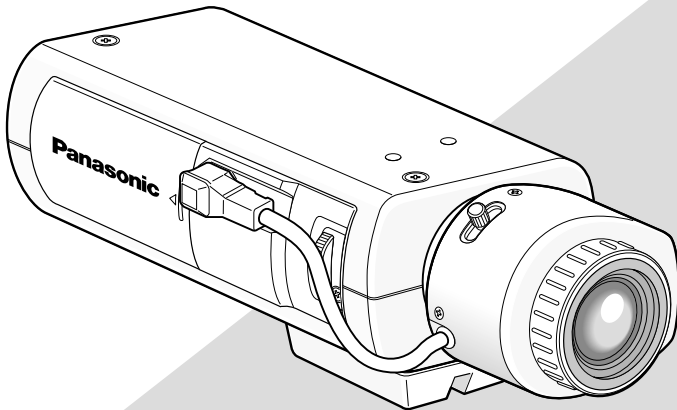# Panasonic

Installation Guide

Color CCTV Camera

Model No. WV-CP500L/G
WV-CP504LE

This illustration represents WV-CP500L/G.
Lens: Option

Before attempting to connect or operate this product, please read these
instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directives 2006/95/EC and 2004/108/EC.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende normen of andere normatieve documenten, overeenkomstig de bepalingen van Richtlijnen 2006/95/EC en 2004/108/EC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standarder eller andre normative dokumenter i følge bestemmelserne i direktivene 2006/95/EC og 2004/108/EC.

Vi deklarerar härmed vårt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med de standarder eller andra normativa dokument som framställs i direktiv nr 2006/95/EC och 2004/108/EC.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavia standardeja tai muita ohjeellisia asiakirjoja, jotka noudattavat direktiivien 2006/95/EC ja 2004/108/EC säädöksiä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende normer eller andre normgivende dokumenter som følger bestemmelsene i direktivene 2006/95/EC og 2004/108/EC.

CAUTION:

An ALL-POLE MAINS SWITCH with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

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 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.

Turn the power off at the mains to disconnect the main power for all unit.

WARNING:
• This apparatus must be earthed.
• Apparatus shall be connected to a mains socket outlet with a protective earthing connection.
• The mains plug or an appliance coupler shall remain readily operable.
• To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
• The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
• All work related to the installation of this product should be made by qualified service personnel or system installers.
• The connections should comply with local electrical code.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

WARNING: This apparatus must be earthed.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code.
     Green-and-yellow: Earth
     Blue: Neutral
     Brown: Live
  As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
  The wire which is coloured **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter **E** or by the earth symbol ⏚ or coloured **green** or **green-and-yellow**.
  The wire which is coloured **blue** must be connected to the terminal in the plug which is marked with the letter **N** or coloured **black**.
  The wire which is coloured **brown** must be connected to the terminal in the plug which is marked with the letter **L** or coloured **red**.

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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.

S3125A

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.

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 (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.

Preface

This product is a 1/3-inch type {1/3"} CCD color CCTV camera. Connection of this product to a video monitor allows users to use this product as a monitoring camera.
- WV-CP500L: 220 to 240 V AC power supply
- WV-CP504L: 24 V AC, 12 V DC power supply

Introduction of SUPER-D5 (super dynamic function)
Integration of SUPER-D5 into the CCD and signal processing circuit has achieved approximately 160 times higher dynamic range as compared with conventional camera. Thanks to the integration of the darkness compensation function, a subject on which much illuminance difference exists resulting from bright and dark areas can be naturally displayed in an image.

Introduction of newly developed high-resolution CCD
The introduction of the newly developed CCD with 976 of horizontal pixels has led to the horizontal resolution of as high as 650 TV lines (typ.).

High sensitivity achieved thanks to noise reduction function
Minimum illumination 0.1 lx (F1.4) has been accomplished for color images thanks to the introduction of low noise circuit design.

Night monochrome image activation function equipped
No operation is required at night because the image automatically changes from the color mode to the simple black-and-white mode at low illuminance. The IR cut filter does not change over.

Video motion detector function (VMD function) equipped
Motion of an object is detectable.
The states of covering the camera with a cloth, a cap or others and changing the camera direction notably can be detected (interference detection).

Note:
- The VMD function is not the dedicated function to prevent thefts, fires, etc. We are not responsible for any accidents or damages occurring in case.

Focus assist function equipped
An optimal focus position is informed during focus adjustment.

About the user manuals

The operating instructions of the camera consist of 2 sets: this book and operating instructions (PDF).
This book explains how to install the camera.
Refer to the "Operating Instructions (PDF)" on the provided CD-ROM for descriptions of how to perform the unit settings. Adobe® Reader® is required to read PDF. When the Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.

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Contents

Precautions

This product has no power switch.
Power is supplied from an external 12 V DC/ 24 V AC (WV-CP504L) or 220 to 240 V AC (WV-CP500L) power-supply device. Refer to service personnel for how to turn on/off the power.

