Press <M.GAIN/M.PED> again.

The M.GAIN display <M.GAIN> goes off and the M.PED display <M.PED> lights green. (However, when M.PED is not at the standard position, the display always lights yellow)

- 4) Press <M.GAIN/M.PED> again.

The button goes off and the M.PED display <M.PED> goes off. (However, when M.GAIN or M.PED is not at the standard position, the display stays yellow)

Then the setting display returns to IRIS indication.

<Note>

Use the master pedestal control to adjust M.PED. (This setting is always available regardless of display status)

Pressing another Display Select button (<ND/CC> or <SHUTTER>) turns off the button and lights the selected button.

To exit setup mode, hold down this button for about 2 seconds.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

30.M.GAIN display <M.GAIN>

The setting display lights green when a M.GAIN setting is displayed. When the M.GAIN setting is not at the standard position, the setting display always lights yellow regardless of what it shows.

(Standard position: 0)

When a M.GAIN setting is selected, the M.GAIN display lights.

31.M.PED display <M.PED>

The setting display lights green when an M.PED setting is displayed. When the M.PED setting is not at the standard position, the setting display always lights yellow regardless of what it shows.

(Standard position: 0)

Operating the master pedestal control <M.PED> when the setting display shows something other than M.PED will replace this indication with the M.PED value for about 2 seconds.

<Note>

Use the master pedestal control <M.PED> to adjust M.PED. (This setting is always available regardless of display status)

32.SHUTTER DISPLAY SELECT button <SHUTTER>

EXECUTE button <EXECUTE> (In setup mode)

Press this button to display and change SHUTTER settings.

<Note>

When the Shutter On/Off button <SHUTTER ON> is set to Off, the SHUTTER DISPLAY SELECT button <SHUTTER> is available and the SHUTTER can be adjusted. (Adjustments can be made prior to operation)

● Setting and displaying the SHUTTER

Hold down the STEP/SYNC select button <STEP/SYNC> for about 2 seconds to switch between STEP and SYNC settings. When SYNCHRO is selected, the SYNCHRO display lights green.

- 1) Press <SHUTTER> when IRIS display or another (ND/CC, M.GAIN/M.PED) display is selected.

The button lights and the SHUTTER display <SHT> where STEP/SYNC is selected lights green.

Then the setting display shows the SHUTTER setting of STEP or SYNCHRO selected using the STEP/SYNC select button <STEP/SYNC>.

- 2) Press the lit DATA SET button <UP> <DOWN>.

This allows you to change the SHUTTER setting.

- 3) Press <SHUTTER> again.

The button goes off and the SHUTTER display <SHT> goes off. Then the setting display returns to IRIS indication.

Pressing another DISPLAY SELECT button (<ND/CC> or <M.GAIN/M.PED>) turns off the button and lights the selected button.

In setup mode, it confirms menus and set values.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

33.SHUTTER display <SHT>

The setting display lights green when a SHUTTER setting is displayed.

<Note>

Hold down the STEP/SYNC select button <STEP/SYNC> for about 2 seconds to switch between STEP and SYNC settings. When SYNCHRO is selected, the SYNCHRO display <SYNC> lights green.

34.SYNCHRO display <SYNC>

The setting display lights green when a SHUTTER (SYNC) setting is displayed. The STEP display light goes off.

Off:	SHUTTER is in STEP mode
On:	SHUTTER is in SYNCHRO mode

<Note>

Hold down the STEP/SYNC select button <STEP/SYNC> for about 2 seconds to switch between the STEP and SYNCHRO settings.

35.Camera number tens' place digit display <10 to 19>

This LED lights when the camera number is a number between 10 and 19. Use setup mode to set camera number.

On:	The camera number is a number between 10 and 19.
Off:	The camera number is a number between 1 and 9.
Flashing:	The number is between 20 and 22 (when setup mode only).

36.Camera number display <No.>

This display indicates the camera number or the menu number in setup mode. Only the ones place will be displayed for numbers 10 to 19 and 20 to 22. The tens digit is indicated by the camera number tens digit display. (It is lit when the camera number tens digit display is between 10 and 19 and flashing when it is between 20 and 22.)

Use setup mode to set the camera number.

<Note>

When AK-HC3500A is connected, camera numbers 1 to 15 are enabled.

Do not set a camera number between 16 and 19.

37.Camera select button <SELECT>

Use this button when obtaining the control privileges for this unit and enable/disable state of IRIS/M.PED from another ROP or an MSU. Also use it when selecting the control target camera.

On:	The control privileges for this unit are enabled. IRIS/M.PED is enabled.
Flashing:	The control privileges for this unit are disabled. (Another ROP has the control privileges.) IRIS/M.PED is disabled.
Off:	The control privileges for this unit are enabled. IRIS/M.PED is disabled.

● IRIS/M.PED enable/disable

When IRIS/M.PED of the unit is enabled, the camera select button <SELECT> will be lit.

When IRIS/M.PED of another ROP or MSU is enabled, the camera select button <SELECT> will be unlit or flashing.

● Selecting the control target camera

A camera connected to the unit can be selected and then controlled.

- 1) Press and hold the camera select button <SELECT> for about 2 seconds.

The camera number in the camera number display <No.> flashes.

2) Press the lit DATA SET button <UP><DOWN>.

Press the lit DATA SET button <UP><DOWN> to select a camera number.

3) Press the camera select button <SELECT>.

The camera select button <SELECT> turns off and the control privileges are enabled. IRIS/M.PED is disabled.

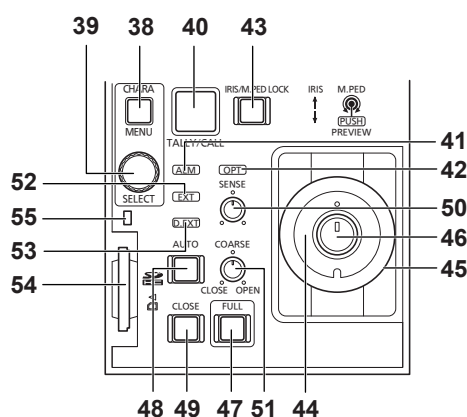
<Note>

If the camera select button continues to flash when a camera is selected by pressing the camera select button, a connection has not been established. Check the settings of the camera assigned to the camera number.

● Caution when multiple ROPs are connected

When multiple ROPs are connected to one CCU with IP connections, operation will be possible only using the one ROP with the control privileges enabled. (The camera select button <SELECT> of the ROP with the control privileges enabled will be on.) The camera select buttons <SELECT> of the other ROPs will be flashing and operation for cameras will not be possible because the control privileges are disabled. If you press the camera select button <SELECT> while it is flashing, the control privileges will be enabled and operation will be possible on the ROP of the button that was pressed. The camera select button <SELECT> will turn off. If you press the camera select button <SELECT> again, the camera select button <SELECT> will turn on and IRIS/M.PED will be enabled as well. At that time, the camera select buttons <SELECT> of other ROPs will flash and operation will be no longer possible.

Up to three ROPs can be connected to one CCU. From the fourth ROP, the camera select button <SELECT> will be off and the control privileges will be disabled.



38.Character/Menu button <CHARA/MENU>

Use this function to switch on and off the characters (status screen) displayed on the picture monitor (PM).
Press and hold (for about 2 seconds) to display the ROP menu on the picture monitor.
For details on the ROP menu, refer to Operations and Settings on the supplied CD-ROM.

Short press	Displays characters on the PM.
(On):	Each short press changes the display data.
Press and hold	Turns off the PM character display.
(Off):	

To open the ROP menu when characters are displayed on the PM, hold down the button to turn off the character display.

Press and hold	Displays the ROP menu on the PM.
(On):	
Press and hold	Turns off the ROP menu display on the PM.
(Off):	

To display characters when the ROP menu is open, hold down the button to close the ROP menu.

<Note>

When characters do not appear, the video output has not been set to PM. Since characters appear in SDI 3&4 or VBS output from the CCU, make the settings that your operating environment requires.

39.Select dial <SELECT>

Perform the following menu operations when the ROP menu is displayed on the picture monitor (PM).
For details on the ROP menu, refer to Operations and Settings on the supplied CD-ROM.

Turn clockwise:	Increases the selected value and selects the bottom of the menu
Turn counterclockwise:	Decreases the selected value and selects the top of the menu
Press:	Confirms the selected value and the menu

40.Red/green tally display, Call button <TALLY/CALL>

The tally lights red when the red tally is input to the CCU communication connector.
The tally lights green when the green tally is input. When both are input, the tally lights red.
Press this button to use it as a Call switch. Pressing the button when it is not on will light it. Pressing it when it is on will turn it off. Pressing it when it is on or off will light the Call lamp on the CCU and the indicator (TALLY) on the camera.
Pressing the call switch on the camera or CCU sounds the unit buzzer. It stays on as long as the switch is depressed (when the buzzer is set to On). The tally also lights red when the button is off, but goes off if the button is lit red or green.

<Note>

When there is an IP connection with a CCU, the indicator (call lamp) on AK-HC3800 flashes.

41.Alarm display <ALM>

This indicator displays alarms.
Consult your supplier if a failure occurs.

	Lights when the camera fan stops due to a failure.
	• Alarm data can be displayed on the CCU PM.
On:	• When an alarm occurs, the Character/Menu button <CHARA/MENU> on the unit lights and an alarm display appears like an interrupt on the CCU PM.
Flashing:	Indicates that the power voltage of the unit has decreased
Off:	Normal operating status

42.Optical alarm display <OPT>

This is the optical transmission warning indicator light.
When camera/CCU reception strength level is low, the display lights yellow or red.
When the optical fiber cable has not been properly connected or seated, disconnect the camera/CCU optical cable. Then connect the cable again making sure that it is properly seated. If this does not remedy the problem, turn off the CCU, disconnect the optical fiber cable between the camera and the CCU and clean the optical connectors. Use a cotton swab moistened in alcohol to gently clean the fiber surfaces.

Off:	Normal operating status (optical reception strength level is 4 or 5)
On (green):	Optical reception level 2 or 3
On (red):	Optical reception level is 1, or the cable is disconnected

43.Iris/master pedestal lock button <IRIS/M.PED LOCK>

Use this function to disable iris and M.PED operation.
The button lights red when they are disabled.
Press the button again to release the lock.

Off:	Iris and M.PED can be controlled
Lights red:	Disabled (locked)
	Indicates that the Iris lever was operated when the function was disabled (locked).
Flashes red: (Quick flashing rate of once every second)	When the Iris lever is returned to lock position, the button goes off and normal control is available. This also flashes if the camera adjustment values and iris lever position are offset when the control target camera is switched. At the point in time when the iris lever is moved to the position that matches the camera adjustment values, the button turns off and normal control becomes possible.
	Indicates that the master pedestal control <M.PED> was operated when the function was disabled (locked). When the master pedestal control <M.PED> is returned to the lock position, the button turns off and normal control becomes possible.
Flashes red: (Slow flashing rate of once every 2 seconds)	This also flashes if the camera adjustment values and master pedestal control <M.PED> position are offset when the control target camera is switched. At the point in time when the master pedestal control <M.PED> is moved to the position that matches the camera adjustment values, the button turns off and normal control becomes possible.

44.Iris lever <IRIS (↑ ↓)>

Use this to control the iris level.

This function is enabled when the iris/master pedestal lock is released.

If the auto iris is not on, the iris can be controlled manually.

When the auto iris is on, the iris level (standard value for automatic aperture adjustment) is automatically adjusted.

Press the button at the front end of the lever to connect the preview signal from the preview connector.

During manual iris adjustments (when the <IRIS/M.PED LOCK>, <AUTO>, <FULL> buttons are all off)

Front position:	Adjusts the iris in the CLOSE direction within the range set by the sense and range control.
Rear position:	Adjusts the iris in the OPEN direction within the range set by the sense and range control.

In auto iris adjustment mode

Front position:	Adjusts the auto iris level in the CLOSE direction
Rear position:	Adjusts the auto iris level in the OPEN direction

45.Master pedestal control <M.PED>

Use this function to control the master pedestal level. Turn it clockwise to increase the master pedestal.

Turning the master pedestal control <M.PED> will display the setting on the setting display for about 2 seconds.

The master pedestal and the R, G and B pedestal can be adjusted independently. A master pedestal adjustment does not affect the R, G and B pedestal values.

Pressing the M.GAIN/M.PED DISPLAY SELECT button twice displays the setting on the setting display.

46.Preview button <PREVIEW>

Use this function to output the preview signal from the preview connector. (→page 34)

On (press):	Preview output is On
Off:	Preview output is Off

47.Fader full button <FULL>

Use this button to set the range of the iris lever all the way from OPEN to CLOSE. To use the SENSE and COARSE controls, press the Fader Full button again to turn it off.

On:	Iris lever range is full (all the way from OPEN to CLOSE)
Off:	Iris lever range depends on the SENSE and COARSE control settings.

48.Auto iris button <AUTO>

Use this button to activate the auto iris function.

