



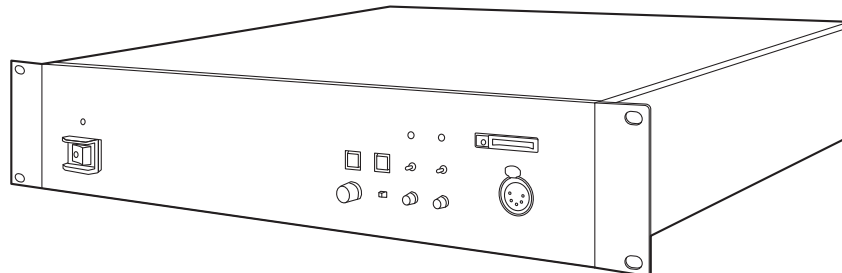
# Operating Instructions

## <Basics>

### Camera Control Unit

Model No. **AK-HCU200P**  
Model No. **AK-HCU200PS**  
Model No. **AK-HCU200E**  
Model No. **AK-HCU200ES**

- Die Bedienungsanleitung in Deutsch ist als PDF-Datei in der CD-ROM enthalten.
- Le mode d'emploi en français est fourni sous forme de fichier PDF sur le CD-ROM.
- Le istruzioni per l'uso in italiano sono contenute in un file PDF sul CD-ROM.
- Las instrucciones de funcionamiento en español se encuentran en un archivo PDF del CD-ROM.



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

- **How the Operating Instructions are configured**

- <Basics> (this manual):

- This <Basics> describes the procedure for connection with the required equipment and for installation. Before installing this unit, be sure to take the time to read through <Basics> to ensure that the unit will be installed correctly.

- This manual <Basics> is also contained as a PDF file on the CD-ROM supplied with the unit.

- <Operations and Settings>:

- The <Operations and Settings> describes how to operate the unit and how to establish its settings.

- The <Operations and Settings> is contained as a PDF file on the CD-ROM supplied with the unit.

- **Adobe® Reader® is required to read PDF files.**

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

## 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. Aprendo [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.

## Read this first! (For AK-HCU200P, AK-HCU200PS)



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



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



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



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

### WARNING:

This equipment must be grounded.

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power outlet which is effectively grounded through normal household wiring.

Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the ground. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power outlet is grounded or that the installation is completely safe. For your safety, if you are in any doubt about the effective grounding of the power outlet, please consult a qualified electrician.

### WARNING:

- To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or electric shock, 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 or accessories out of the reach of babies and small children.

### CAUTION:

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

### CAUTION:

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

### CAUTION:

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible. To completely disconnect this equipment from the AC mains, disconnect the power cord plug from the AC receptacle.

### CAUTION:

This apparatus can be operated at a voltage in the range of 100 – 240 V AC.

Voltages other than 120 V are not intended for U.S.A. and Canada.

Operation at a voltage other than 120 V AC may require the use of a different AC plug. Please contact either a local or foreign Panasonic authorized service center for assistance in selecting an alternate AC plug.

### CAUTION:

Invisible Laser radiation is emitted from the Optical fiber connector when this product is turned on.

Don't look into directly into the Optical fiber connector of this product.

### CAUTION:

This product uses a semiconductor laser system and is a laser class 1 product complies with Radiation Performance Standards, 21CFR SUBCHAPTER J. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.


Don't make any modifications.

Don't repair by yourself.

Refer servicing to qualified personnel.

### CAUTION:

- Keep the temperature inside the rack to between 0 °C to 40 °C (32 °F to 104 °F).
- Bolt the rack securely to the floor so that it will not topple over when the unit is drawn out.

 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.

#### FCC Note:


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.

#### Warning:

To assure continued FCC emission limit compliance, the user must use only shielded interface cables when connecting to external units. If DVI-D port is to be used it must be connected to PC by compatible interface cable with two ferrite cores. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate it.

### NOTIFICATION (Canada)

**This class A digital apparatus complies with Canadian ICES-003.**

 indicates safety information.

## IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord 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.



## Read this first! (For AK-HCU200E, AK-HCU200ES)

### **WARNING:**

This equipment must be earthed.

To ensure safe operation, the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must have three cores and be correctly wired to provide connection to the earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed or that the installation is completely safe. For your safety, if you are in any doubt about the effective earthing of the power point, please consult a qualified electrician.

### **WARNING:**

- To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or electric shock, 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 or accessories 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.

### **CAUTION:**

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

### **CAUTION:**

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible. To completely disconnect this equipment from the AC mains, disconnect the power cord plug from the AC receptacle.

### **CAUTION:**

Invisible Laser radiation is emitted from the Optical fiber connector when this product is turned on.  
Don't look into directly into the Optical fiber connector of this product.

### **CAUTION:**

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Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.  
Don't make any modifications.  
Don't repair by yourself.  
Refer servicing to qualified personnel.

### **CAUTION:**

- Keep the temperature inside the rack to between 0 °C to 40 °C.
- Bolt the rack securely to the floor so that it will not topple over when the unit is drawn out.

 indicates safety information.

**EEE Yönetmeliğine Uygundur.**  
**EEE Complies with Directive of Turkey.**

## EMC NOTICE FOR THE PURCHASER/USER OF THE APPARATUS

### 1. Applicable standards and operating environment

The apparatus is compliant with:

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

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

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

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

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

- Video signal connecting cables  
Use double shielded coaxial cables, which are designed for 75-ohm type high-frequency applications, for SDI (Serial Digital Interface).  
Coaxial cables, which are designed for 75-ohm type high-frequency applications, are recommended for analog video signals.
- Audio signal connecting cables  
If your apparatus supports AES/EBU serial digital audio signals, use cables designed for AES/EBU.  
Use shielded cables, which provide quality performance for high-frequency transmission applications, for analog audio signals.
- Other connecting cables (IEEE1394, USB)  
Use double 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.