Use this product for indoor use only.
Do not expose this product to direct sunlight for hours and do not install the product near a heater or an air conditioner. Otherwise, it may cause deformation, discoloration and malfunction. Keep this product away from water.

To keep on using with stable performance
• Parts of this product may deteriorate and it may shorten lifetime of this product when using in locations subject to high temperatures and high humidity. Do not expose this product to direct heat sources such as a heater.
• Use this product at temperatures within –10 °C to +50 °C, and humidity below 90 % (when using this product without turning the power off).

Do not rub the edges of metal parts with your hand.
Failure to observe this may cause injury.

Do not attempt to disassemble this product.
To prevent electric shock, do not remove screws or covers.
There are no user-serviceable parts inside. Ask qualified service personnel for servicing.

Handle this product with care.
Do not abuse this product. Avoid striking, shaking, etc. The product could be damaged by improper handling or storage.

Cleaning this product body
Turn the power off when cleaning the product. Use a dry cloth to clean this product. Do not use strong abrasive detergent when cleaning

this product. When the dirt is hard to remove, use a mild detergent and wipe gently. Then, wipe off the remaining detergent with a dry cloth.
Otherwise, it may cause discoloration. When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

Noise on monitor
This product is equipped with a super sensitive CCD. Therefore, white dot noise may appear on the monitor. This phenomenon is not trouble.

Discoloration on the CCD color filter
When continuously shooting a bright light source such as a spotlight, the color filter of the CCD may have deteriorated and it may cause discoloration. Even when changing the fixed shooting direction after continuously shooting a spotlight for a certain period, the discoloration may remain.

Do not aim this product at strong light sources.
A light source such as a spot light causes a blooming (light bleeding) or a smear (vertical lines).
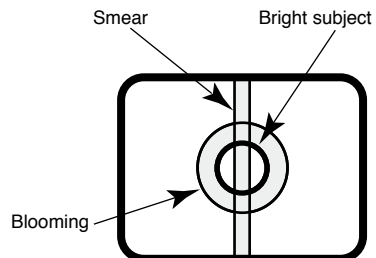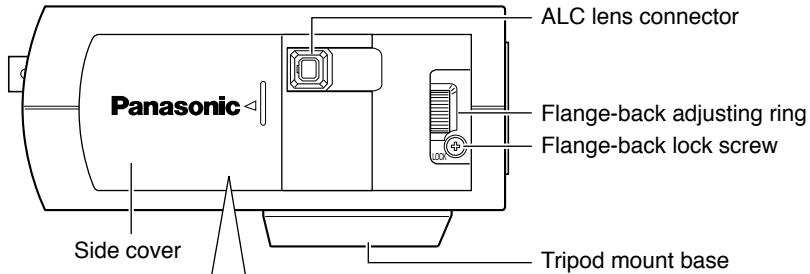

Turn the circuit breaker off which supplies this product with the power when abnormal conditions are encountered.

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Major operating controls and their functions

Side view (WV-CP500L)

ALC lens connector

Flange-back adjusting ring

Flange-back lock screw

Side cover

Tripod mount base

Inside the side cover
(Slide the cover leftward to the lock position.)
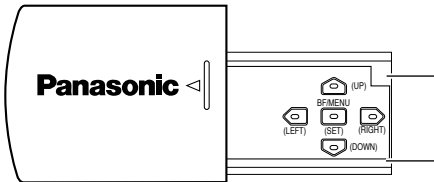
Panasonic ◁

BF/MENU

(UP)
(LEFT) (SET) (RIGHT)
(DOWN)

Operation buttons*

* The following names are assigned to each button in this book:

⌂ : Up button (UP)

▽ : Down button (DOWN)

◁ : Left button (LEFT)

▷ : Right button (RIGHT)

□ : Setting button (SET), BF/MENU

Side view (WV-CP504L)

ALC lens connector

Flange-back adjusting ring

Flange-back lock screw

Tripod mount base

Rear view (WV-CP500L)

External terminal

Power indicator

Video output connector

ALARM OUT GND   POWER

VIDEO OUT

220 - 240V ～ 50Hz

Power connector

Rear view (WV-CP504L)

External terminal

Power indicator

ALARM OUT GND   POWER
VIDEO OUT

(UP)
BF/MENU
(SET) (RIGHT)
(LEFT) (DOWN)

24V ～ IN
1-L 2-L
GND

12V ⎓ IN ⊕   ⊖
NC

Operation buttons*

    * The following names are assigned to
    each button in this book:

    ⬠ : Up button (UP)

    ⬠ : Down button (DOWN)

    ⬠ : Left button (LEFT)

    ⬠ : Right button (RIGHT)