Moving the Iris lever forward adjusts the auto iris level in CLOSE direction. Moving it to the rear adjusts it in the OPEN direction.

On:	The auto iris mode is enabled.
Off:	Manual (manual) adjustment using the iris lever is possible

For details on auto iris settings, refer to "ROP menu setting" in Operations and Settings on the supplied CD-ROM.

49.Iris close button <CLOSE>

Use this button to forcibly set the iris to CLOSE.

On:	Forcibly sets the iris to CLOSE.
Off:	Cancels iris CLOSE

50.Sense control <SENSE>

Use this control to adjust the iris range when the iris lever is moved from the center to the upper and lower edges.

The aperture at the control center position is about ± 1 f-stop

Turn clockwise:	Widens the range (iris lever sensitivity increases) The aperture at the rightmost control position is about ± 2 f-stops
Turn counterclockwise:	Narrows the range (iris lever sensitivity decreases) The aperture at the leftmost control position is about ± 2 f-stops

51.Coarse control <COARSE>

Use this control to adjust the iris value when the iris lever is moved to the center.

Turn clockwise (OPEN):	Increases the IRIS value At the rightmost position, the aperture is 3 f-stops higher than at the control center position.
Turn counterclockwise (CLOSE):	Decreases the IRIS value At the leftmost position, the aperture is 3 f-stops lower than at the control center position.

52.Lens extender indicator <EXT>

This indicator lights to warn that the lens extender is set to something other than 1x.

On:	The lens extender is set to something other than 1x.
Off:	This indicates that the lens extender is not being used or that it is not available.

53.Digital extender indicator <D.EXT>

This indicator lights to warn that the digital extender is set to something other than 1x.

On:	The digital extender is set to something other than 1x.
Off:	This indicates that the digital extender is not being used or that it is not available.

<Note>

Set to 2x on the AK-HC3800 studio handy camera.

54.Memory card slot

Insert a memory card in this slot. You can save the settings of the unit and the scene files, user files, and other files to a memory card. For details on what memory cards can be used with the unit, refer to page 6.

<Note>

The scene files, user files, and lens files of AK-HC3500A cannot be saved.

55.Memory card access indicator

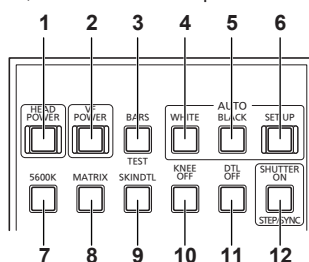
This indicator lights when data is read from or loaded to a memory card.

Parts and their functions (when operating a remote camera)

This section describes the operation of remote cameras (AW-HE50/ AW-HE60/AW-HE120/AW-HE870 and AK-HC1500/AK-HC1800).

Operation panel

A beep (buzzer) sounds when a button is pressed. However, buttons do not beep when the buzzer is set to Off in setup mode.



1. Camera power button <HEAD POWER>

Use this button to control remote camera power remotely. However, it will not function unless the power of the camera itself is turned on. Each press of the button turns the power of the camera on or off.

On (green):	The camera is turned on.
On (red):	The camera is in standby.
Short flashes (red)*1:	Network authentication not possible in IP connection mode.
Off:	The camera itself is powered off.

*1 Short flashes have an interval of about 0.5 second.

<Note>

This cannot be used for AW-HE870 and AK-HC1500/AK-HC1800.

2. Viewfinder power button <VF POWER>

This cannot be used for a remote camera.

3. Color Bar Signal Output button <BARS/TEST>

Use this button to output the color bar signal from the camera.

On (yellow):	Color bar On
On (green):	TEST signal On (AK-HC1500/AK-HC1800 only)
Off:	Color bar Off

4. Auto White Balance button <WHITE>

Use this button to automatically adjust the white balance.

On:	Indicates that the auto white balance adjustment has started.
Flashing:	Warns that the automatic white balance adjustment ended without being completed.
Off:	Indicates that the white balance has been adjusted correctly.

5. Auto Black Balance button <BLACK>

Use this button to automatically adjust the black balance.

On:	Indicates that the auto black balance adjustment has started.
Flashing:	Warns that the automatic black balance adjustment ended without being completed.
Off:	Indicates that the black balance has been adjusted correctly.

<Note>

This cannot be used with the AW-HE2.

6. Auto Setup button <SETUP>

This cannot be used for a remote camera.

7. 5600 K button <5600K>

Use this button to make adjustments to achieve a white balance that corresponds to a 5600K color temperature.

On:	ON
Off:	OFF

<Note>

This cannot be used for AW-HE50/AW-HE60/AW-HE120/AW-HE870/AW-HE2.

8. Matrix button <MATRIX>

This cannot be used for a remote camera.

9. Skin Detail button <SKINDTL>

Use this button to apply coring to the detail enhancement of the skin tone areas to soften or increase the enhancement of skin tone details.

On:	ON
Off:	OFF

<Note>

This cannot be used for AW-HE50/AW-HE60/AW-HE120/AW-HE870/AW-HE2.

10. Knee OFF button <KNEE OFF>

This cannot be used for a remote camera.

11. Detail OFF button <DTL OFF>

Use this button to disable the contour enhancement (hard/soft) function (detail enhancer) of image output.

On:	Detail enhancer off
Off:	Detail enhancer on

<Note>

This cannot be used for AW-HE50/AW-HE60/AW-HE120/AW-HE870/AW-HE2.

12. Shutter On/Off button <SHUTTER ON>

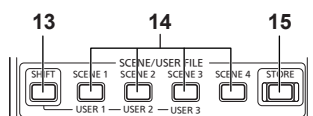
STEP/SYNC select button <STEP/SYNC>

Use this button to turn the SHUTTER on or off. Press and hold the button to switch between STEP and SYNCHRO. In SHUTTER ON mode, the SHUTTER display select button <SHUTTER> and the SHUTTER display <SHT> light, and the setting is displayed on the setting display for about 2 seconds.

On:	SHUTTER ON (STEP/SYNCHRO can be selected)
Off:	SHUTTER OFF (STEP/SYNCHRO can be selected)

<Note>

- The adjustment values in SYNCHRO mode are not displayed on the setting display. Furthermore, the adjustment operation is also not possible.
- If the shutter is turned off with AW-HE50/AW-HE60/AW-HE120, the shutter speed becomes 1/100 or 1/120 when the shutter is turned on the next time.
- This cannot be used with the AW-HE2.



13.Scene/User File selector button <SHIFT>

This cannot be used for a remote camera.

<Note>

Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

14.SCENE/USER FILE select buttons

<SCENE 1/USER1> to <SCENE 3/USER 3>, <SCENE 4>

Use these buttons to switch scene files.

On:	The scene files corresponding to the buttons are selected.
Off:	The scene files corresponding to the buttons are not selected.

The names of shooting modes and operation of each mode differ depending on the model of remote camera. For details, refer to the operating instructions for the remote camera. The following shows the relationship between the SCENE/USER FILE select buttons <SCENE 1/USER 1> to <SCENE 3/USER 3>, <SCENE 4> on the unit and the shooting modes of the remote camera.

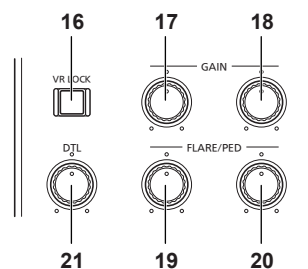
Button on unit	Remote camera shooting mode			
	AW-HE60 AW-HE50	AE-HE120	AW-HE870	AK-HC1500 AK-HC1800
SCENE1/ USER1	Manual1	Scene1	Halogen	USER1
SCENE2/ USER2	Manual2	Scene2	Fluorescent	USER2
SCENE3/ USER3	Manual3	Scene3	Outdoor	PRESET
SCENE4	FullAuto	Scene4	User	-

<Note>

- User files cannot be used with a remote camera.
- This cannot be used with the AW-HE2.

15.Scene/user file store button <STORE>

This cannot be used for a remote camera.



16.Control lock button <VR LOCK>

Use this button to lock (disable) the paint control operation. The paint controls target for locking are GAIN (R, B), PED/FLARE (R,B), and DTL.

Each press of the button turns the function on or off.

On:	ON (locks the paint control value)
Off:	OFF (the paint control value changes)

● Using the control lock button <VR LOCK>

1) Use any of the controls (17 to 21) to adjust an item.

2) Press <VR LOCK>.

The button lights.

The unit stores the paint control value at that point in time.

3) Turn the control to its center position.

4) Press <VR LOCK> again.

The button turns off and the control lock is released.

The control position at that point in time is set to the paint control value stored in step 2.

17.R gain control <GAIN R>

Use this control to adjust the red (R) components of the white balance.

It is a target of the control lock (VR LOCK).

<Note>

This cannot be used with an AW-HE50 or AW-HE2 without the AW-HEF5HG/AW-HEF5SG upgrade kit installed.

18.B gain control <GAIN B>

Use this control to adjust the blue (B) components of the white balance.

It is a target of the control lock (VR LOCK).

<Note>

This cannot be used with an AW-HE50 or AW-HE2 without the AW-HEF5HG/AW-HEF5SG upgrade kit installed.

19.R flare/pedestal control <FLARE/PED R>

Use this control to adjust the red (R) components in pedestal or flare. Setup mode determines whether it controls pedestal or flare.

It is a target of the control lock (VR LOCK).

<Note>

This cannot be used with AW-HE50/AW-HE60/AW-HE2.

It is fixed to pedestal with AW-HE120/AW-HE870.

20.B flare/pedestal control <FLARE/PED B>

Use this control to adjust the blue (B) components in pedestal or flare. Setup mode determines whether it controls pedestal or flare.

It is a target of the control lock (VR LOCK).

<Note>

This cannot be used with AW-HE50/AW-HE60/AW-HE2.

It is fixed to pedestal with AW-HE120/AW-HE870.

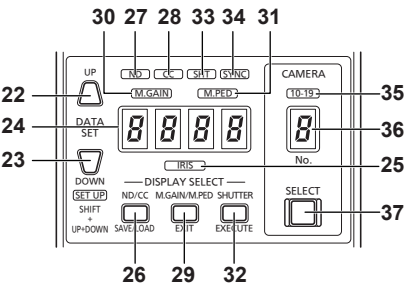
21.DTL control <DTL>

Use this control to adjust detail enhancer effects.

It is a target of the control lock (VR LOCK).

<Note>

This cannot be used for AW-HE50/AW-HE60/AW-HE120/AW-HE870/AW-HE2.



22.DATA SET button <UP>

Use this button to increase the set value when ND filter, M.GAIN, or SHUTTER is displayed. Each press of the button increases the selection value.

This button is also used as an operation button in the ZOOM/FOCUS/AUTO FOCUS setting mode.

On:	Enabled
Off:	Disabled.

- <Note>**
- ND filter cannot be used with AW-HE50/AW-HE60/AW-HE870/AW-HE2.
 - FOCUS and AUTO FOCUS cannot be used with the AW-HE2.
 - Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.
- For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

23.DATA SET button <DOWN>

Use this button to decrease the set value when ND filter, M.GAIN, or SHUTTER is displayed. Each press of the button decreases the selection value.

This button is also used as an operation button in the ZOOM/FOCUS/AUTO FOCUS setting mode.

On:	Enabled
Off:	Disabled.

- <Note>**
- ND filter cannot be used with AW-HE50/AW-HE60/AW-HE870/AW-HE2.
 - FOCUS and AUTO FOCUS cannot be used with the AW-HE2.
 - Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.
- For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

24.Setting display (4 digits)

This display indicates settings.

The IRIS value is displayed when the power is turned on. Pressing one of the display select buttons displays the selected setting. The range of settings are displayed.

Item	Display	AW-HE50 AW-HE60	AW-HE120	AW-HE870
IRIS	-	A setting is not displayed.		
ND	■ _ _ _	-	1 to 4*7	-
CC	-	-		
M.GAIN	■ _ dB	*1	*2	*3
M.PED	■ _ _ _	-10 to 10	-150 to 150	-150 to 150
SHUTTER	■ _ _ _	*4		
ZOOM	Zo	A setting is not displayed.		
FOCUS	Fo	A setting is not displayed.		
AUTO FOCUS	AF	ON(AF. on) OFF(AF. of)		-

Item	Display	AK-HC1500 AK-HC1800
IRIS	_ ■ ■ ■	1.4 to 22
ND	■ _ _ _	1 to 4
CC	-	-
M.GAIN	■ _ _ _	1 to 6*5
M.PED	■ _ _ _	-150 to 150
SHUTTER	■ _ _ _	*6
ZOOM	Zo	A setting is not displayed.
FOCUS	Fo	A setting is not displayed.
AUTO FOCUS	AF	-

*1 Auto, 0, 3, 6, 9, 12, 15, 18

*2 Auto, 0 to 18

*3 Auto, -6 to 18

*4 59.94 Hz: 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 (displayed as 1/9999)
50 Hz: 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 (displayed as 1/9999)

- Not displayed when SYNCHRO. Furthermore, adjustment is also not possible.
- For AW-HE50/AW-HE60, the shutter adjustment operation can be performed during auto iris but the adjustment will not be reflected in the images. It will be reflected when auto iris is canceled.