## Caution for AC Mains Lead

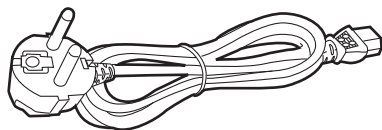
**FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.**

**This product is equipped with 2 types of AC mains cable. One is for continental Europe, etc. and the other one is only for U.K.**

Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

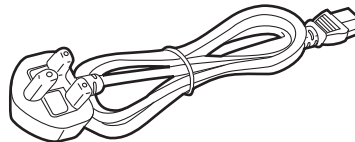
### FOR CONTINENTAL EUROPE, ETC.

Not to be used in the U.K.



### FOR U.K. ONLY

If the plug supplied is not suitable for your socket outlet, it should be cut off and appropriate one fitted.



### FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 13 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

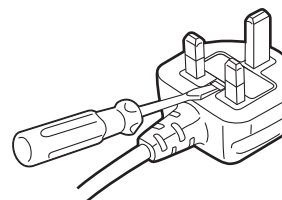
If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

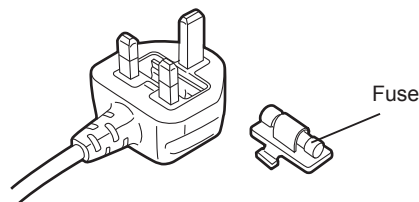
A replacement fuse cover can be purchased from your local Panasonic Dealer.


### How to replace the fuse

1. Open the fuse compartment with a screwdriver.



2. Replace the fuse.



 indicates safety information.

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 (Cr<sup>6+</sup>) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон;
5. полібромбіфеноли (PBB) – не перевищує 0,1% ваги речовини або в концентрації до 1000 частин на мільйон;
6. полібромдефенілові ефіри (PBDE) – не перевищує 0,1 % ваги речовини або в концентрації до 1000 частин на мільйон.

Importer's name and address of pursuant to EU rules:

**Panasonic Testing Centre**  
**Panasonic Marketing Europe GmbH**  
Winsbergring 15, 22525 Hamburg, Germany



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## Copyrights

It is prohibited to transfer, copy, disassemble, decompile, and reverse engineer the software included with the unit, as well as export it in violation of the export laws.

## Illustrations and screen images in this manual

- Illustrations of the unit and screens may appear different from the actual unit and screens.
- The screenshots are used in accordance with the guidelines of Microsoft Corporation.

## Abbreviations

The following abbreviations are used in this manual.

- Microsoft® Windows® 7 Professional SP1 32/64-bit is referred to as "Windows 7".
- Microsoft® Windows® XP Professional SP3 and Microsoft® Windows® XP Home Edition SP3 are referred to as "Windows XP".
- Windows® Internet Explorer® 8 is referred to as "Internet Explorer".
- SD memory cards and SDHC memory cards are both referred to as "memory cards".  
They are referred to individually in descriptions in which each of them is discussed separately.
- Personal computers are referred to as "computers".
- Studio handy camera is referred to as "camera".
- Remote operation panel is referred to as "ROP".

Furthermore, the product numbers of equipment are referred to as follows.

Equipment part number	Notation in this manual
AK-HC3800G	AK-HC3800
AK-HC3800GS	
AK-HRP200G	AK-HRP200
AK-HCU200P	AK-HCU200
AK-HCU200PS	
AK-HCU200E	
AK-HCU200ES	



# Introduction

## ■ Overview

This camera control unit (CCU) is designed to be used with the AK-HC3800 studio handy camera (sold separately). Connect it to the studio handy camera (hereinafter referred to as the camera) with an optical fiber multi cable (sold separately). When the unit's power is turned on, power is supplied to the camera. (This setting can be changed.) You can use the unit to input and output the video signals of various formats. The unit supports HD/SD-SDI outputs, SD analog composite outputs, HD/SD-SDI return inputs, VBS return inputs, and prompter inputs. Intercom calls with the camera and microphone audio output are possible. The unit also comes with tally and other system interface inputs. Connecting the AK-HRP200 ROP (sold separately) with a multi cable (sold separately) allows you to use the ROP to control the adjustment and setting of the camera and this unit.

## ■ Computer requirements

Use a host computer that satisfies the following conditions.

<b>CPU</b>	Intel® Core™2 DUO 2.4 GHz or faster, or a CPU with equivalent specs.
<b>Supported operating systems</b>	Microsoft® Windows® 7 Professional SP1 32-bit Microsoft® Windows® 7 Professional SP1 64-bit ● Use is not possible in Windows® XP compatibility mode.
<b>Memory</b>	32-bit: 1 GB or more 64-bit: 2 GB or more
<b>Web browser</b>	Microsoft® Internet Explorer® 8 ● Use is not possible with the 64-bit version of Internet Explorer® 8.

### Important

**If you use a computer that does not satisfy the requirements, problems may occur, such as screens being slow to render and the Web browser becoming inoperable.**

## ■ Disclaimer of warranty

IN NO EVENT SHALL Panasonic Corporation BE LIABLE TO ANY PARTY OR ANY PERSON, EXCEPT FOR REPLACEMENT OR REASONABLE MAINTENANCE OF THE PRODUCT, FOR THE CASES, INCLUDING BUT NOT LIMITED TO BELOW:

- ① ANY DAMAGE AND LOSS, INCLUDING WITHOUT LIMITATION, DIRECT OR INDIRECT, SPECIAL, CONSEQUENTIAL OR EXEMPLARY, ARISING OUT OF OR RELATING TO THE PRODUCT;
- ② PERSONAL INJURY OR ANY DAMAGE CAUSED BY INAPPROPRIATE USE OR NEGLIGENT OPERATION OF THE USER;
- ③ UNAUTHORIZED DISASSEMBLE, REPAIR OR MODIFICATION OF THE PRODUCT BY THE USER;
- ④ INCONVENIENCE OR ANY LOSS ARISING WHEN IMAGES ARE NOT DISPLAYED, DUE TO ANY REASON OR CAUSE INCLUDING ANY FAILURE OR PROBLEM OF THE PRODUCT;
- ⑤ ANY PROBLEM, CONSEQUENTIAL INCONVENIENCE, OR LOSS OR DAMAGE, ARISING OUT OF THE SYSTEM COMBINED BY THE DEVICES OF THIRD PARTY;
- ⑥ ANY INCONVENIENCE, DAMAGES OR LOSSES RESULTING FROM ACCIDENTS CAUSED BY AN INADEQUATE INSTALLATION METHOD OR ANY FACTORS OTHER THAN A DEFECT IN THE PRODUCT ITSELF;
- ⑦ LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE;
- ⑧ ANY DAMAGE OR CLAIMS DUE TO LOSS OR LEAKAGE OF IMAGE DATA OR SETTING DATA SAVED ON THIS UNIT OR ON A MEMORY CARD OR COMPUTER.

## ■ Network security

This unit also has functions which are used when it is connected to a network.

Using the unit when it is connected to a network may possibly give rise to the following.

- 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.

- If this unit is used in a system with a computer connected, make sure that checks for and removal of computer viruses and malicious programs are implemented regularly.
- When connecting this unit and a computer, use a crossover cable to connect them on a one-to-one basis connection.

Also observe the following points.

- Do not install the unit in a location where the unit, cables, and other parts may be easily damaged.

## ■ Memory cards

Memory cards used with the unit should conform to SD or SDHC standards.

Be sure to use the unit to format memory cards.

Memory cards with the following capacity can be used with the unit.

<b>SD</b>	8 MB to 2 GB
<b>SDHC</b>	4 GB to 32 GB

SDXC memory cards are not supported.

For the latest information not described in the Operating Instructions, refer to the following website.

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

### Observe the following points when using and storing this unit.

- Avoid high temperature and humidity.
- Avoid water droplets.
- Avoid static electricity.

## ■ Upgrade software

You can obtain upgrade software from Service and Support on the following website.

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

For the upgrade procedure, refer to the instructions included with the download file.

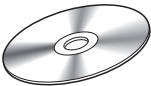
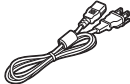
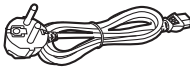

## Features

- **HD and SD format simultaneous operation possible**  
As a standard feature, the unit incorporates not only HD video signal outputs but SD video signal outputs (SDI and analog composite).
- **BAR ID display**  
Characters can be displayed on the color bar signals so as to identify the output source of the images, and then output.
- **Prompter**  
As a standard feature, the unit incorporates prompter input (analog composite)
- **Support for memory cards**  
The upgrade software and unit's setting data can be saved to a memory card.

## Accessories

Check the accessories.

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

CD-ROM ..... 1	Power cable for AK-HCU200P / AK-HCU200PS ..... 1
	
<ul style="list-style-type: none"><li>● Operating Instructions &lt;Basics&gt;</li><li>● Operating Instructions &lt;Operations and Settings&gt;</li></ul>	for AK-HCU200E / AK-HCU200ES ..... 2
	 

## Precautions for use

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

### Handle carefully

Do not drop the product or subject it to a strong impact.  
Doing so may cause a failure or accident.

### Avoid using the unit outdoors

### Use the product in an ambient temperature of 0 °C to 40 °C (32 °F to 104 °F)

Avoid using the product in a cold place where the temperature drops below 0 °C (32 °F) or in a hot place where the temperature rises above 40 °C (104 °F) because an extremely low or high temperature will adversely affect the internal parts.

### Turn off the power before connecting or disconnecting cables

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

### Avoid humidity and dust

Avoid using the product in a very humid or dusty place because a lot of humidity and dust will cause damage to the internal parts.

### Cleaning

Turn the power off and wipe the product with a dry cloth.  
To remove stubborn dirt, dip a cloth into a diluted solution of kitchen detergent (neutral detergent), wring it out well, and wipe the product gently. Then, wipe the product with a cloth dampened with water. Finally, wipe the product with a dry cloth.

#### Note

- Avoid using benzine, paint thinners and other volatile fluids.
- If a chemical cleaning cloth is to be used, carefully read through the precautions for its use.

### Optical fiber multi cable

When the optical fiber connectors of the optical fiber multi cable (sold separately) become dirty, the optical signal transmission state will deteriorate.

Use commercially available optical connector cleaner to clean the optical end faces in accordance with the instructions.

### Disposal of the unit

When the unit has reached the end of its service life and is to be disposed of, ask a qualified contractor to dispose of the unit properly in order to protect the environment.

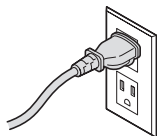
## Precautions for Installation

In addition to the safety precautions given in “Read this first!”, also observe the following instructions.

Be sure to ask your dealer to perform the installation and connection work for the unit.

### Connecting a power supply

- Be sure to use the power cable supplied with the unit.
- The power cable supplied with the unit has a 3-prong plug with a ground terminal. Connect it to a 3-prong outlet with a ground contact.
- Connect the ground terminal (SIGNAL GND) on the rear of the unit to the system ground.
- When the unit will not be used for a long time, turn off the power switch and remove the power plug from the outlet to save power.



### Handle carefully

- Dropping the unit or subjecting it to a strong impact or vibration may cause a failure or accident.