    ⬠ : Setting button (SET), BF/MENU

AC/DC power terminal

Video output connector
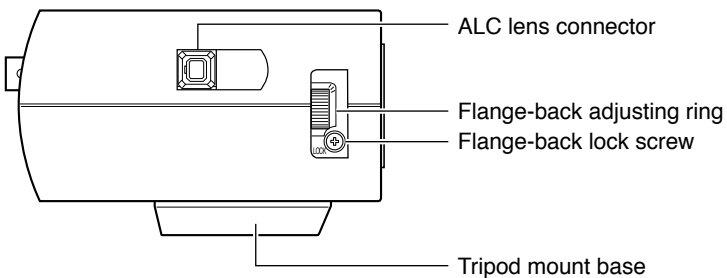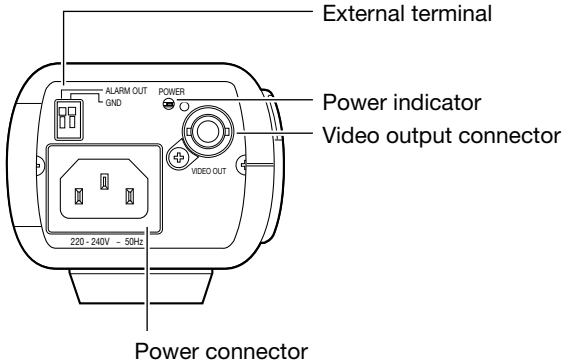
Side cover (only for WV-CP500L)
When the operation buttons are used, the side cover is slide leftward to the lock position.

ALC lens connector
The ALC connector is connected to this ALC lens connector.

Tripod mount base
This socket is used to mount the camera mount bracket (option). The tripod socket can be mounted on either top or bottom of the camera head.
(Tripod socket hole: 1/4-20 UNC for tripod)

Operation buttons
This buttons are used to perform various settings in the setup menu.

Flange-back adjusting ring (☞ page 22)

Flange-back lock screw (☞ page 22)

Video output connector
The Coaxial cable (locally procured) is connected to this video output connector.

Power indicator
This indicator lights up when the power is on.

External terminal (☞ page 18)

Power connector (only for WV-CP500L)
The included power cord is connected to this power connector.

**AC/DC power terminal
(only for WV-CP504L)**
The power supply of 24 V AC or 12 V DC is connected to this terminal.

Precautions for installation

This camera is designed to be used indoors. This camera is not operable outdoors.

Do not operate this product beyond the specified temperature, humidity or power source ratings.
Use this product at temperatures within –10 °C to +50 °C, and humidity below 90 %. The input power source is 12 V DC/24 V AC (WV-CP504L) or 220 to 240 V AC (WV-CP500L).

Installing place
Contact your dealer for assistance if you are unsure of an appropriate place in your particular environment.
• Make sure that the installation area is strong enough to hold the camera, such as a concrete ceiling.
• If a ceiling board such as plaster board is too weak to support the total weight, the area shall be sufficiently reinforced.
• Do not install this product in a humid or dust-laden environment.
Otherwise, lifetime of the internal parts may be shortened.

Avoid installing in the following locations.
• Locations where it may get wet from rain or water splash
• Locations where a chemical agent is used such as a swimming pool
• Locations subject to steam and oil smoke such as a kitchen, Locations near flammable gas or vapor
• Locations where radiation or X-ray emissions are produced
• Locations subject to strong magnetic field or radio waves
• Locations where corrosive gas is produced
• Locations where it may be damaged by briny air such as seashores
• Locations where the temperature is not within –10 °C to +50 °C.

• Locations subject to vibrations (This product is not designed for on-vehicle use.)
• Locations subject to condensation as the result of severe changes in temperature

Avoid installing the camera in a place with a high level of noise.
Installation near an air conditioner, an air cleaner, a vending machine, or the like causes noise.

Avoid connections during a lightning storm.
Otherwise, an electric shock may be caused.

Be sure to remove this product if it is not in use.

Keep the camera cable away from the lighting cable.
Failure to observe this may cause noise.

Radio interference
When the camera is used near TV/radio antenna, strong electric field or magnetic field (near a motor or a transformer), images may be distorted and noise sound may be produced.

Mounting screws
• Screws are not supplied with this product.
• Prepare them according to the material and strength of the area where the product is to be installed.
• Do not use an impact driver. Use of an impact driver may damage the screws.
• The screws and bolts must be tightened with an appropriate tightening torque according to the material and strength of the installation area.

Power cord (only for WV-CP500L)
Connect the power cord securely. Run the power cord so that no load is applied to the cord when panning or tilting the camera. (Failure to observe this may disconnect the power cord, and accordingly no image is displayed.)

Installation and connection

Cautions:
- ONLY CONNECT WV-CP504L TO 24 V AC OR 12 V DC CLASS 2 POWER SUPPLY.
- Be sure to connect the grounding lead to the GND terminal.

❶ Rotate the lens (option) clockwise slowly to mount the lens.