*5 1: LOW, 2: MID, 3: HIGH, 4: S.GAIN1, 5: S.GAIN2, 6: S.GAIN3

*6 VIDEO: 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000
FILM: 180.0, 172.8, 144.0, 120.0, 90.0, 45.0

*7 When you change the setting from 1→4, the setting changes in the order of 1→2→3→4.

25.IRIS display <IRIS>

This display is lit green when an IRIS setting is displayed on the setting display.

The IRIS value is displayed when the power is turned on.

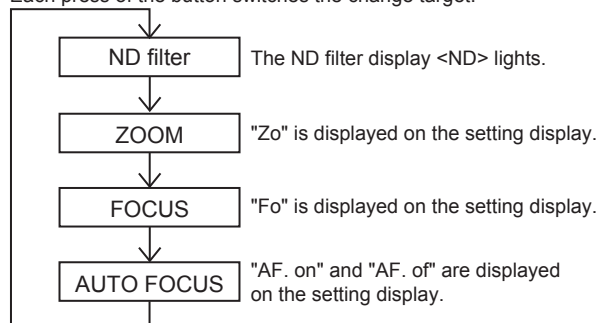
Also, when the Iris lever is operated while something other than IRIS is displayed on the setting display, the IRIS value will be displayed for about 2 seconds.

26.ND filter/CC filter DISPLAY SELECT button <ND/CC>

SAVE/LOAD button <SAVE/LOAD> (In setup mode)

Press this button to display and change the setting value for the ND filter, to adjust ZOOM and FOCUS, and to set AUTO FOCUS.

Each press of the button switches the change target.



On (yellow):	The ND filter setting value is displayed and can be changed. ZOOM/FOCUS can be adjusted. AUTO FOCUS can be set.
Off:	Other than ND filter, ZOOM, FOCUS, and AUTO FOCUS is displayed.

<Note>

- ND filter cannot be used with AW-HE50/AW-HE60/AW-HE870/AW-HE2.
- FOCUS and AUTO FOCUS cannot be used with the AW-HE2.
- The adjustment speed of ZOOM and FOCUS can be adjusted with the Sense control.

● Displaying and setting ND filter, ZOOM, FOCUS, and AUTO FOCUS

1) Press <ND/CC> when IRIS display or another (M.GAIN/M.PED or SHUTTER) display is selected.

The button lights and the ND filter display <ND> lights green.

2) Press the lit DATA SET button <UP><DOWN>.

This allows you to change the ND filter setting.

3) Press <ND/CC> again.

The ND filter display <ND> turns off and "Zo" is displayed on the setting display. Pressing and holding the lit DATA SET button <UP> <DOWN> allows you to adjust ZOOM.

The adjustment speed of ZOOM can be adjusted with the Sense control.

When ZOOM is selected, the FOCUS can be adjusted with the select dial <SELECT>, and one shot focus can be adjusted by pressing the select dial <SELECT>.

4) Press <ND/CC> again.

"Fo" is displayed on the setting display. Pressing and holding the lit DATA SET button <UP> <DOWN> allows you to adjust FOCUS.

The adjustment speed of FOCUS can be adjusted with the Sense control.

When FOCUS is selected, ZOOM can be adjusted with the select dial <SELECT>.

5) Press <ND/CC> again.

"AF. on" or "AF. of" is displayed on the setting display. The lit DATA SET button <UP><DOWN> allows you to select "AF. on" or "AF. of."

6) Press <ND/CC> again.

The setting display switches to the IRIS display status.

In setup mode, use this to switch submenus.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

27.ND filter display <ND>

This display is lit green when an ND filter setting is displayed on the setting display.

<Note>

ND filter cannot be used with AW-HE50/AW-HE60/AW-HE870/AW-HE2.

28.CC filter display <CC>

This cannot be used for a remote camera.

29.M.GAIN/M.PED DISPLAY SELECT button <M.GAIN/M.PED>

EXIT button <EXIT> (In setup mode)

Press this button to display and change the M.GAIN or M.PED settings.

M.PED settings are only displayed and adjustments cannot be made with the DATA SET buttons <UP> <DOWN>. Make adjustments with the master pedestal control <M.PED> of the iris lever.

● Displaying and setting M.GAIN/M.PED

1) Press <M.GAIN/M.PED> when IRIS display or another (ND/CC or SHUTTER) display is selected.

The button lights and the M.GAIN display <M.GAIN> lights green.

2) Press the lit DATA SET button <UP><DOWN>.

This allows you to change the M.GAIN setting.

3) Press <M.GAIN/M.PED> again.

The M.GAIN display <M.GAIN> turns off and the M.PED display <M.PED> lights green.

4) Press <M.GAIN/M.PED> again.

The button turns off and the M.PED display <M.PED> turns off. Then the setting display returns to IRIS indication.

<Note>

- Use the master pedestal control to adjust M.PED. (This setting is always available regardless of the display status)
- Pressing another Display Select button (<ND/CC> or <SHUTTER>) turns off the button and lights the selected button.
- This cannot be used with the AW-HE2.

If you press and hold this button for about 2 seconds in setup mode, setup mode ends.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

30.M.GAIN display <M.GAIN>

This display is lit green when an M.GAIN setting is displayed on the setting display.

When M.GAIN is selected for adjustment, the M.GAIN display lights.

<Note>

This cannot be used with the AW-HE2.

31.M.PED display <M.PED>

This display is lit green when an M.PED setting is displayed on the setting display.

Also, when the master pedestal control <M.PED> is operated while something other than M.PED is displayed on the setting display, the M.PED value will be displayed for about 2 seconds.

<Note>

- Use the master pedestal control <M.PED> to adjust M.PED. (This setting is always available regardless of the display status)
- This cannot be used with the AW-HE2.

32.SHUTTER DISPLAY SELECT button <SHUTTER>

EXECUTE button <EXECUTE> (In setup mode)

Press this button to display and change the SHUTTER settings.

<Note>

When the Shutter On/Off button <SHUTTER ON> is set to Off, the SHUTTER DISPLAY SELECT button <SHUTTER> can be operated and the SHUTTER can be adjusted. (Adjustments can be made prior to operation.)

● Setting and displaying the SHUTTER

Press and hold the STEP/SYNC select button <STEP/SYNC> for about 2 seconds to switch between the STEP and SYNC settings. When SYNCHRO is selected, the SYNCHRO display lights green.

1) Press <SHUTTER> when IRIS display or another (ND/CC, M.GAIN/M.PED) display is selected.

When STEP is selected, the SHUTTER setting is displayed on the setting display. (It is not displayed when SYNC is selected.)

2) Press the lit DATA SET button <UP><DOWN>.

This allows you to change the SHUTTER setting. (It cannot be changed when SYNC is selected.)

3) Press <SHUTTER> again.

The button turns off and the SHUTTER display <SHT> turns off. Then the setting display returns to IRIS indication.

Pressing another DISPLAY SELECT button (<ND/CC> or <M.GAIN/M.PED>) turns off the button and lights the selected button.

<Note>

This cannot be used with the AW-HE2.

In setup mode, this button confirms menus and setting values.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

33.SHUTTER display <SHT>

This display is lit green when a SHUTTER setting is displayed on the setting display.

<Note>

- Press and hold the STEP/SYNC select button <STEP/SYNC> for about 2 seconds to switch between the STEP and SYNC settings. When SYNCHRO is selected, the SYNCHRO display <SYNC> lights green.
- This cannot be used with the AW-HE2.

34.SYNCHRO display <SYNC>

This display is lit green when a SHUTTER (SYNC) setting is displayed on the setting display. When STEP indication, this display is off.

Off:	SHUTTER is in STEP mode.
On:	SHUTTER is in SYNCHRO mode.

<Note>

- Press and hold the STEP/SYNC select button for about 2 seconds to switch between the STEP and SYNCHRO settings.
- This cannot be used with the AW-HE2.

35.Camera number tens' place digit display <10 to 19>

This LED lights when the camera number is between 10 and 19.

Off:	The camera number is between 1 and 9.
On:	The camera number is between 10 and 19.
Flashing:	The number is between 20 and 22 (when in setup mode only).

36.Camera number display <No.>

This display indicates the camera number or the menu number in setup mode. Only the ones place will be displayed for numbers 10 to 19 and 20 to 22. The tens digit is indicated by the camera number tens digit display. (It is lit when the camera number tens digit display is between 10 and 19 and flashing when it is between 20 and 22.)

37.Camera select button <SELECT>

Use this button to select the control target camera.

● Selecting the control target camera

A camera connected to the unit can be selected and then controlled.

1) Press and hold the camera select button <SELECT> for about 2 seconds.

The camera number in the camera number display flashes.

2) Press the lit DATA SET button <UP><DOWN>.

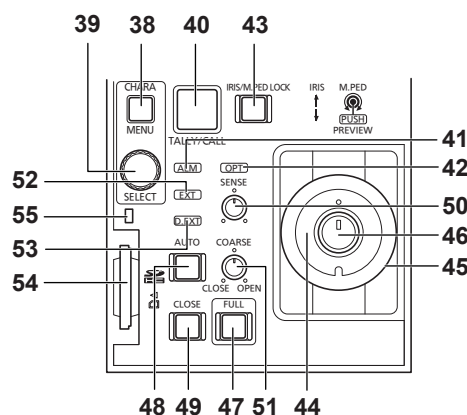
Press the lit DATA SET button <UP><DOWN> to select a camera number.

3) Press the camera select button <SELECT>.

Control of the selected camera becomes possible.

<Note>

If the camera select button continues to flash when a camera is selected by pressing the camera select button, a connection has not been established. Check the settings of the camera assigned to the camera number.



38.Character/Menu button <CHARA/MENU>

Press and hold this button (for about 2 seconds) to turn the on or off the camera menu.

Press and hold (On): Turns on (displays) the camera menu.

Press and hold (off): Turns off the camera menu.

39.Select dial <SELECT>

Use this dial to perform menu operations when the camera menu is displayed.

For details on the camera menu, refer to the operating instructions for the camera.

Turn clockwise:	Increases the selected value or selects in the down direction of the menu.
Turn counterclockwise:	Decreases the selected value or selects in the up direction of the menu.
Press:	Confirms the selected value or confirms the selected menu.

<Note>

When no menu is displayed, the select dial serves as the FOCUS/ZOOM adjustment dial in the ZOOM/FOCUS setting mode. (→page 23)

40.Red/green tally display, Call button <TALLY/CALL>

The tally lights red when the tally signal connected to the preview connector <PREVIEW> of the unit is on.

The call button cannot be used during remote camera operation.

On (red): The tally of the camera being operated is on.

Off: The tally of the camera being operated is off.

41.Alarm display <ALM>

This display indicates alarms.

Consult your supplier if a failure occurs.

On:	An alarm (a cooling fan alarm) has been received from a remote camera.
Flashing:	Indicates that the power voltage of the unit has decreased.
Off:	Normal operating state

42.Optical alarm display <OPT>

This is disabled for a remote camera.

43.Iris/master pedestal lock button

<IRIS/M.PED LOCK>

Use this button to disable (lock) iris and M.PED operation.

The button lights red when operation is disabled. Press the button again to release the lock.

Off: Iris and M.PED can be controlled.

Lit red: Operation is disabled (locked).

Indicates that the Iris lever was operated when operation was disabled (locked).

Flashes red: (Quick flashing rate of once every second) When the Iris lever is returned to the lock position, the button turns off and normal control becomes possible.

This also flashes if the camera adjustment values and iris lever position are offset when the control target camera is switched. At the point in time when the iris lever is moved to the position that matches the camera adjustment values, the button turns off and normal control becomes possible.

Indicates that the master pedestal control <M.PED> was operated when the function was disabled (locked).

Flashes red: (Slow flashing rate of once every 2 seconds) When the master pedestal control <M.PED> is returned to the lock position, the button turns off and normal control becomes possible.

This also flashes if the camera adjustment values and master pedestal control <M.PED> position are offset when the control target camera is switched. At the point in time when the master pedestal control <M.PED> is moved to the position that matches the camera adjustment values, the button turns off and normal control becomes possible.

44.Iris lever <IRIS (↑ ↓)>

Use this lever to adjust the iris level.

This lever is enabled when the iris/master pedestal lock is off.

If the auto iris is not on, the iris can be adjusted manually.

When manual iris adjustment (when the <IRIS/M.PED LOCK> and <AUTO> buttons are all off)

Forward: Adjusts the iris in the CLOSE direction.

Backward: Adjusts the iris in the OPEN direction.

When auto iris is enabled (when the auto iris button <AUTO> is on), use this lever to adjust the convergence level of the auto iris of the remote camera.