### Do not allow any foreign objects to enter inside the unit

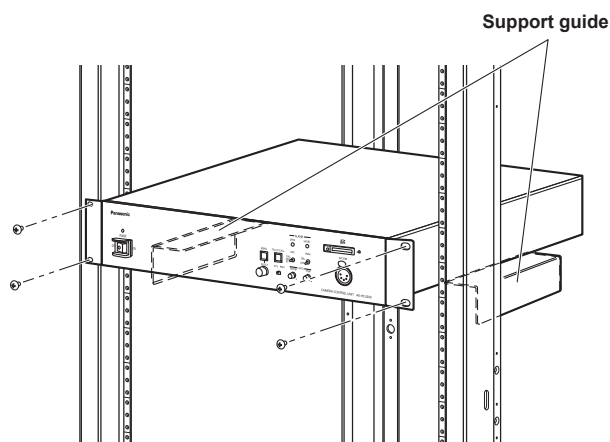
- Allowing water, metal items, food or drink, or other foreign objects to enter inside the unit may cause a fire or electric shock.

### Installation location

- This unit is designed for indoor use only.
- Do not install the unit in a cold place where the temperature drops below 0 °C (32 °F) or in a hot place where the temperature rises above 40 °C (104 °F).
- Avoid installing the unit where it will be exposed to direct sunlight or near an outlet from which hot air is blown out.
- Installing the unit in a location with a lot of humidity, dust, or vibration may result in a failure.

### Mounting the unit in a rack

- Use the unit securely mounted in a standard 19-type rack (depth: 600 mm or more) compliant with EIA standards or equivalent.
- Securely fix the unit in place using screws that are appropriate for the rack.
- Be sure to attach a support guide for supporting the rear of the unit. (Provide a support guide that is appropriate for the rack.)

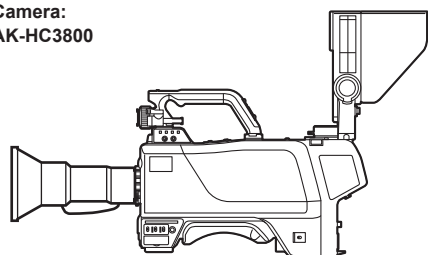


Installation in a rack

# Connections

## System configuration

Camera:  
AK-HC3800



Optical fiber multi cable  
(sold separately)

Camera control unit (CCU):  
AK-HCU200



ROP cable  
(sold separately)

ROP:  
AK-HRP200



## Equipment connections

- Before proceeding with the connections, check that the power of the unit and camera is OFF.
- Use the optical fiber multi cable to connect the unit and camera.

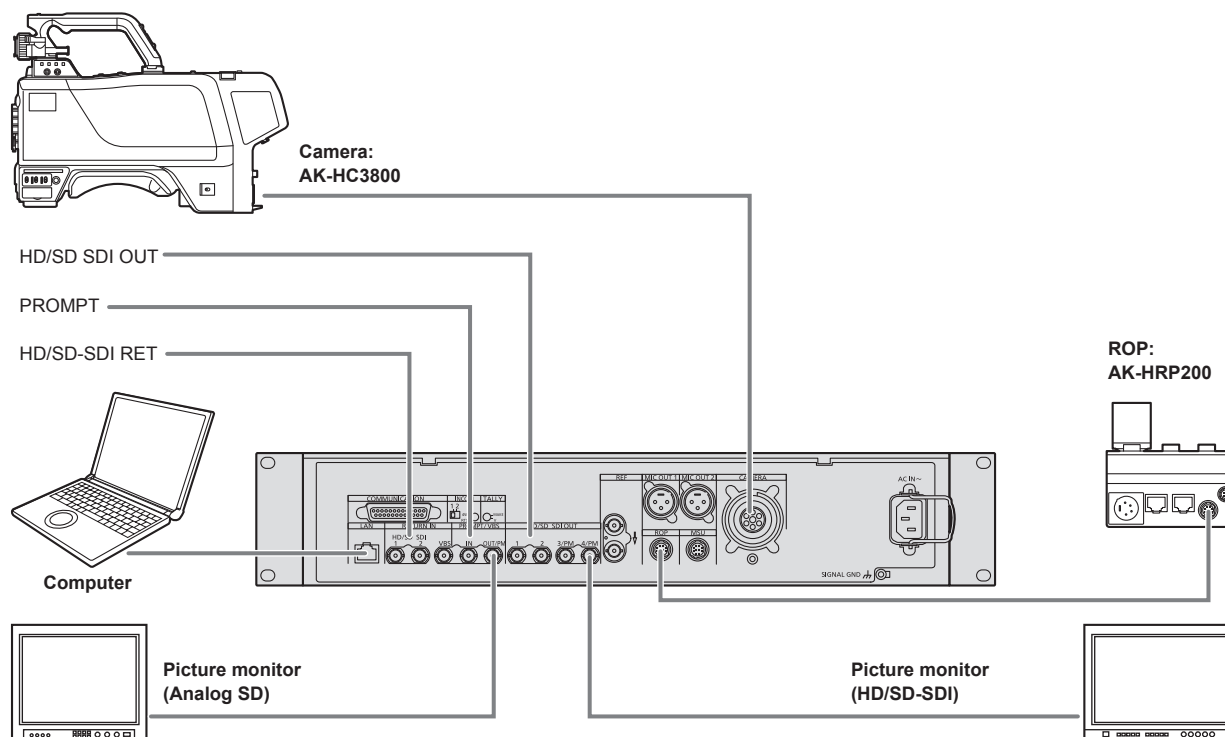
**Connect only the AK-HC3800 camera: Do not connect any other model.**

- Use a dedicated cable to connect the unit to the ROP.
- When the unit's power switch is set to ON and then the camera's power is set to ON, the camera can be controlled using the ROP.
- The camera statuses are shown on the picture monitor.
  - Refer to "Picture monitor (PM) displays" of <Operations and Settings>.

When you configure the unit's settings by menu operations, the menu screens are displayed on the picture monitor.