Important:
- For use of C-mount lens, use the C-mount adaptor (option).
- For prevention of damage to the camera body, use a lens with protrusion of 5.5 mm or less from the flange surface.

Protrusion from mount: ø20 mm or less

Protrusion from flange: 5.5 mm or less
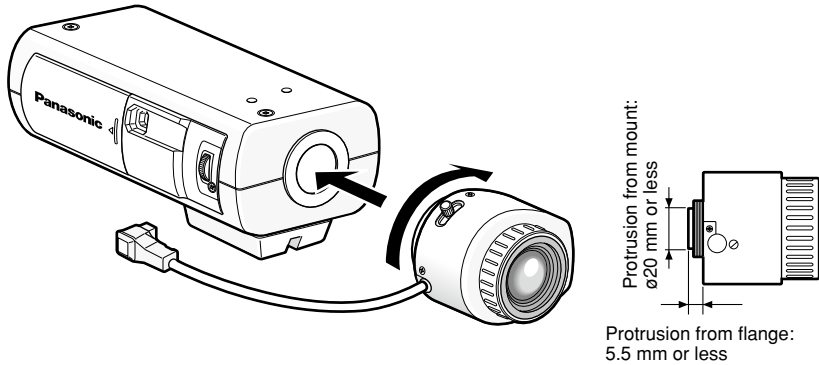
Optional dedicated lens

Lens type		Model No.
ALC lens for 1/3 inch CCD cameras	2x varifocal	WV-LZA61/2S
		WV-LZA62/2
	8x varifocal	WV-LZ62/8S
	15x motorized zoom	WV-LZ61/15

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2 **Connect the lens cable to the ALC lens connector of the camera.**

ALC lens connector
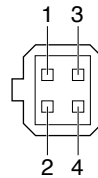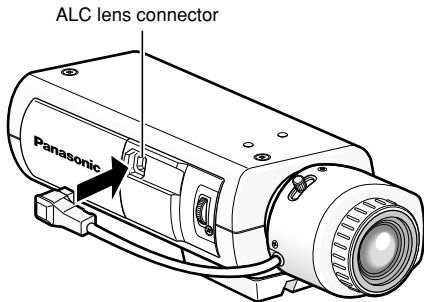
Pin No.	
1	Dump $\ominus$
2	Dump $\oplus$
3	Drive $\oplus$
4	Drive $\ominus$

3 **Secure the camera mount bracket (option) to an installation position, and mount the camera on the camera mount bracket.**

<Installation sample on a ceiling>

Important:
- If the total weight of the camera and lens exceeds 1 kg, use a housing to take measures against camera drop.

- Prepare mounting screws according to the material of the area where the camera mount bracket (option) is to be installed. The installation method may be different depending on the material of the area where the bracket is to be installed.
    - When installing on steel:
      Fix with bolts and nuts (M6 or M8).
    - When installing on concrete:
      Fix with anchor bolts or AY plug bolts (M6 or M8).
      Recommended tightening torque (M6):
      5.0 N·m
      Recommended tightening torque (M8):
      6.2 N·m

Camera mount bracket (option)

Screws (locally procured)

Screws (locally procured)

15
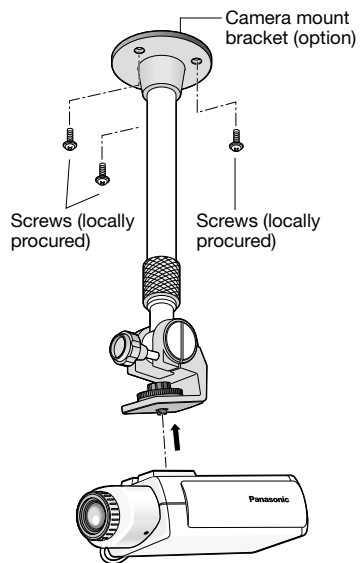
• The mounting conditions of the camera mount bracket are described as follows:

Installation place	Applicable mount bracket	Recommended screw	Number of screw	Minimum pull-out strength (per 1 pc.)
On ceiling	WV-7011	M6	4 pcs.	196 N
	WV-7010	M8	3 pcs.	196 N
	WV-7012	M6	3 pcs.	196 N
On wall	WV-831	M8	4 pcs.	921 N
	WV-7013	M6	3 pcs.	2.25 kN

For some applicable mount brackets, "A" is attached to the model number. The mounting conditions are the same even for the A-attached models.

• When attaching an optional tripod mount base on the bottom of the camera, use the removed screws to attach the tripod mount base. Use of longer or shorter screws may cause drop or damage.
Recommended tightening torque:
0.39 N·m

Tripod socket hole: 1/4-20 UNC for tripod

Tripod mount base

Mounting screws
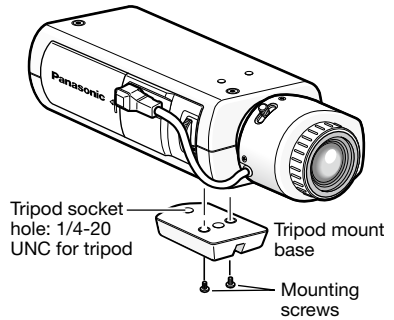
4 **The video output cable is connected to this video output connector.**

Important:
- Be sure to turn off the power of each device before connection.
- Be sure to secure the coaxial cable connectors.