45.Master pedestal control <M.PED>

Use this control to adjust the master pedestal level. Turn it clockwise to increase the master pedestal.

Turning the master pedestal control <M.PED> displays the setting on the setting display for about 2 seconds.

The master pedestal and the R, G, and B pedestal can be adjusted independently. A master pedestal adjustment does not affect the R, G, and B pedestal values.

Pressing the M.GAIN/M.PED DISPLAY SELECT button <M.GAIN/M.PED> twice displays the setting on the setting display.

<Note>

This cannot be used with the AW-HE2.

46.Preview button <PREVIEW>

Outputs the preview signal from the preview connector. (→page 34)

On (press): Preview output ON

Off: Preview output OFF

47.Fader full button <FULL>

This is always on (lit) with a remote camera.
Use this button to set the range of the iris lever all the way from
OPEN to CLOSE.

48.Auto iris button <AUTO>

Use this button to enable the auto iris function.

On:	Enables the auto iris mode.
Off:	Enables manual adjustment of the iris using the iris lever.

49.Iris close button <CLOSE>

This cannot be used for a remote camera.

50.Sense control <SENSE>

Use this control to adjust the ZOOM/FOCUS speed.

Turn clockwise:	Increases the speed.
Turn counterclockwise:	Decreases the speed.

51.Coarse control <COARSE>

This is disabled for a remote camera.

52.Lens extender indicator <EXT>

This is disabled for a remote camera.

53.Digital extender indicator <D.EXT>

This is disabled for a remote camera.

54.Memory card slot

Insert a memory card into this slot.
You can save the settings of the unit, settings of remote cameras
(when IP connections), etc. to a memory card.
For details on what memory cards can be used with the unit, refer to
page 6.

55.Memory card access indicator

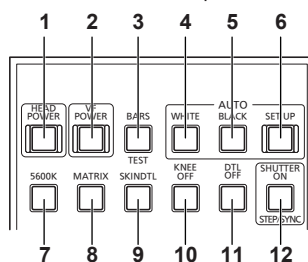
This indicator lights when data is read from or written to a memory
card.

Parts and their functions (when operating a camera recorder)

This section describes the operation of camera recorders (AJ-PX*** series).

Operation panel

A beep (buzzer) sounds when a button is pressed. However, buttons do not beep when the buzzer is set to Off in setup mode.



1. Camera power button <HEAD POWER>

Indicates the power status and IP/serial connection status of the camera recorder.

It cannot be used to turn the camera recorder's power on or off.

On (green):	The camera is turned on.
Flashing (green):	The network/serial connection of the camera is disconnected.
Short flashes (red)*1:	Network authentication not completed in IP connection mode.
Off:	The camera is turned off.

*1 Short flashes have an interval of about 0.5 second.

<Note>

- During network/serial connections, the connection can be broken by pressing the power button. When the connection is broken, the power button flashes (green).
- Short flashes (red) indicate a network authentication error. Recheck the User Name and Password settings in the User Auth. tab of the ROP setup software.

2. Viewfinder power button <VF POWER>

This cannot be used with a camera recorder.

3. Color Bar Signal Output button <BARS/TEST>

The color bar signal and TEST signal are output from the camera.

On (green):	TEST signal On*1
Off:	Color bar Off
On (yellow):	Color bar On

*1 Not supported by all devices.

4. Auto White Balance button <WHITE>

Use this button to automatically adjust the white balance.

On:	Indicates that the auto white balance adjustment has started.
Flashing:	Warns that the automatic white balance adjustment ended without being completed.
Off:	Indicates that the white balance has been adjusted correctly.

5. Auto Black Balance button <BLACK>

Use this button to automatically adjust the black balance.

On:	Indicates that the auto black balance adjustment has started.
Flashing:	Warns that the automatic black balance adjustment ended without being completed.
Off:	Indicates that the black balance has been adjusted correctly.

6. Auto Setup button <SETUP>

This cannot be used with a camera recorder.

7. 5600 K button <5600K>

This cannot be used with a camera recorder.

8. Matrix button <MATRIX>

Use this function to correct saturation and color phase according to the gain setting of each color component in matrix memory. Each press of the button turns the function on or off.

On:	ON
Off:	OFF

<Note>

The initial status following power on depends on the camera recorder settings.

9. Skin Detail button <SKINDTL>

Use this button to apply coring to the detail enhancement of the skin tone areas to soften or increase the enhancement of skin tone details.

On:	ON
Off:	OFF

<Note>

The initial status following power on depends on the camera recorder settings.

10. Knee OFF button <KNEE OFF>

Use this button to cancel the knee function that attenuates those areas of the video signals where a particular level (knee point) has been exceeded so that they will not become saturated as easily.

On:	Knee function is canceled. (Knee OFF)
Off:	Knee function is on.

11. Detail OFF button <DTL OFF>

Use this button to disable the contour enhancement (hard/soft) function (detail enhancer) of image output.

On:	Detail enhancer off
Off:	Detail enhancer on

12. Shutter On/Off button <SHUTTER ON>

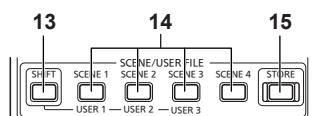
STEP/SYNC select button <STEP/SYNC>

Use this button to turn the SHUTTER on or off. Press and hold the button to switch between STEP and SYNCHRO. In SHUTTER ON mode, the SHUTTER display select button <SHUTTER> and the SHUTTER display <SHT> light, and the setting is displayed on the setting display for about 2 seconds.

On:	SHUTTER ON (STEP/SYNCHRO can be selected)
Off:	SHUTTER OFF (STEP/SYNCHRO can be selected)

<Note>

- Whether shutter speed settings in SYNCHRO mode are displayed in seconds (sec) or as an opening angle (deg) depends on the setup mode 22 synchro shutter display setting menu.
- STEP/SYNCHRO switching cannot be performed during SHUTTER OFF mode.



13.Scene/User File selector button <SHIFT>

The scene file button cannot be used with a camera recorder.

To select a user file, press and hold the SCENE/USER FILE switch button together with one of SCENE/USER FILE select buttons 1 to 3 (<SCENE/USER1/USER1> to <SCENE3/USER3>).

<Note>

However, with camera recorders, scene files are manipulated by user file operation. User file operation is not supported by all models; for details, refer to the Operating Instructions for the camera recorder.

Scene files	Cannot be used
User files	Camera recorder scene files are manipulated by user file operation. For details on the camera recorder scene files, please refer to the Operating Instructions for the camera recorder being connected.

<Note>

Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

14.SCENE/USER FILE select buttons

<SCENE 1/USER1> to <SCENE 3/USER 3>, <SCENE 4>

The preset user files (1 to 3) can be recalled and used as needed.

On:	On for about 1 second when a user file is selected.
Off:	Steady

<Note>

With a camera recorder, the camera recorder scene files are manipulated by ROP user file operation. However, even if there are more than 3 files, only the three files 1 to 3 can be used. User file operation is not supported by all models; for details, refer to the Operating Instructions for the camera recorder.

● Recalling user files

While holding down <SHIFT>, press and hold the SCENE/USER FILE select button 1 to 3 (<SCENE1/USER1> to SCENE3/USER3>) depending on the user file to be recalled.

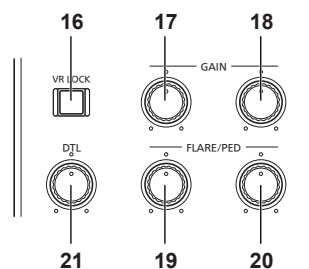
The button pressed lights and the user file is recalled after about 1 second, and then the button goes off after about 1 second.

15.Scene/user file store button <STORE>

This cannot be used with a camera recorder.

<Note>

When operating the camera recorder, the only operation possible is to recall one of scene files 1 to 3. Register files on the camera recorder without connecting the ROP.



16.Control lock button <VR LOCK>

Use this button to lock (disable) the paint control operation. The paint controls target for locking are GAIN (R, B), PED/FLARE (R,B), and DTL.

Each press of the button turns the function on or off.

On:	ON (locks the paint control value)
Off:	OFF (the paint control value changes)

● Using the control lock button <VR LOCK>

1) Use any of the controls (17 to 21) to adjust an item.

2) Press <VR LOCK>.

The button lights.

The unit stores the paint control value at that point in time.

3) Turn the control to its center position.

4) Press <VR LOCK> again.

The button turns off and the control lock is released.

The control position at that point in time is set to the paint control value stored in step 2.

17.R gain control <GAIN R>

Use this control to adjust the red (R) components of the white balance.

It is a target of the control lock (VR LOCK).

18.B gain control <GAIN B>

Use this control to adjust the blue (B) components of the white balance.

It is a target of the control lock (VR LOCK).

19.R flare/pedestal control <FLARE/PED R>

Use this control to adjust the red (R) components in pedestal or flare.

Setup mode determines whether it controls pedestal or flare.

It is a target of the control lock (VR LOCK).

<Note>

Flare is not supported by all models.

20.B flare/pedestal control <FLARE/PED B>

Use this control to adjust the blue (B) components in pedestal or flare.

Setup mode determines whether it controls pedestal or flare.

It is a target of the control lock (VR LOCK).

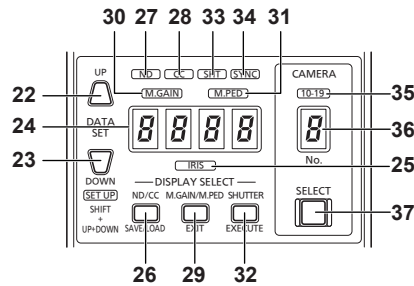
<Note>

Flare is not supported by all models.

21.DTL control <DTL>

Use this control to adjust detail enhancer effects.

It is a target of the control lock (VR LOCK).



22.DATA SET button <UP>

Use this button to increase the set value when ND/CC filter, M.GAIN, SHUTTER, or VFR is displayed. Each press of the button increases the selection value.

This button is also used as an operation button in the ZOOM/FOCUS/AUTO FOCUS setting mode.

On:	Enabled
Off:	Disabled.

<Note>

Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.

ND filter, CC filter, ZOOM, FOCUS, AUTO FOCUS, and VFR are not supported by all models.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

23.DATA SET button <DOWN>

Use this button to decrease the set value when ND/CC filter, M.GAIN, SHUTTER, or VFR is displayed. Each press of the button decreases the selection value.

This button is also used as an operation button in the ZOOM/FOCUS/AUTO FOCUS setting mode.

On:	Enabled
Off:	Disabled.

<Note>

Simultaneously pressing the DATA SET button <UP>, DATA SET button <DOWN>, and Scene/User File selector button <SHIFT> for about 2 seconds switches to setup mode.

ND filter, CC filter, ZOOM, FOCUS, AUTO FOCUS, and VFR are not supported by all models.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

24.Setting display (4 digits)

This display indicates settings.

The IRIS value is displayed when the power is turned on. Pressing one of the display select buttons displays the selected setting. The display state of each item and the standard position are shown.

Item	Display	Standard position
ND	■ _ _ _	1 *1
CC	_ ■ _ _	A *1
M.GAIN	■■dB	0 dB *1 "iSo" is displayed when ISO is selected.
M.PED	■■■■	16 *1
IRIS	_ ■■■	_ _ _ _
SHUTTER	■■■■	_ _ _ _
ZOOM	Zo	Adjusted settings are not displayed.
FOCUS	Fo	Adjusted settings are not displayed.
AUTO FOCUS	AF	ON(AF. on) OFF(AF. of)
VFR	■■■P	"FroF" is displayed during VFR OFF.

*1 During item adjustment, the display lights green when the setting returns to the standard position.

With settings other than the standard position, the display lights yellow.

<Note>

ND filter, CC filter, ZOOM, FOCUS, AUTO FOCUS, and VFR are not supported by all models.

25.IRIS display <IRIS>

This display is lit green when an IRIS setting is displayed on the setting display.

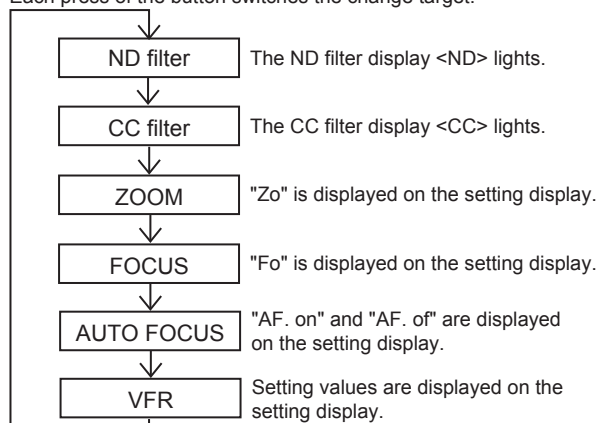
The IRIS value is displayed when the power is turned on. Also, when the Iris lever is operated while something other than IRIS is displayed on the setting display, the IRIS value will be displayed for about 2 seconds.