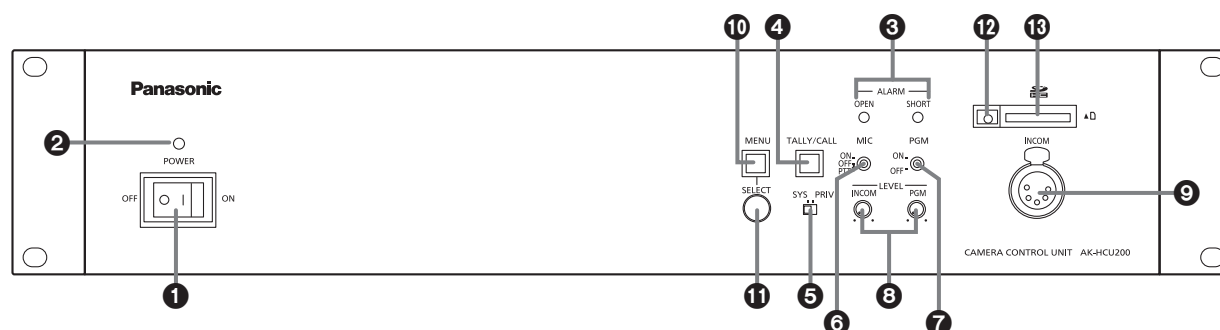
Refer to "Menu operations" of <Operations and Settings>.

- When you configure the unit's settings by Web settings from a computer, use a crossover cable (10Base-T or 100Base-TX) to connect the computer directly to the unit.
  - Refer to "Web settings" of <Operations and Settings>.
- Before disconnecting the cables from the camera and ROP, turn off the camera's power and then turn off the unit's power.



## Parts and their functions

### Front panel



#### ❶ POWER switch

This is the unit's power switch.  
Move it to the ON position to turn on the power.

#### ❷ POWER lamp

This lights when power switch ❶ is set to ON and power is supplied to the unit.

#### ❸ ALARM lamp

##### [OPEN]

This lights when the unit and camera are not connected by the optical fiber multi cable.

##### [SHORT]

This lights when the cable connecting the unit and camera has been short-circuited.

#### ❹ TALLY/CALL button

This functions both as the CALL button, which is pressed when calling the camera side, and the tally lamp.  
The lamp remains lit while tally signals (R) are input.  
When the CALL button is pressed on the camera, ROP or CCU, it is lit while no tally signals are input, and off while tally signals are input.

#### ❺ SYS PRIV switch

This switch is for selecting the party to call using the intercom.

**SYS** : For calling the intercom on the system side and camera side.

**PRIV** : For making private calls between the unit and camera side.

#### ❻ MIC switch

**ON** : The intercom microphone is turned on.

**OFF** : The intercom microphone is turned off.

**PTT** : The intercom microphone is on only while the switch is held down.

#### ❼ PGM switch

**ON** : The sound of PGM is mixed with the intercom sound.

**OFF** : The sound of PGM is not mixed with the intercom sound.

#### ❽ LEVEL controls

##### [INCOM]

These controls are for adjusting the volume level of the sound heard through the intercom.

##### [PGM]

This is for adjusting the volume level of the PGM sound to be mixed with the intercom sound.

#### ❾ INCOM connector

This connector enables calls with the intercom line of the camera.  
Calls cannot be made with the camera when the camera's power is OFF.

#### ❿ MENU button

When you hold down this button, the menu screen is displayed on the picture monitor and the MENU button lights.

Holding down this button while a menu is displayed ends menu display and turns off the MENU button.

- When the REMOTE OPERATION menu is displayed by ROP operation, the menu display of this unit ends and also the MENU button turns off.

☞ Refer to "Menu operations" of <Operations and Settings> (page 9).

#### ⓫ SELECT dial

This jog dial is for menu screen operations.

When the SELECT dial is turned clockwise, the cursor moves down; conversely, when it is turned counterclockwise, the cursor moves up.  
Press the SELECT dial to select the menu items.

#### ⓬ Memory card access lamp

This is lit while the memory card is being accessed.

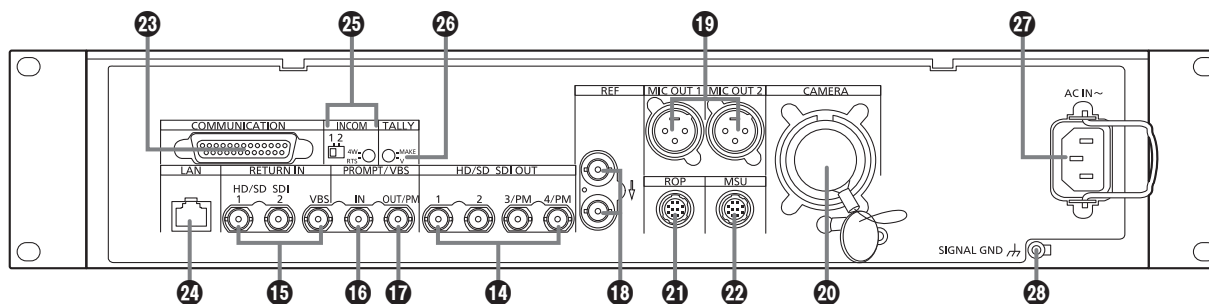
#### ⓭ Memory card slot

Insert a memory card (sold separately).

A memory card can be used to set this unit and upgrade the software.

☞ Refer to "SD CARD Screen" of <Operations and Settings> (page 25).

## Rear panel



### 14 HD/SD SDI OUT connectors

#### [1], [2], [3/PM], and [4/PM]

These connectors (BNC) are for outputting SDI signals in HDTV and SDTV formats.

The HD/SD output mode can be selected by setting a menu item.

The output mode can be switched between the [1] and [2]

combination and between the [3/PM] and [4/PM] combination.

SDI output from [3/PM] and [4/PM] can be switched to main line image output or picture monitor output by setting a menu item or by ROP control.

☞ Refer to "SETTING1 Screen" of <Operations and Settings> (pages 11 and 27).