Connect a coaxial cable to the video output connector.

Coaxial cables

To video input

WV-CP500L
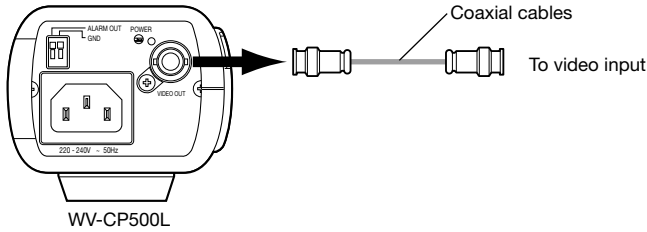
5 **Use a cable tie (locally procured) to attach the coaxial cable to the camera mount bracket.**

Important:
- The cable tie shall be made of metallic or durable material to be strong enough because the tie plays the role of camera drop prevention measures in case.
- When the camera mount bracket is mounted on a wall, be sure to observe the mounting height described on the illustration above.

<Installation sample on a ceiling>   <Installation sample on a wall>

Camera mount
bracket (option)

The cable shall be
tied to the camera
mount bracket to
avoid slack.

The cable shall be
tied to the camera
mount bracket to
avoid slack.

Camera mount
bracket (option)

More than
270 cm

Floor

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About external terminal

Alarm output

Input specification: Open collector output (max. voltage: 16 V DC)

Off: Internally pulled up
2 V to 4 V DC

On: Output voltage 1 V DC or less (max. drive current: 100 mA)

Functions: Alarm output
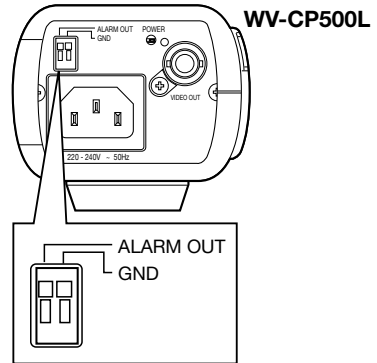
The external terminal is the same between WV-CP500L and WV-CP504L.

* When an external device is connected, exercise care to avoid exceeding the rating.
* Applicable wire: AWG #22 - #28 Single core, twisted
Before connection, remove 9 mm to 10 mm of the wire sheath and twist the wire enough to prevent the short circuit.
* Check whether the stripped part of the wire is not exposed from the external terminal and is securely connected.

Stripped

9 mm - 10 mm
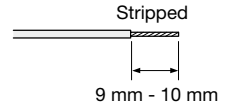
6 Turn on the power.

WV-CP500L

The included power cord is connected to this power connector.

Connect between the power connector on the rear side of the camera and a plug socket with the supplied power cord.

Power cord (accessory)

220 to 240 V AC,
50 Hz

ALARM OUT   POWER
GND

VIDEO OUT

220 - 240V ~ 50Hz
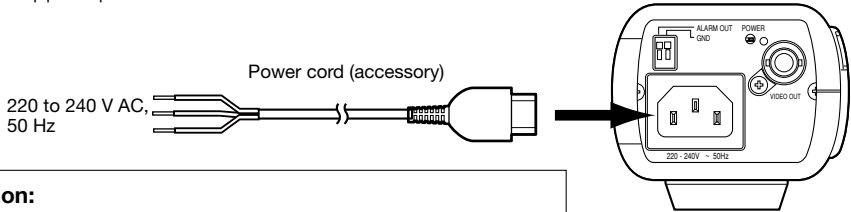
> **Caution:**
> • The camera shall be connected with cord set with plug. Plug for respective country shall be mounted on the Power cord by a qualified electrical.

WV-CP504L

Important:
- The power supply of 24 V AC/12 V DC shall be insulated against 220 to 240 V AC.
- The power supply is automatically selected either 24 V AC or 12 V DC. No setting is required with this camera.

---

① Loosen the screw of the power cord plug (accessory).

② Connect the power supply (option) of 24 V AC or 12 V DC to the power cord plug.

Strip the end of the wire by 3 mm to 7 mm, and twist the stripped part of the wire sufficiently to avoid short circuit.

- Specification of cable (wire)
  AWG #16 - #28, Single core, twisted
- * Check whether the stripped part of the wire is not exposed and is securely connected.

<Ratings>

	24 V AC	**12 V DC**
A	2-N	⊖ (GND)
B	GND	NC
C	1-L	⊕

③ Tighten the screw of the power cord plug.