26.ND filter/CC filter DISPLAY SELECT button <ND/CC>

SAVE/LOAD button <SAVE/LOAD> (In setup mode)

Press this button to display the setting values for the ND filter and CC filter, to adjust ZOOM and FOCUS, to set AUTO FOCUS, and to adjust VFR.

Each press of the button switches the change target.



On (yellow):	The ND filter/CC filter adjustment value is displayed. ZOOM/FOCUS/VFR can be adjusted. AUTO FOCUS can be set.
Off:	A setting other than ND filter, CC filter, ZOOM, FOCUS, AUTO FOCUS, and VFR is displayed.

<Note>

- ND filter, CC filter, ZOOM, FOCUS, AUTO FOCUS, and VFR are not supported by all models.
- The adjustment speed of ZOOM and FOCUS can be adjusted with the Sense control.

● Displaying and setting ND filter, CC filter, ZOOM, FOCUS, AUTO FOCUS, and VFR

1) Press <ND/CC> when IRIS display or another (M.GAIN/M.PED or SHUTTER) display is selected.

The ND filter display <ND> lights together with the <ND/CC> button and the filter position is displayed.

2) Press <ND/CC> again.

Similarly, the CC filter display <CC> lights and the filter position is displayed.

<Note>

Non-supporting models are indicated by "-".

3) Press <ND/CC> again.

The ND filter display <ND> turns off and "Zo" is displayed on the setting display. Pressing and holding the lit DATA SET button <UP> <DOWN> allows you to adjust ZOOM. The adjustment speed of ZOOM can be adjusted with the Sense control.

When ZOOM is selected, FOCUS can be adjusted with the select dial <SELECT>.

4) Press <ND/CC> again.

"Fo" is displayed on the setting display. Pressing and holding the lit DATA SET button <UP> <DOWN> allows you to adjust FOCUS.

The adjustment speed of FOCUS can be adjusted with the Sense control.

When FOCUS is selected, ZOOM can be adjusted with the select dial <SELECT>.

5) Press <ND/CC> again.

"AF. on" or "AF. of" is displayed on the setting display. The lit DATA SET button <UP> <DOWN> allows you to select "AF. on" or "AF. of."

6) Press <ND/CC> again.

The VFR setting values are displayed on the setting display. "FroF" is displayed during VFR OFF.

The lit DATA SET button <UP> <DOWN> allows you to select.

7) Press <ND/CC> again.

The setting display switches to the IRIS display status.

In setup mode, use this to switch submenus.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

27.ND filter display <ND>

Lights when the ND filter position is displayed on the adjustment value display.

Lit green:	Standard position
Lit yellow:	Other than standard position

28.CC filter display <CC>

Lights when the CC filter position is displayed on the adjustment value display.

Lit green:	Standard position
Lit yellow:	Other than standard position

<Note>

CC filter is not supported by all models.

29.M.GAIN/M.PED DISPLAY SELECT button <M.GAIN/M.PED>

EXIT button <EXIT> (In setup mode)

Press this button to display and change the M.GAIN or M.PED settings.

M.PED settings are only displayed and adjustments cannot be made with the DATA SET buttons <UP> <DOWN>. Make adjustments with the master pedestal control <M.PED> of the iris lever.

● Displaying and setting M.GAIN/M.PED

1) Press <M.GAIN/M.PED> when IRIS display or another (ND/CC or SHUTTER) display is selected.

The button lights and the M.GAIN display <M.GAIN> lights green.

2) Press the lit DATA SET button <UP> <DOWN>.

This allows you to change the M.GAIN setting.

3) Press <M.GAIN/M.PED> again.

The M.GAIN display <M.GAIN> turns off and the M.PED display <M.PED> lights green.

4) Press <M.GAIN/M.PED> again.

The button turns off and the M.PED display <M.PED> turns off. Then the setting display returns to IRIS indication.

<Note>

Use the master pedestal control to adjust M.PED. (This setting is always available regardless of the display status)

Pressing another Display Select button (<ND/CC> or <SHUTTER>) turns off the button and lights the selected button.

If you press and hold this button for about 2 seconds in setup mode, setup mode ends.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

30.M.GAIN display <M.GAIN>

This display is lit green when an M.GAIN setting is displayed on the setting display.

When M.GAIN is selected for adjustment, the M.GAIN display lights.

31.M.PED display <M.PED>

This display is lit green when an M.PED setting is displayed on the setting display.

Also, when the master pedestal control <M.PED> is operated while something other than M.PED is displayed on the setting display, the M.PED value will be displayed for about 2 seconds.

<Note>

Use the master pedestal control <M.PED> to adjust M.PED. (This setting is always available regardless of the display status)

32.SHUTTER DISPLAY SELECT button <SHUTTER>

EXECUTE button <EXECUTE> (In setup mode)

Press this button to display and change the SHUTTER settings.

● Setting and displaying the SHUTTER

When the shutter ON/OFF button is <SHUTTER ON>, shutter operation is turned on.

Press and hold the STEP/SYNC select button <STEP/SYNC> for about 2 seconds to switch between the STEP and SYNC settings. When SYNCHRO is selected, the SYNCHRO display lights green.

1) Press <SHUTTER> when IRIS display or another (ND/CC, M.GAIN/M.PED) display is selected.

When STEP is selected, the SHUTTER setting is displayed on the setting display. (Not displayed on some models when SYNC is selected.)

2) Press the lit DATA SET button <UP><DOWN>.

This allows you to change the SHUTTER setting. (Cannot be changed on some models when SYNC is selected.)

3) Press <SHUTTER> again.

The button turns off and the SHUTTER display <SHT> turns off. Then the setting display returns to IRIS indication.

Pressing another DISPLAY SELECT button (<ND/CC> or <M.GAIN/M.PED>) turns off the button and lights the selected button.

In setup mode, this button confirms menus and setting values.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

33.SHUTTER display <SHT>

This display is lit green when a SHUTTER setting is displayed on the setting display.

<Note>

During shutter on operation, the pressing the STEP/SYNC select button <STEP/SYNC> for about 2 seconds switches the adjustment value back and forth between STEP and SYNC. When SYNCHRO is selected, the SYNCHRO display <SYNC> lights green.

34.SYNCHRO display <SYNC>

This display is lit green when a SHUTTER (SYNC) setting is displayed on the setting display. When STEP indication, this display is off.

Off:	SHUTTER is in STEP mode.
On:	SHUTTER is in SYNCHRO mode.

<Note>

- During shutter on operation, the adjustment value can be switched back and forth between STEP and SYNCHRO by pressing the STEP/SYNC select button for about 2 seconds.
- Whether shutter speed settings in SYNCHRO mode are displayed in seconds (sec) or as an opening angle (deg) depends is selected through the setup mode 22 synchro shutter setting menu.

35.Camera number tens' place digit display <10 to 19>

This LED lights when the camera number is between 10 and 19.

Off:	The camera number is between 1 and 9.
On:	The camera number is between 10 and 19.
Flashing:	The number is between 20 and 22 (when in setup mode only).

36.Camera number display <No.>

This display indicates the camera number and, when in setup mode, the menu number. Numbers between 10 to 19 or 20 to 22 are indicated by the ones' place digit. The ten's digit is indicated by the ten's digit display. (The ten's digit lights for camera number from 10 to 19, and flashes for camera numbers from 20 to 22.)

37.Camera select button <SELECT>

Use this button to select the control target camera.

Make settings for camera recorders to be controlled in advance using the ROP setup software.

● Selecting the control target camera

Camera recorders connected to this unit can be selected and controlled.

1) Press and hold the camera select button <SELECT> for about 2 seconds.

The camera number in the camera number display flashes.

2) Press the lit DATA SET button <UP><DOWN>.

Press the lit DATA SET button <UP><DOWN> to select a camera number.

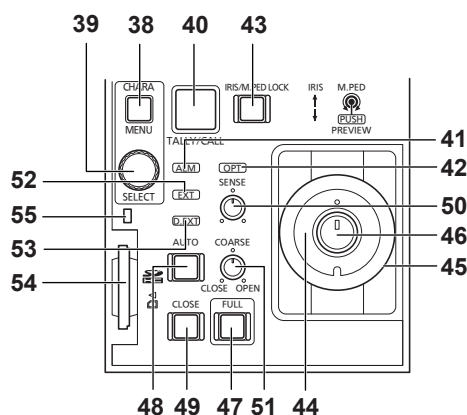
3) Press the camera select button <SELECT>.

Control of the selected camera becomes possible.

● Caution when multiple ROPs are connected

Do not connect a camera recorder to more than one ROP.

Camera recorders cannot be controlled by multiple ROPs.



38.Character/Menu button <CHARA/MENU>

Switches display of status and menu output to the camera recorder's monitor.

Brief press (on):	Turns on (displays) the status display.
Long press (on):	Turns on (displays) the menu display.
Long press (off):	Turns off menu and status display.

<Note>

Monitor output and menu display differ depending on the model of camera recorder, so refer to the device's operating instructions.

39.Select dial <SELECT>

Use this dial to perform menu operations when the camera menu is displayed.

For details on the camera menu, refer to the operating instructions for the camera.

Turn clockwise:	Increases the selected value or selects in the down direction of the menu.
Turn counterclockwise:	Decreases the selected value or selects in the up direction of the menu.
Press:	Confirms the selected value or confirms the selected menu.

<Note>

When no menu is displayed, the select dial serves as the ZOOM/ FOCUS adjustment dial in the ZOOM/FOCUS setting mode.*1 (→page 30)

*1 Not supported by all devices.

40.Red/green tally display, Call button <TALLY/CALL>

This lights red when the tally signal on the camera recorder is ON. The call button cannot be used during remote camera operation.

On (red):	The tally of the camera being operated is on.
Off:	The tally of the camera being operated is off.

41.Alarm display <ALM>

This display indicates alarms.

Consult your supplier if a failure occurs.

On:	An alarm has been received from a camera recorder.
Flashing:	Indicates that the power voltage of the unit has decreased.
Off:	Normal operating state

42.Optical alarm display <OPT>

This is disabled with camera recorders.

43.Iris/master pedestal lock button

<IRIS/M.PED LOCK>

Use this button to disable (lock) iris and M.PED operation.

The button lights red when operation is disabled. Press the button again to release the lock.

Off:	Iris and M.PED can be controlled.
Lit red:	Operation is disabled (locked).

Indicates that the Iris lever was operated when operation was disabled (locked).

Flashes red: (Quick flashing rate of once every second)
When the Iris lever is returned to the lock position, the button turns off and normal control becomes possible. This also flashes if the camera adjustment values and iris lever position are offset when the control target camera is switched. At the point in time when the iris lever is moved to the position that matches the camera adjustment values, the button turns off and normal control becomes possible.

Indicates that the master pedestal control <M.PED> was operated when the function was disabled (locked).

Flashes red: (Slow flashing rate of once every 2 seconds)
When the master pedestal control <M.PED> is returned to the lock position, the button turns off and normal control becomes possible.

This also flashes if the camera adjustment values and master pedestal control <M.PED> position are offset when the control target camera is switched. At the point in time when the master pedestal control <M.PED> is moved to the position that matches the camera adjustment values, the button turns off and normal control becomes possible.

44.Iris lever <IRIS (↑ ↓)>

Use this lever to adjust the iris level.

This lever is enabled when the iris/master pedestal lock is off.

If the auto iris is not on, the iris can be adjusted manually.

When manual iris adjustment <IRIS/M.PED LOCK> and the <AUTO> button are Off.

Forward:	Adjusts the iris in the CLOSE direction.
Backward:	Adjusts the iris in the OPEN direction.

Adjusts the camera recorder's iris level when auto iris mode is enabled (when the auto iris button <AUTO> is lit).

45.Master pedestal control <M.PED>

Use this control to adjust the master pedestal level. Turn it clockwise to increase the master pedestal.

Turning the master pedestal control <M.PED> displays the setting on the setting display for about 2 seconds.

The master pedestal and the R, G, and B pedestal can be adjusted independently. A master pedestal adjustment does not affect the R, G, and B pedestal values.

Pressing the M.GAIN/M.PED DISPLAY SELECT button <M.GAIN/M.PED> twice displays the setting on the setting display.

46.Preview button <PREVIEW>

Use this function to output the preview signal from the preview connector. (→page 34)

On (press):	Preview output is On
OFF:	Preview output is Off

47.Fader full button <FULL>

Always on (lit) with a camera recorder.

Use this button to set the range of the iris lever all the way from OPEN to CLOSE.

48.Auto iris button <AUTO>

Use this button to enable the auto iris function.

On:	Enables the auto iris mode.
Off:	Enables manual adjustment of the iris using the iris lever.

49.Iris close button <CLOSE>

Use this button to forcibly set the iris to CLOSE.

On:	Forcibly sets the iris to CLOSE.
Off:	Cancels iris CLOSE

50.Sense control <SENSE>

Use this control to adjust the ZOOM/FOCUS speed.*¹

Turn clockwise:	Increases the speed.
Turn counterclockwise:	Decreases the speed.