### 15 RETURN IN connectors

#### [HD/SD SDI 1] and [HD/SD SDI 2]

These connectors (BNC) are for inputting SDI signals for return images in HDTV and SDTV formats.

The HD/SD input mode can be selected by setting a menu item.

☞ Refer to "SETTING1 Screen" of <Operations and Settings> (pages 11 and 27).

#### [VBS]

This connector (BNC) is for inputting analog composite signals for return images in SDTV format.

### 16 PROMPT connector [IN]

This connector (BNC) is for inputting SD analog composite signals for the prompter.

### 17 VBS connector [OUT/PM]

This connector (BNC) is for outputting analog composite signals in SDTV format.

Output can be switched to main line image output or picture monitor output by setting a menu item.

☞ Refer to "SETTING1 Screen" of <Operations and Settings> (pages 11 and 27).

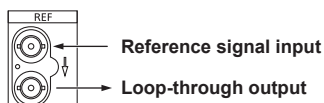
### 18 REF connectors

These connectors (BNC) are for inputting reference signals.

Black burst (BB) signals and tri-level sync signals can be input, and the type of signals input is recognized automatically.

When no cable is connected to the loop-through output connector, the connector is automatically terminated at 75 Ω. Connecting a cable to this connector releases 75 Ω termination.

When a cable is connected to the loop-through output connector, be sure to connect the other end of the cable to a connector.



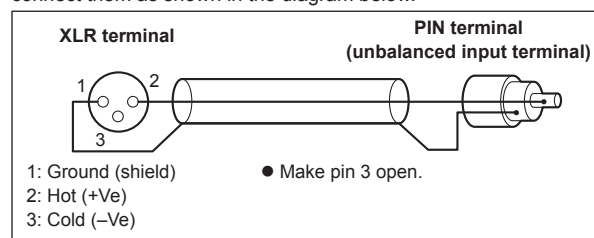
### 19 MIC OUT 1 connector and MIC OUT 2 connector

These connectors are for outputting the analog signals of microphones 1 and 2 of the camera.

The microphone level is 0 dBm/600 Ω.

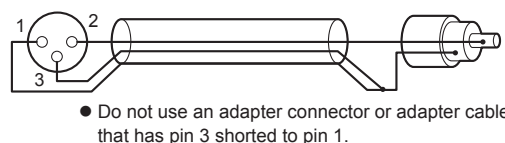
#### <Notes>

- When connecting the MIC OUT 1 and MIC OUT 2 connectors (XLR terminals) to the unbalanced input terminals of an external device, connect them as shown in the diagram below.



- Some commercially available adapter connectors and adapter cables have pin 3 shorted to pin 1. Using such an adapter connector or adapter cable will cause a failure.

#### DO NOT USE



### 20 CAMERA connector

This connector is for connecting the optical fiber multi cable (sold separately).

### 21 ROP connector

This connector is for connecting a ROP (sold separately).

### 22 MSU connector

This connector is for connecting an MSU (sold separately).

This connector is for future function expansion.

It is not currently supported.

### 23 COMMUNICATION connector

This connector is for connecting the intercom signals and tally signals to the external system.

### 24 LAN connector

This LAN connector (RJ45) is for connecting a computer when configuring the Web settings.

Use a 10Base-T or 100Base-TX crossover cable to connect the computer.

## Parts and their functions (Continued)

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### 25 INCOM switches

#### [1/ 2]

This switch allows you to switch the intercom to be input to the COMMUNICATION connector 23 between 1 and 2 to enable calls with the selected camera.

Initial value: [1]

#### [4W/RTS]

This switch allows you to switch the system of the intercom signal to be input to the COMMUNICATION connector 23 between 4-wire (4W) and RTS.

Initial value: [4W]

- When using the unit and camera combined on a one-to-one basis instead of using the intercom equipment on the system side, set this switch to the 4W position.
- If you set this switch to the RTS position, be sure to connect an RTS system.
- When using the unit with an RTS system, terminate pins 1 and 3 of the COMMUNICATION connector 23 using a terminating resistor (200 Ω). (In the case of intercom signal 2, terminate pins 14 and 16.)

☞ Refer to “Connector pin assignment table” of <Operations and Settings> (page 38).

### 26 TALLY switch

#### [MAKE/V]

This switches the interface for the tally signal to be input to the COMMUNICATION connector 23 between contact type (MAKE) and voltage type (V).

Initial value: [MAKE]

### 27 AC power socket [AC IN ~]

This socket is for inputting AC power.

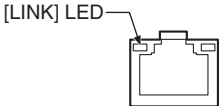
Connect the supplied power cable, and use a 3-prong outlet and ground the unit properly.

### 28 Grounding terminal [SIGNAL GND]

Connect this to the system ground.