④ Connect the power cord plug to the AC/DC power terminal on the rear side of the camera.

* Make sure that the power cord plug is inserted fully into the AC/DC power supply terminal.

ALARM OUT   GND
VIDEO OUT   POWER

(UP)
BF-MENU
24V ~ IN
L   GND   (LEFT)   (SET)   (RIGHT)
GND
(DOWN)
12V ⎓ IN⊕   L

To 24 V AC/12 V DC
power supply

Power cord plug
(accessory)

Stripped

3 mm - 7 mm
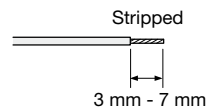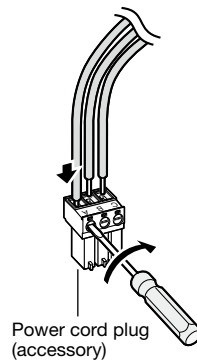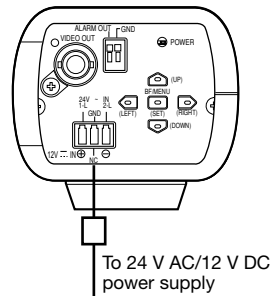
7 **Adjust the camera angle by loosening the screw of the camera mount bracket while viewing the video monitor.**

Be sure to loosen the screw of the camera mount bracket when the camera angle is adjusted. If the camera angle is changed when the screw is tight, excessive force is applied to the camera mount bracket and camera, and accordingly they may be damaged. Be sure to tighten the screw securely after camera angle adjustment.

8 **Adjust the focus.**

When a varifocal lens or a zoom lens is used

- Be aware that the adjustment method varies with varifocal lens or zoom lens models.
- The adjustment procedure for general varifocal lenses is described as follows: For further information, refer to the operating instructions for the lens to be used.
  ① Display a subject that exists as far as possible to adjust the flange back (10 m or more recommended).
  ② For 8-, or 10-fold magnification lenses, adjust the flange back (☞ page 22) after setting the zoom to the WIDE end and the focus to the FAR end.
  For 2-, or 3-fold magnification lenses, adjust the flange back (☞ page 22) after setting the zoom to the TELE end and the focus to the FAR end.
  ③ Adjust the view angle and focus (☞ page 21) with use of the focus assist function to center a subject in the screen.

When a fixed-focal lens is used

- When using a fixed-focal lens featuring the focus adjustment, adjust the flange back (☞ page 22) after setting the lens focus to the FAR end.

How to adjust focus with use of the focus assist function

The angular field of view and focus are adjustable in accordance with the distance to a subject. Adjustment of the angular view of field and focus shall be conducted simultaneously with camera angle adjustment.

```
┌─────────────────────────────────┐
│       FOCUS ADJUSTMENT          │
│                                 │
│                                 │
│                                 │
│                                 │
│  LOW                  HIGH      │
│  .......|............           │
│          ↑                      │
│  INDICATOR   775  BEST          │
│  PEAK HOLD   790  FOCUS         │
└─────────────────────────────────┘
```
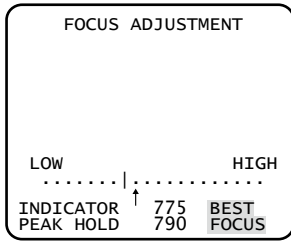
① Loosen the zoom lock lever and adjust the angular field of view (viewing angle) with the zoom and focus ring in accordance with a subject.
② Tighten the zoom lock lever.
③ Press the setting button.
  → The "FOCUS ADJUSTMENT" screen appears.
    The optimal adjustment can be attained with the focus assist function.
④ Rotating the focus ring of the lens to roughly adjust the focus allows the optimal focus position to be automatically saved as the position of "PEAK HOLD".
⑤ Rotating the focus ring of the lens allows the current focus state to be shown at "INDICATOR". The value of "INDICATOR" shall be adjusted to about the same as the value of "PEAK HOLD".
⑥ When the focus is adjusted, "BEST FOCUS" is highlighted at the lower right corner.
⑦ The "FOCUS ADJUSTMENT" screen ends by pressing the focus assist button again (or automatically ends in 3 minutes).

Note:
• If the angular field of view is changed during adjustment, press the setting button and end the "FOCUS ADJUSTMENT" screen (because the values of "PEAK HOLD" and "INDICATOR" change owing to change in the angular field of view). Repeat the procedure from the step 3 after fixing the angular field of view.

Important :
• Press the setting button again to end the "FOCUS ADJUSTMENT" screen or adjust the focus to the optimal position while viewing the screen for the following subjects:
  • Frequently moving subject
  • Subject with remarkable illuminance change
  • Subject with low illuminance
  • Too bright or reflective subject
  • Subject through a window
  • Place where the lens easily becomes dirty
  • Subject with less contrast such as white wall
  • Subject with remarkable depth
  • Subject with heavy flicker
  • Subject with horizontally parallel lines such as a shutter

---

How to adjust flange back

Use a screwdriver to loosen the flange-back lock screw and rotate the flange-back adjusting ring to adjust the flange back. When completing the adjustment, tighten the flange-back fixing screw.
Recommended tightening torque: 0.05 N·m

Important:
• Do not overtighten the screw. Failure to observe this may strip the thread or cause out-of-focus.