*¹ Not supported by all devices.

51.Coarse control <COARSE>

This is disabled with camera recorders.

52.Lens extender indicator <EXT>

This indicator lights to warn that the lens extender is set to something other than 1x.

On:	The lens extender is set to something other than 1x.
Off:	This indicates that the lens extender is not being used or that it is not available.

53.Digital extender indicator <D.EXT>

This indicator lights to warn that the digital extender is set to something other than 1x.

On:	The digital extender is set to something other than 1x.
Off:	This indicates that the digital extender is not being used or that it is not available.

<Note>

This cannot be displayed when a camera recorder is connected via a serial connection.

54.Memory card slot

Insert a memory card into this slot.

This unit's settings can be stored on a memory card.

However, camera recorder scene files, user files, and lens files cannot be stored or read.

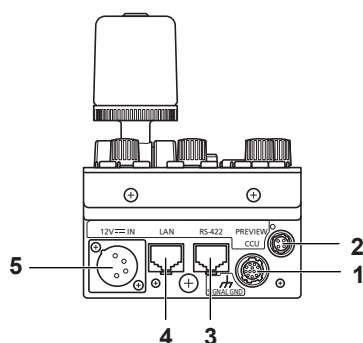
For details on what memory cards can be used with the unit, refer to page 6.

55.Memory card access indicator

This indicator lights when data is read from or written to a memory card.

Parts and their functions (connectors and DIP switches)

Connector Panel



1. CCU connector <CCU>

(Hirose Electric: HR10A-10R-10P (71))

Connect this connector to the CCU of a camera or the serial connector of a camera recorder.

Pin number	Function	Polarity	Signal flow
1	CAM DATA(H)	+	CAM→ROP
2	CAM DATA(L)	-	CAM→ROP
3	CAM CONT(H)	+	ROP→CAM
4	CAM CONT(L)	-	ROP→CAM
5	CAM No.A		
6	CAM No.B		
7	CAM No.C		
8	CAM No.D		
9	12V		
10	GND		

2. Preview connector <PREVIEW>

(Hirose Electric: HR10A-7R-4PC(73))

Pins 1 and 2 are for outputting the preview signal. Contact output is provided while the iris lever is pressed. This is a dry contact.

Pins 3 and 4 are for inputting the tally signal. When contact is made between both of them, the tally signal turns ON.

Tally input is enabled only when remote cameras and camera recorders are connected. The camera number assigned to tally input can be set in setup mode.

For details on setup mode, refer to Operations and Settings on the supplied CD-ROM.

Pin number	Function	Signal flow	Remarks
1	P.VIEW1	ROP → external control	Dry contact
2	P.VIEW2	ROP → external control	Dry contact
3	EXTRA1	TALLY→ROP	Dry contact
4	EXTRA2	TALLY→ROP	Dry contact

3. RS-422 connector <RS-422> (RJ-45 connector)

Connect a remote camera that supports a serial connection to this connector with a LAN cable. Connect it with a straight cable (category 5 or better shielded cable).

4. IP connector <LAN> (RJ-45 connector)

Using LAN cables, connect to IP connection compatible CCUs, remote cameras, camera recorders, and a PC.

When directly connecting a device to the unit, connect it with a crossover cable (category 5 or better shielded cable).

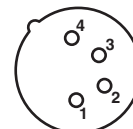
When connecting via a hub (switching hub) (100base-TX) or other device, connect it with a straight cable (category 5 or better shielded cable).

5. 12 V DC connector <12 V IN>

(Hirose Electric: HA16RA-4P (77))

A 12 V DC connector for connecting an AC adapter.

Pin number	Function
1	GND
2	NC
3	NC
4	+12V



<Note>

An external power supply is used when the unit is connected to LAN (and the CCU is not connected).

■ Use of external DC power supply

Make sure that the output voltage of the external DC power supply meets the rated voltage of the unit before making a connection.

The output current of the external DC power supply should be large enough to provide the connected unit with its total amperage needs with a reasonable margin.

Use the following formula to calculate the total amperage of the unit.
total power consumption ÷ voltage

When the power is turned on, a rush current occurs. If the power supply is insufficient during this time, the unit may be damaged.

Therefore, we recommend using an external DC power supply that provides at least twice the total power consumed by the unit. We also recommend using the proper DC cable recommended for your external DC power supply.

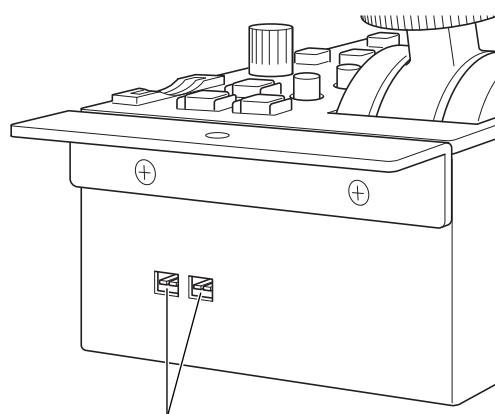
When using an external power supply other than the AC adapter, check the DC IN socket pin information to ensure correct polarity. If a +12 V power supply is accidentally connected to the GND terminal, this could cause a fire or personal injury.

Dip Switches

The dip switches (4 pins) on the side panel are for factory adjustments and should not be touched.

<Note>

At the time of shipment from the factory, all of the pins are set to the top position.



Dip Switches

System connection diagram

System connection configuration

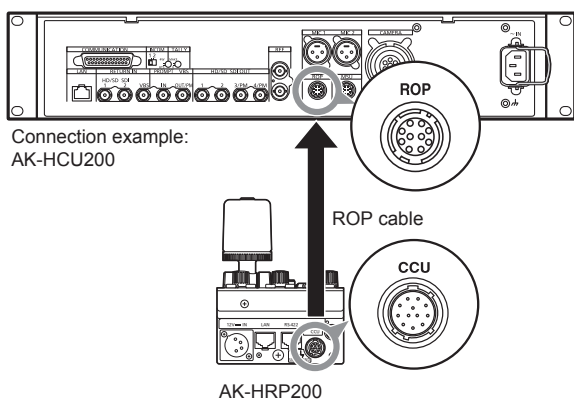
- The unit can be connected to a CCU, remote camera, or camera recorder via a serial connection or IP connection.
- Up to 19 CCUs, remote cameras or camera recorders can be controlled.
- With a serial connection, only one of either a CCU or remote camera can be connected.
It is not possible to use a CCU serial connection and a remote camera serial connection at the same time.
- A configuration with one serial connection and 18 IP connections is possible.
- The ROP setup software provided with this unit must be installed on a personal computer and configured in order to use IP connection with CCUs, remote cameras, and camera recorders. For details on ROP Setup Software, refer to Operations and Settings.
Please make sure that the version of the ROP setup software is Ver. 3.0.0.0 or higher when making IP connection to a camera recorder.

Operation mode*1	Connection configuration	Serial connection			IP connection	Use of ROP Setup Software
		CCU	Remote camera	Camera recorder		
Serial connection mode	Configuration with CCU connected with a serial connection	✓ (1 device only)	(Connection not possible)	(Connection not possible)	(Do not connect)	Not required
	Configuration with remote camera connected with a serial connection	(Connection not possible)	✓ (1 device only)	(Connection not possible)	(Do not connect)	
	Configuration with camera recorder connected with a serial connection	(Connection not possible)	(Connection not possible)	✓ (1 device only)	(Do not connect)	
IP connection mode	Configuration with IP connections only	(Do not connect)	(Do not connect)	(Do not connect)	✓ (Total of up to 19 devices)	Required
	Configuration with a combination of a CCU connected with a serial connection and CCUs and remote cameras connected with IP connections	✓ (1 device only)	(Connection not possible)	(Connection not possible)	✓ (Total of up to 18 devices)	
	Configuration with a combination of a remote camera connected with a serial connection and CCUs and remote cameras connected with IP connections	(Connection not possible)	✓ (1 device only)	(Connection not possible)	✓ (Total of up to 18 devices)	
	Configuration with camera recorder connected with a combination of a serial connection and IP connection	(Connection not possible)	(Connection not possible)	✓ (1 device only)	✓ (Total of up to 18 devices)	

*1 For details on operation modes, refer to Operations and Settings.

CCU connections

Serial (ROP cable) connection



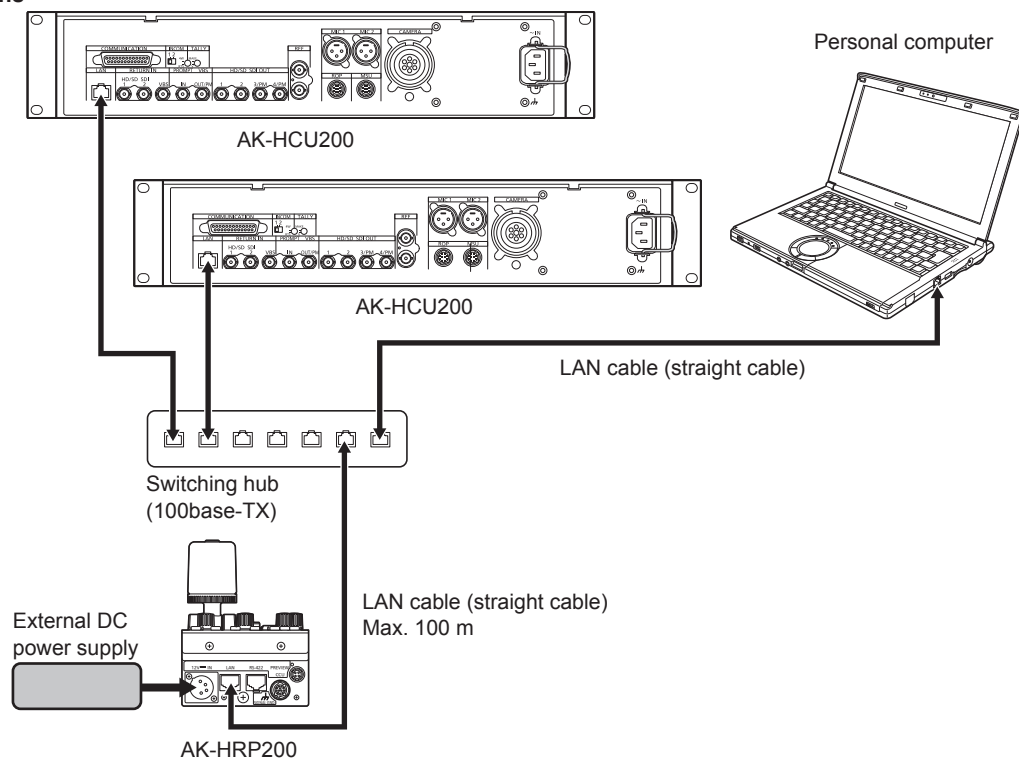
1. Connect the CCU connector on this unit to the ROP connector on the CCU rear panel using a dedicated ROP cable (sold separately).

2. After having connected all the components, turn the CCU main power on, and then turn the camera on.

<Note>

- If no camera is connected, the number of CCU functions that this unit can control is limited.
- Turn off the CCU before disconnecting the ROP cable.

■ IP connections



1. Connect the IP connector <LAN> of the unit and LAN connector on the back of the CCU with a LAN cable (option).

- When connecting via a switching hub (100base-TX), use a straight cable (category 5 or better shielded cable) for the LAN cable. When not connecting via a switching hub, use a cross cable (category 5 or better shielded cable) for the LAN cable.

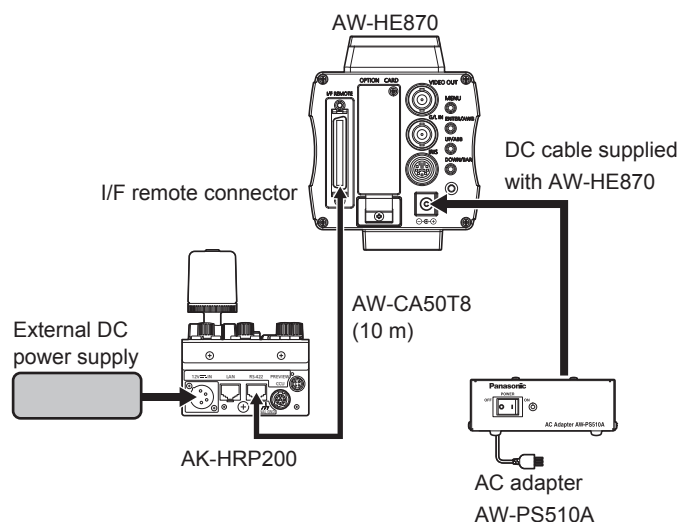
2. When you have finished connecting the equipment, turn on the main power of the CCU and then turn on the external DC power supply of the unit and the power of the camera.