## Troubleshooting

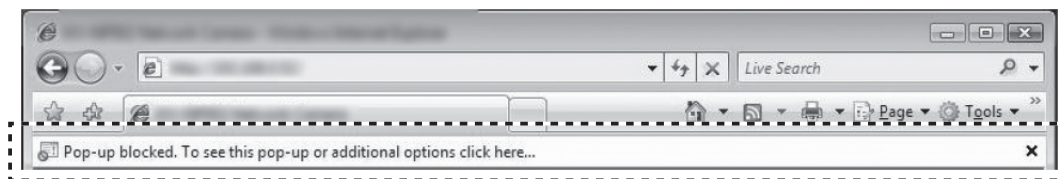
Symptom	Cause and Measure	Reference Page
Cannot turn the power on.	<ul style="list-style-type: none"> <li>Is the power cable connected to the outlet properly?</li> </ul>	P. 11
Cannot access the Web settings screen.	<ul style="list-style-type: none"> <li>Did you use a LAN cable of category 5 or higher for connecting to the LAN connector?</li> </ul>	P. 14
	<ul style="list-style-type: none"> <li>Is the [LINK] LED of the LAN connector lit?                             <ul style="list-style-type: none"> <li>→ If it is not lit, the unit is not connected to the LAN properly or the network of the connection destination is not operating properly.</li> <li>Check the LAN cable for a bad electrical contact and make sure the connections are correct.</li> </ul> </li> </ul> 	P. 14
	<ul style="list-style-type: none"> <li>Is the power on?                             <ul style="list-style-type: none"> <li>→ If the POWER lamp of this unit is off, the power of this unit is not turned on.</li> </ul> </li> </ul>	P. 13
	<ul style="list-style-type: none"> <li>Is a valid IP address set on the unit?</li> </ul>	<Operations and Settings> P. 23
	<ul style="list-style-type: none"> <li>Is the wrong IP address being accessed?                             <ul style="list-style-type: none"> <li>→ Display the NETWORK screen from the MAINTENANCE menu, and then check the IP address.</li> </ul> </li> </ul>	<Operations and Settings> P. 23
	<ul style="list-style-type: none"> <li>Is the wrong number set for the port number?                             <ul style="list-style-type: none"> <li>→ For the HTTP port number, use a port number other than the following port numbers that are used by the unit. 20/21 (FTP), 25 (SMTP), 42/53 (DNS), 69 (tFTP), 23 (telnet), 110/995 (POP3), 123 (NTP), 67/68 (BOOTP/DHCP), 10669/10670 (BOOTP), and 161/162 (SNMP)</li> </ul> </li> </ul>	<Operations and Settings> P. 23
The setting values of the Web settings screen are not updated properly or are not displayed.	<ul style="list-style-type: none"> <li>Is the set IP address the same as that of another device? Is the set address and network subnet for the installation location inconsistent?                             <ul style="list-style-type: none"> <li>→ [When the unit and computer are connected within the same subnet]                                     <ul style="list-style-type: none"> <li>Are the IP addresses of the unit and computer set to a common subnet? Is the Web browser set to "Use a proxy server"?</li> <li>When accessing the unit in the same subnet, we recommend you set the address of the unit to "Don't use proxy".</li> </ul> </li> <li>[When the unit and computer are connected to different subnets]                                     <ul style="list-style-type: none"> <li>Is the wrong value set for the default gateway on the unit?</li> </ul> </li> </ul> </li> </ul>	<div>_____</div> <div>&lt;Operations and Settings&gt; P. 23</div>
	<ul style="list-style-type: none"> <li>Press the [F5] key on the computer keyboard to request the setting values to be obtained.</li> </ul>	_____
	<ul style="list-style-type: none"> <li>Delete the temporary Internet files as described below.                             <ul style="list-style-type: none"> <li>(1)Select [Tools] → [Internet Options] in Internet Explorer.</li> <li>(2)Click the [Delete] button under [Browsing history].</li> </ul> </li> </ul>	_____
	<ul style="list-style-type: none"> <li>If [Check for newer versions of stored pages] is not set to [Every time I visit the webpage] in the temporary Internet file settings, the Web settings screen may not be displayed properly.                             <ul style="list-style-type: none"> <li>→Perform the procedure below.                                     <ul style="list-style-type: none"> <li>(1)Select [Tools] → [Internet Options] in Internet Explorer.</li> <li>(2)Click the [Settings] button under [Browsing history], and then select [Every time I visit the webpage] under [Check for newer versions of stored pages].</li> </ul> </li> </ul> </li> </ul>	_____
	<ul style="list-style-type: none"> <li>A port of the unit may be being filtered by, for example, the firewall function of the antivirus software.                             <ul style="list-style-type: none"> <li>→Change the HTTP port number of the unit to a port number that is not filtered.</li> </ul> </li> </ul>	_____

## Troubleshooting (Continued)

### ● Web settings

The following problems may occur depending on your computer settings. If a problem occurs, take the corresponding measure. The following measures will not affect the operation of other applications or compromise security.

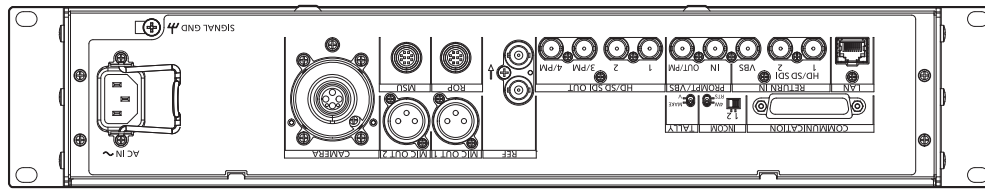
The message that appears below the address bar in the Internet Explorer is referred to as “information bar” in the part below.



Symptom	Cause and Measure	Reference Page
The following message information bar appears. “Pop-up blocked. To see this pop-up or additional options click here...”	<ul style="list-style-type: none"><li>● Click the information bar, and then select “Always Allow Pop-ups from This Site”. The “Allow pop-ups from this site?” screen appears. Click the “Yes” button.</li></ul>	_____
An unnecessary status bar or scroll bar is displayed in the pop-up	<ul style="list-style-type: none"><li>● Display the Security tab on the Internet Options screen of Internet Explorer, and then select [Internet]. Click the “Custom level...” button, select [Enable] for [Allow script-initiated windows without size or position constraints], and then click the [OK] button. A warning screen appears. Click the “Yes” button.</li></ul>	_____

## Appearance

Unit: mm (inch)