Flange-back adjusting ring

Flange-back lock screw

Lens: Option
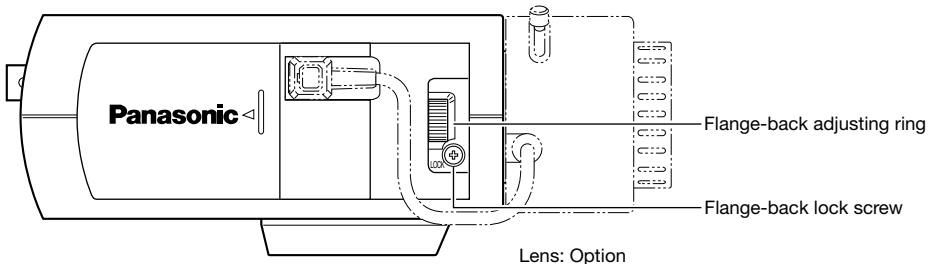
This illustration represents WV-CP500L.

Note:
• When an auto iris lens is used to record a subject, the originally adjusted focus may be slightly off depending on the iris state resulting from the focal depth of the lens. In such a case, open the aperture by darkening the subject as much as possible in the same way of taking picture, and then adjust the focus. Defocus can be prevented.
• Adjustment with the focus assist function allows users to adjust the focus optimally in the range of the capability to automatically follow the variation in illuminance (Note: The adjusted focal point is not necessarily the same as the optimal focal point at a certain illuminance.).
• The out-of-focus level in the near-infrared light region may be higher than that in the visible light region.
• When a non-Panasonic lens that has an extended range for lens focusing is used, adjust the back focus after setting the focus to a position at a short distance from the FAR end. If adjustment is performed in the extended range, appropriate adjustment cannot be obtained.

Setup menu

Performing each setting item in the setup menu should be completed in advance to use this unit. Perform the settings for each item in accordance with the conditions of the camera shooting area. Refer to the operating instructions (PDF) for further information.

List of setup menu

Setup item	Description
CAMERA ID	This item specifies the camera title. The camera title that indicates the camera location and other information about the camera is created with alphanumeric characters and symbol, and displayed on the screen.
CAMERA	Performs the camera operation settings.
SCENE 1/SCENE 2	Selects a scene file. It is possible to register and save the settings as a scene file in case that it is necessary to change the settings such when shooting at night or on holidays.
ALC/ELC	Selects the method of controlling the quantity of light in accordance with the lens to be used.
SHUTTER	Specifies the electronic shutter speed.
AGC	Specifies gain adjustment.
SENS UP	Specifies electronic sensitivity enhancement.
WHITE BAL	Specifies white balance adjustment.
DNR	Selects the level of the digital noise reduction function.
BW MODE	Performs the setting regarding the simple black-and-white mode such as switching between color and black-and-white images.
VMD	Performs the settings regarding the VMD (Video Motion Detector) function.
SYSTEM	Performs the settings regarding the camera system such as synchronization, and privacy zone.
SYNC	Specifies the synchronization type.
PRIVACY ZONE	Hides undesired portions in the camera shooting area.
STABILIZER	Decides whether or not to enable the image stabilizer.
EL-ZOOM	Toggles the electronic zoom on and off.

Setup item		Description
SPECIAL		
	CHROMA GAIN	Adjusts the chroma level.
	AP GAIN	Adjusts the aperture level.
	PEDESTAL	Adjusts the pedestal (brightness) level.
	PIX OFF	Corrects image defects such as flaws.
	COMMUNICATION	Performs the communication setting of the system with a receiver into which this unit is integrated.
	CAMERA RESET	Restores the settings in the setup menu to the default settings.
	SER.NO.	Displays the serial number of this unit.
LANGUAGE		Selects a language to be used in the setup menu.

Basic operation

The description below explains how to operate the setup menu basically.
The operations in the setup menu are performed with the operation buttons (☞ pages 9 and 10) after calling up the setup menu on the connected video monitor.
The operations in the setup menu can also be performed through the system controller (option).

Screenshot 1

Hold down the setting button for more than 2 seconds simultaneously to call up the top screen of the setup menu.

```
 MODEL   WV-CP500L SRS
CAMERA ID     OFF↲
CAMERA ↲
SYSTEM ↲
SPECIAL ↲
LANGUAGE ↲




 END   SETUP DISABLE
```
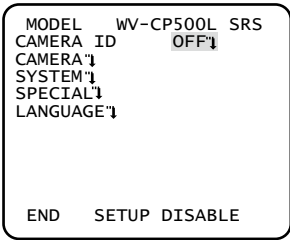
Step 1

Press the up button or the down button to move the cursor to "END".