<Note>

- If a camera is not connected, some of the control functions from the unit to the CCU will be limited.
- Up to 19 CCUs (AK-HCU200) can be controlled from the unit.
- To use a CCU via an IP connection, you need to configure the settings with ROP Setup Software (accessory). Before using ROP Setup Software, connect the unit to the personal computer with a LAN cable.
- For details on the settings for IP connections, refer to Operations and Settings on the supplied CD-ROM.

Connecting a remote camera

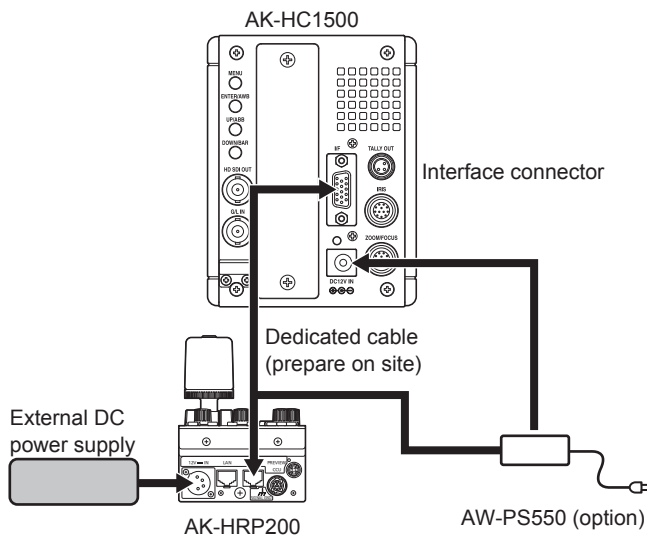
■ Serial connection (AW-HE870)



1. Connect the RS-422 connector <RS-422> of the unit and the I/F REMOTE connector of AW-HE870 with an optional AW-CA50T8 connection cable.

2. When you have finished connecting the equipment, turn on the power of the camera and the power of the unit.

Serial connection (AK-HC1500)



1. Connect the RS-422 connector <RS-422> of the unit and the interface connector of AK-HC1500 with a dedicated cable.

• For the cable specifications, refer to the following diagram.

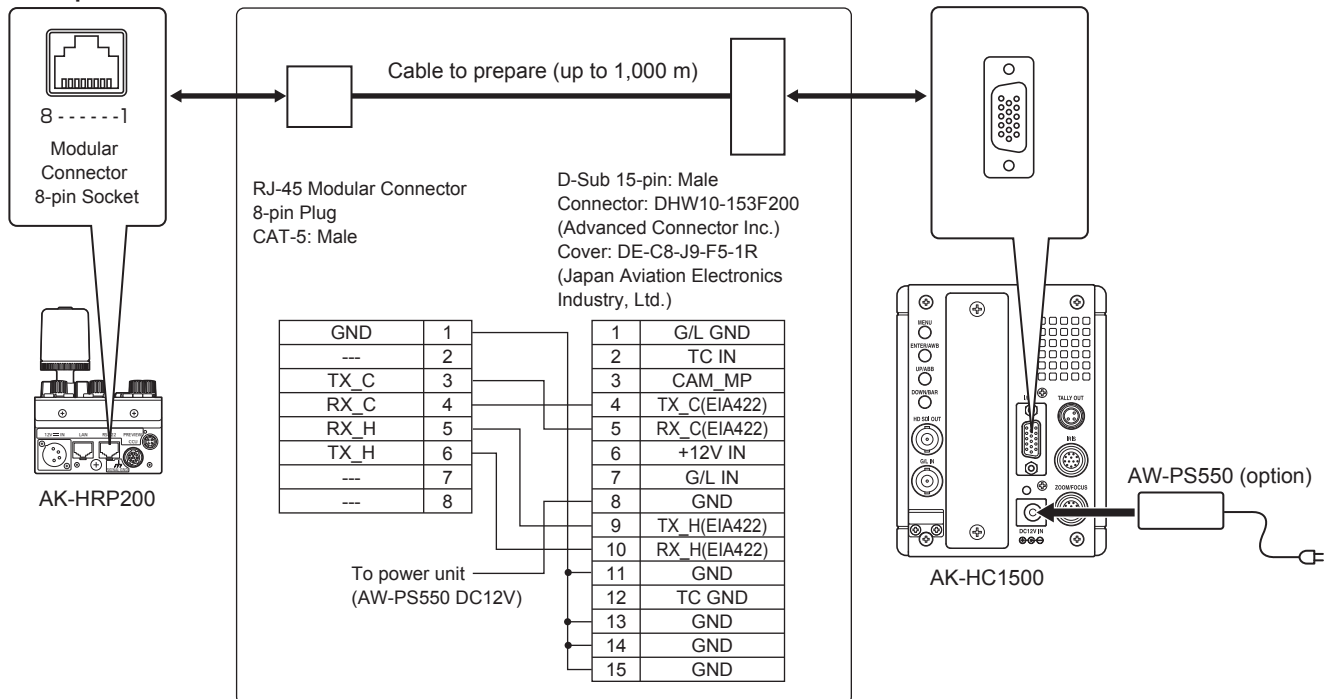
2. When you have finished connecting the equipment, turn on the power of the camera and the power of the unit.

<Note>

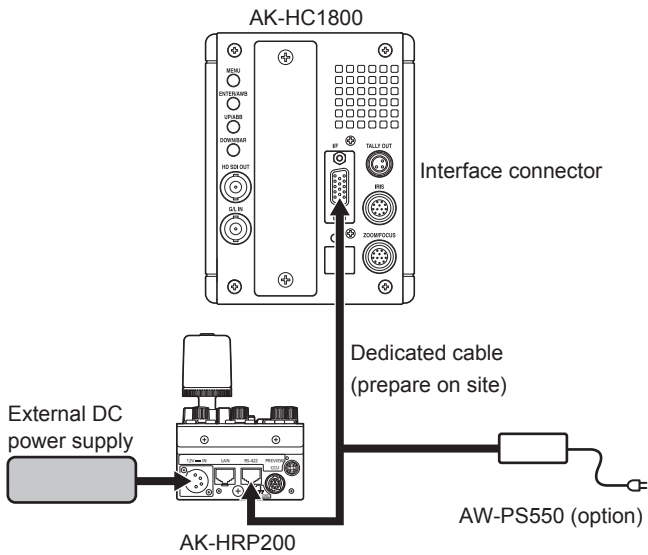
Set the communication protocol of AK-HC1500 to "PROTOCOL3" (convertible PC control protocol).

Make sure you configure the setting on the cameras individually before installation.

Cable specifications



Serial connection (AK-HC1800)

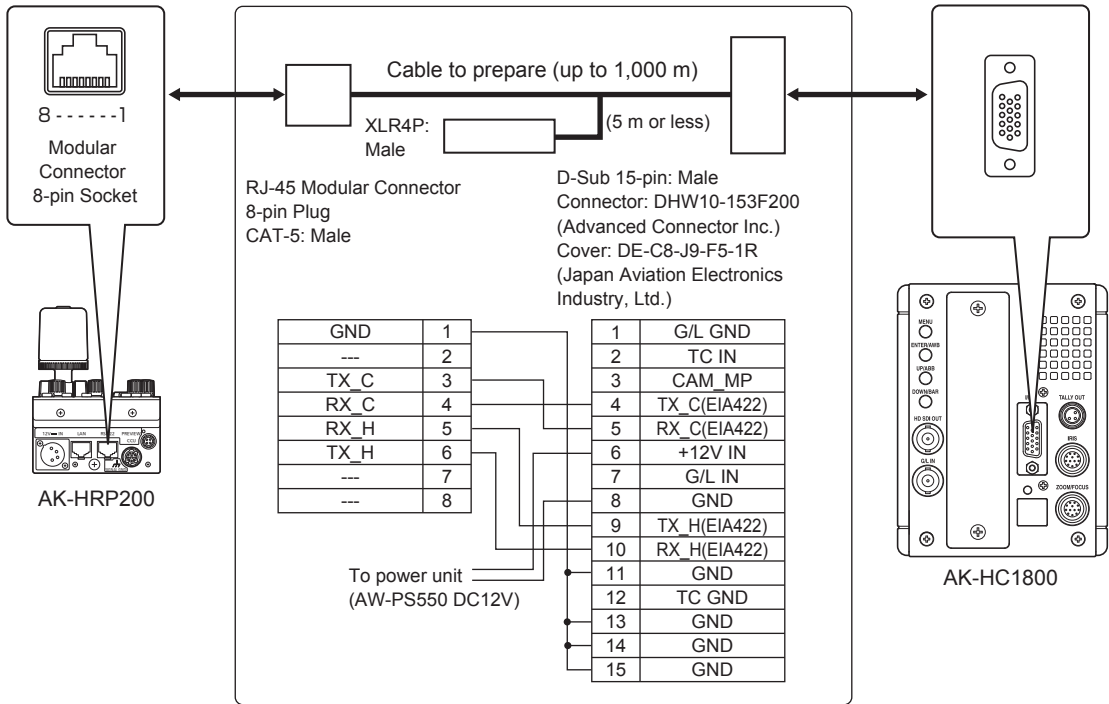


- 1. Connect the RS-422 connector <RS-422> of the unit and the interface connector of AK-HC1800 with a dedicated cable.
 - For the cable specifications, refer to the following diagram.

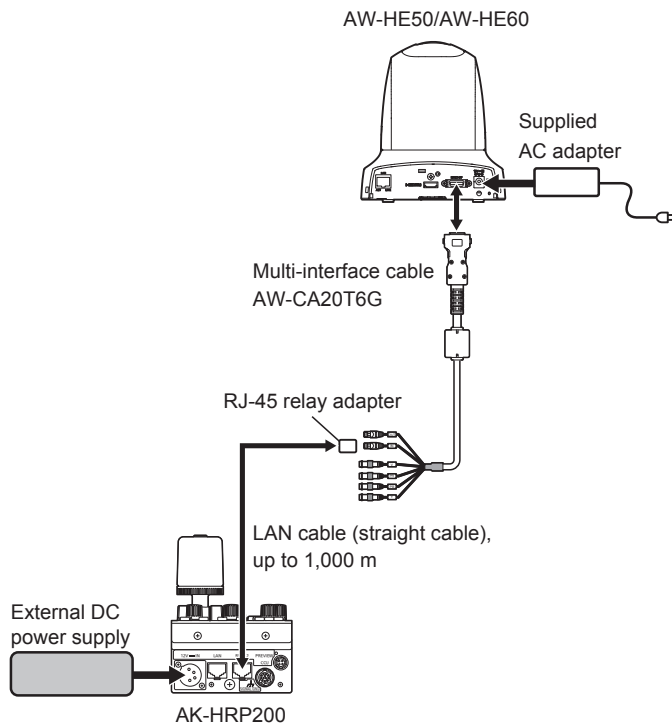
- 2. When you have finished connecting the equipment, turn on the power of the camera and the power of the unit.

<Note>
Set the communication protocol of AK-HC1800 to "PROTOCOL3" (convertible PC control protocol).
Make sure you configure the setting on the cameras individually before installation.

Cable specifications



■ Serial connection (AW-HE50/AW-HE60)



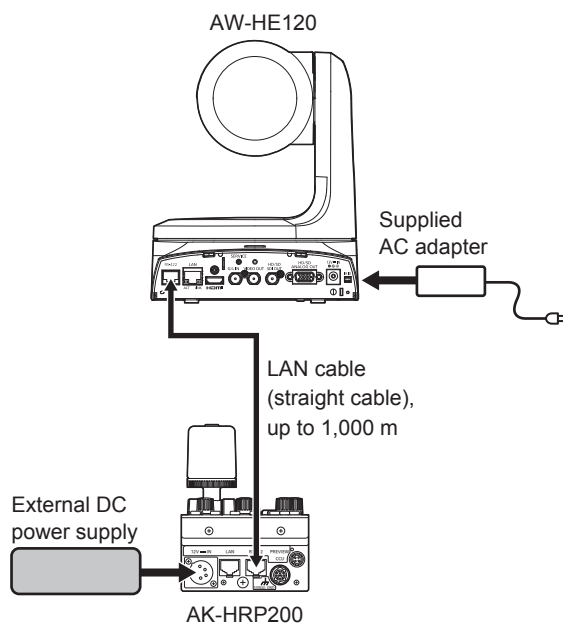
1. Connect the RS-422 connector <RS-422> of the unit and the camera (AW-HE50/ AW-HE60). Connect a LAN cable (option) via a multi interface cable (AW-CA20T6, option) connected to the MULTI-I/F connector <MULTI-I/F> of AW-HE50/ AW-HE60 and a RJ-45 relay adapter (option).

2. When you have finished connecting the equipment, turn on the power of the camera and the power of the unit.

<Note>

- The multi-interface cable (AW-CA20T6G) is required for a serial connection with a remote camera (AW-HE50/AW-HE60).
- Use a straight cable (category 5 or better shielded cable) for the LAN cable.