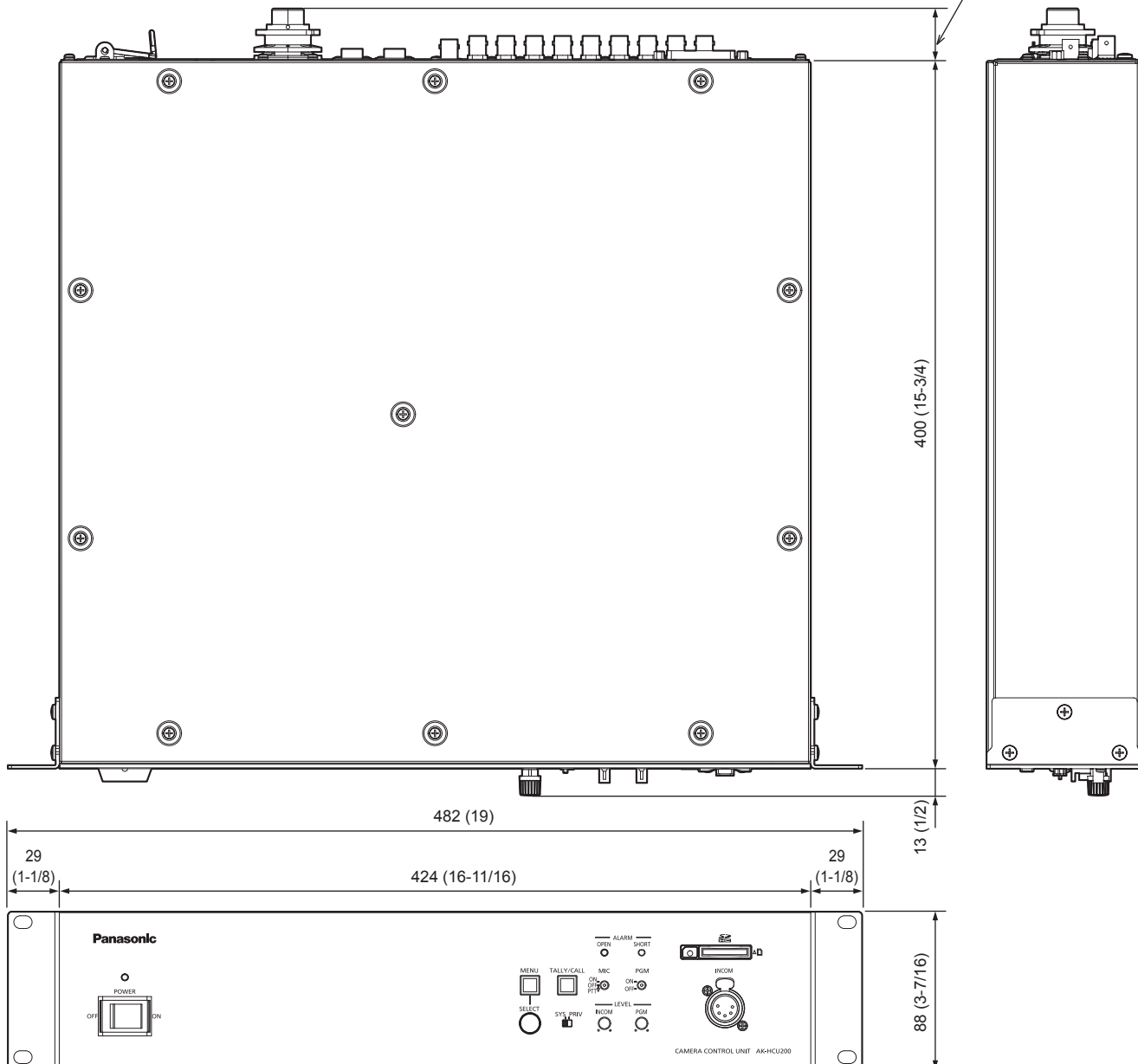
**AK-HCU200P, AK-HCU200E:**

20 (13/16)

AK-HCU200PS, AK-HCU200ES:

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29 (1-1/4)



## Specifications

### Power supply:

100 V to 240 V AC, 50/60 Hz


### Power consumption:

170 W

(Without CAMERA connected: 32 W)

### Capacity for supplying power to a camera:

190 V DC, 0.6 A

 indicates safety information.

### Operating temperature:

0 °C to 40 °C (32 °F to 104 °F)

### Humidity:

10 % to 90 % (no condensation)

### Dimensions (Width × Height × Depth):

424 mm × 88 mm × 400 mm

(16-11/16 inches × 3-7/16 inches × 15-3/4 inches)

[Excluding protrusions]

### Weight:

Approx. 6.6 kg (14.6 lb)

### Video output:

HD-SDI/SD-SDI

4 lines (2 lines shared with picture monitor output \*2)

Analog composite

1 line (1 line shared with picture monitor output \*2)

### Return input:

HD-SDI/SD-SDI (switched depending on the setting)

2 lines

VBS

1 line

### Prompter input:

Analog composite

1 line

### Reference input:

Black burst/tri-level \*1

1 line (1 loop-through line)

### Microphone output:

0 dBm/600 Ω

2 lines (XLR, 3-pin, male)

### Intercom:

Input: -55 dBu to -10 dBu

Output: 100 mW (max.)

(XLR, 5-pin, female)

### COMMUNICATION:

Intercom input/output:

(0 dBm, 600 Ω, RTS/4W \*2)

2 lines (1/2 \*2)

PGM input (0 dBm/600 Ω)

1 line

Tally input (red, green)

1 input each

### ROP interface:

RS-422

1 line, 12 V output

### MSU interface:

RS-422

1 line, GPI for control

### LAN port:

For computer connection

1 line (10Base-T/100Base-TX, RJ45, crossover cable, category 5 or above)

\*1: The black burst signal and tri-level sync signal of the reference input are recognized automatically.

\*2: Depending on the setting, only one of them can be selected at one time.

### Note

For details on the maximum lengths of connection cables, consult your dealer.

Inrush current, measured according to European standard EN55103-1, on initial switch-on: 7 A, after a supply interruption of 5 s: 11 A

#### **Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)**



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

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

Please contact your local authority for further details of your nearest designated collection point.

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

#### **For business users in the European Union**

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

#### **Information on Disposal in other Countries outside the European Union**

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.