■ Serial connection (AW-HE120)



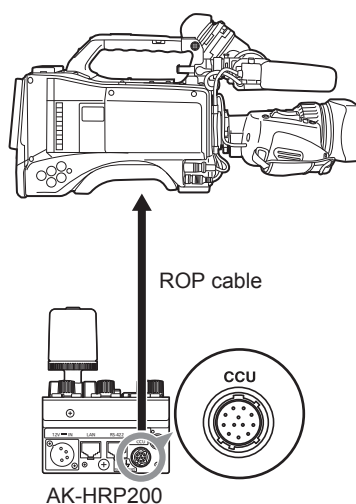
1. Connect the RS-422 connector <RS-422> of the unit and the camera (AW-HE120). Connect a LAN cable (option) to the RS-422 connector of AW-HE120.

2. When you have finished connecting the equipment, turn on the power of the camera and the power of the unit.

<Note>

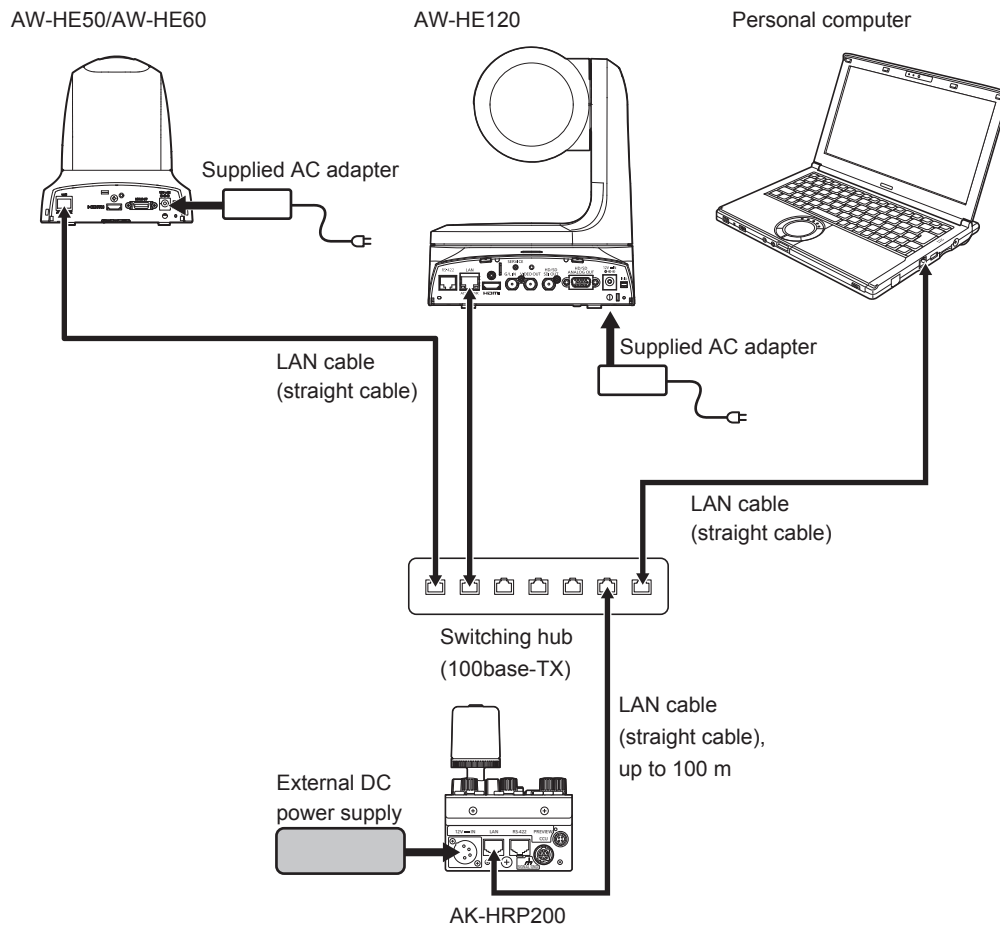
- Use a straight cable (category 5 or better shielded cable) for the LAN cable.

■ Serial connection (camera recorder)



1. Connect the CCU connector of the unit to the connector on the camera recorder using an ROP cable (option).

■ IP connection (AW-HE50/AW-HE60/AW-HE120)



1. Connect the IP connector <LAN> of the unit and LAN connector of the camera (AW-HE50/AW-HE60/AW-HE120) with a LAN cable (option).

- When connecting via a switching hub (100base-TX), use a straight cable (category 5 or better shielded cable) for the LAN cable. When not connecting via a switching hub, use a cross cable (category 5 or better shielded cable) for the LAN cable.

2. When you have finished connecting the equipment, turn on the power of the camera and turn on the external DC power supply of the unit.

<Note>

- Up to 19 cameras (AW-HE50/AW-HE60/AW-HE120) can be controlled from the unit.
- To use a remote camera via an IP connection, you need to configure the settings with ROP Setup Software (accessory). Before using ROP Setup Software, connect the unit to the personal computer with a LAN cable.
- With IP connections, the unit can coexist with a CCU. For how to connect to a CCU via an IP connection, refer to (→page 36).
- For details on the settings for IP connections, refer to Operations and Settings on the supplied CD-ROM.

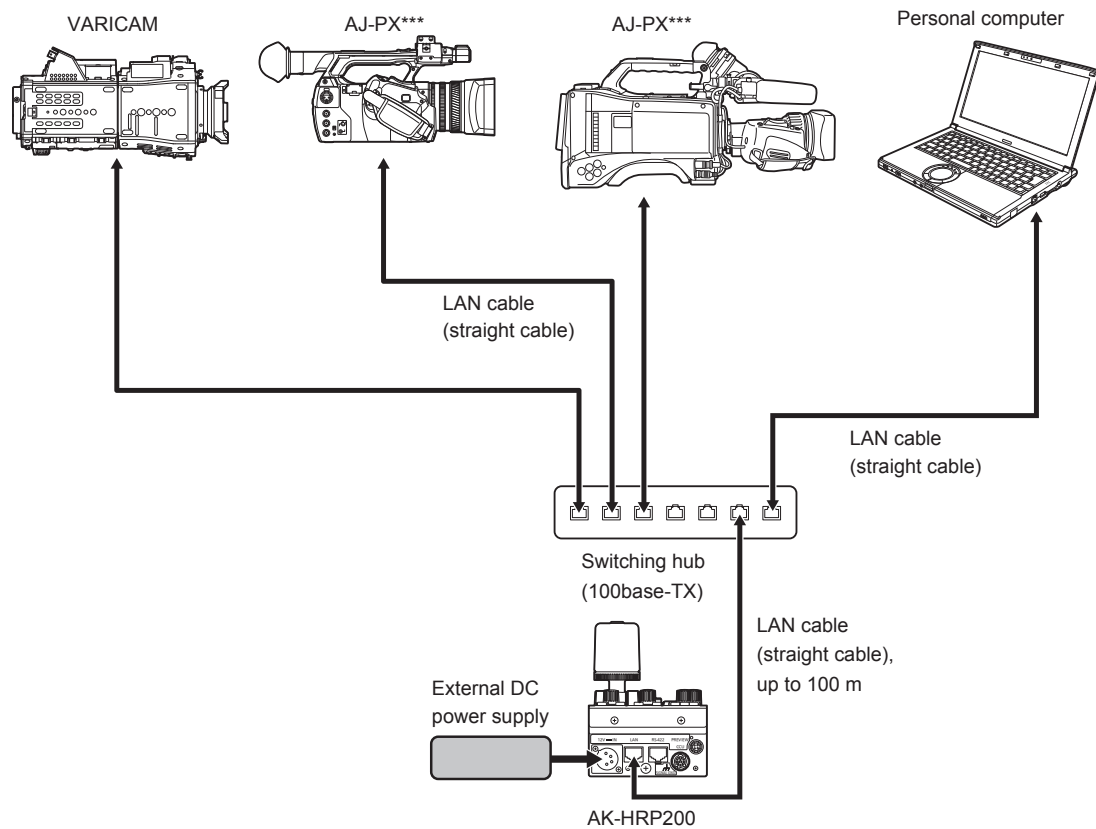
Connecting to a camera recorder

■ IP connection

<Note>

To determine whether a camera recorder can be connected using IP connection, please see the Operating Instructions for the camera recorder or visit the following Web site.

<http://pro-av.panasonic.net/>



1. Connect the IP connector <LAN> of this unit and LAN connector on the camera recorder with a LAN cable (option).

- When connecting via a switching hub (100base-TX), use a straight cable (category 5 or better shielded cable) for the LAN cable. When not connecting via a switching hub, use a cross cable (category 5 or better shielded cable) for the LAN cable.

2. When you have finished connecting the equipment, turn on the power of the camera and turn on the external DC power supply of the unit.

<Note>

- Up to 19 camera recorders and remote cameras can be controlled from this unit.
- To use a remote camera via an IP connection, you need to configure the settings with ROP Setup Software (accessory). Please make sure that the version of the ROP setup software is Ver. 3.0.0.0 or higher.*1 Before using ROP Setup Software, connect the unit to the personal computer with a LAN cable.
- With IP connections, the unit can coexist with a CCU. For how to connect to a CCU via an IP connection, refer to (→page 36).
- For details on the settings for IP connections, refer to Operations and Settings on the supplied CD-ROM. Please refer to the latest Operating Instructions at the following Web site.
<http://panasonic.biz/sav/manual/index.html>

*1 Please visit the following Web site for the latest software information.
<http://pro-av.panasonic.net/>

Power input

Power consumption: 4.2 W

11

- Control signals (camera, CCU control)

- Power supply (12 V DC)*1

*1 Can be provided from CCU or AC adapter

Maximum cable length : 50 m (164 ft)

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

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

Humidity : 90 % or less

Dimensions (W x H x D) : 92 mm x 308 mm x 55 mm (3-5/8 inches x 12-1/8 inches x 2-3/16 inches) (excluding protrusions)

Mass : approx. 1.3 kg (approx. 2.87lb)

12 DC V connector	34
5600 K button	12, 20, 27

Accessories	7
Alarm display	18, 25, 32
Auto Black Balance button	11, 20, 27
Auto iris button	19, 26, 33
Auto setup	12
Auto Setup button	12, 20, 27
Auto White Balance button	11, 20, 27

B flare/pedestal control	14, 21, 28
B gain control	14, 21, 28

Call button	18, 25, 32
Camera number display	16, 24, 31
Camera number tens' place digit display	16, 24, 31
Camera power button	11, 20, 27
Camera select button	16, 24, 31
CC filter	15
CC filter display	15, 23, 30
CCU connector	34
Character/Menu button	18, 25, 32
Coarse control	19, 26, 33
Color Bar Signal Output button	11, 20, 27
Connection	35
Control lock	14, 21, 28
Control lock button	14, 21, 28

DATA SET button	15, 22, 29
Detail OFF button	12, 20, 27
Digital extender indicator	19, 26, 33
Dip Switch	34
DTL control	14, 21, 28

EXECUTE button	16, 24, 31
EXIT button	16, 23, 30

Fader full button 19. 26. 33

IP connection mode	10
IP connector	34
Iris close button	19, 26, 33
IRIS display	15, 22, 29
Iris lever	19, 25, 32
Iris/master pedestal lock button	18, 25, 32

Knee OFF button 12, 20, 27

Lens extender indicator 19, 26, 33

Master pedestal control	19, 25, 32
Matrix button	12, 20, 27
Memory card access indicator	19, 26, 33
Memory card slot	19, 26, 33
M.GAIN display	16, 23, 30
M.GAIN/M.PED	16, 23, 30
M.GAIN/M.PED DISPLAY SELECT button	16, 23, 30
M.PED display	16, 23, 30

ND filter	15
ND filter/CC filter DISPLAY SELECT button	15, 23, 30
ND filter display	15, 23, 30

Operation modes	10
Optical alarm display	18, 25, 32
Outside dimension drawing	9

Preview button	19, 25, 32
Preview connector	34

Rack mount brackets	8
Rack mounting	8
Red/green tally display	18, 25, 32
R flare/pedestal control	14, 21, 28
R gain control	14, 21, 28
RS-422 connector	34

SAVE/LOAD button	15, 23, 30
Scene file	
Opening	13
Storing	13
SCENE/USER FILE select buttons	13, 21, 28
Scene/User File selector button	13, 21, 28
Scene/user file store button	13, 21, 28
Select dial	18, 25, 32
Sense control	19, 26, 33
Serial connection mode	10
Setting display	15, 22, 29
SHUTTER	16, 24, 31
SHUTTER display	16, 24, 31
SHUTTER DISPLAY SELECT button	16, 24, 31
Shutter On/Off button	12, 20, 27
Skin Detail button	12, 20, 27
Specifications	42
STEP/SYNC select button	12, 20, 27
SYNCHRO display	16, 24, 31

User file	
Opening	13
Storing	13

Viewfinder power button 11, 20, 27

A series of horizontal dotted lines for writing.



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.

Panasonic Corporation

Web Site: <http://www.panasonic.com>

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