Step 2

Press the right button to move the cursor to "SETUP", and press the setting button to change the setup mode from "DISABLE" to "ENABLE".

Screenshot 2

The setup mode changes to "ENABLE", and the setup menu becomes ready to be set.

```
 MODEL   WV-CP500L SRS
CAMERA ID     OFF↲
CAMERA ↲
SYSTEM ↲
SPECIAL ↲
LANGUAGE ↲




 END   SETUP ENABLE
```
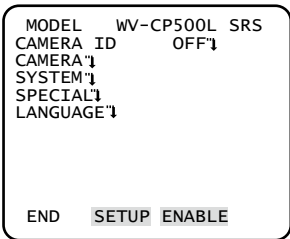
Step 3

Move the cursor to the item to be set, and press the setting button.

The selected setup screen in the setup menu appears on the screen.

```
    **CAMERA SETUP**
SCENE1
 ALC/ELC       ALC↴
 SHUTTER       OFF
 AGC           ON(HIGH)
 SENS UP       OFF
 WHITE BAL     ATW1↴
 DNR           HIGH
 BW MODE       OFF
 VMD↴

 RET TOP END
```
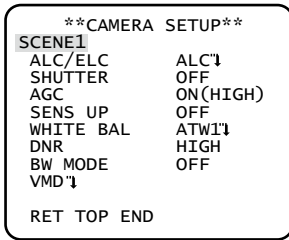
Note:

• If the top screen of the setup menu is called up with the operation buttons while a camera image is displayed, the setup mode is always "DISABLE" to prevent operation errors.

  To perform settings in the setup menu, change the setup mode to "ENABLE".

• The cursor is a reversely highlighted part.

Step 4

Perform the settings for each item.

• Selection of setting item:
  Press the up button or down button to move the cursor.

• Change of settings:
  Press the right button or left button.

• Display of advanced setup screen:
  Press the setting button when "↴" is attached to the target setting item.

• Return to previous setup screen:
  Move the cursor to "RET" and press the setting button.

• Return to the top screen:
  Move the cursor to "TOP" and press the setting button.

Step 5

To return to the camera image screen, move the cursor to "END" and press the setting button.

Screen transition diagram

Top screen

```
**MODEL    WV-CP500L SRS
CAMERA ID       OFF↲
CAMERA↲
SYSTEM↲
SPECIAL↲
LANGUAGE↲




END    SETUP ENABLE
```

"CAMERA ID" screen

```
    **CAMERA ID**
    0123456789
    ABCDEFGHIJKLM
    NOPQRSTUVWXYZ
    ().,'":;&#!?=
    +-*/%$

    SPACE POSI
    RET TOP END RESET

    ················
    ↑
```

"CAMERA SETUP" screen

```
    **CAMERA SETUP**
SCENE1
  ALC/ELC       ALC↲
  SHUTTER       OFF
  AGC           ON(HIGH)
  SENS UP       OFF
  WHITE BAL     ATW1↲
  DNR           HIGH
  BW MODE       OFF
  VMD↲

  RET TOP END
```

"SYSTEM SETUP" screen

```
    **SYSTEM SETUP**
SYNC            INT

PRIVACY ZONE  OFF
STABILIZER    OFF
EL-ZOOM       OFF




  RET TOP END
```

"SPECIAL SETUP" screen

```
    **SPECIAL SETUP**
CHROMA GAIN    ...|...128
AP GAIN        ...|... 32
PEDESTAL       ...|... 32
               -   +

PIX OFF↲
COMMUNICATION COAX
CAMERA RESET ➡PUSH SW

 SER.NO. XXXXXXXX
 RET TOP END
```

"LANGUAGE SETUP" screen

```
    **LANGUAGE SETUP**

LANGUAGE      ENGLISH




  SET
  RET TOP END
```

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Troubleshooting

Before asking for repairs, check the symptoms with the following table.
Contact your dealer if a problem cannot be solved even after checking and trying the solution in the table or a problem is not described below.

Symptom		Cause/solution	Reference pages
No image displayed	▶	• Are the power cord and coaxial cable connected appropriately? → Check whether the connection is appropriately established.	17, 19
	▶	• Is the monitor brightness appropriately adjusted, or is the contrast appropriately adjusted? → Check whether the monitor settings are appropriate.	–
	▶	• Is the lens cap detached? → Check whether the lens cap is removed.	–
Blurred image	▶	• Is the lens of the camera soiled with dirt or dust? → Check whether the lens of the camera is clean.	–
	▶	• Is the focus adjusted correctly? → Check if the focus is adjusted correctly.	21 - 22

Inspect the power cord, power plug and power connectors periodically.

Symptom		Cause/solution	Reference pages
Damaged power cord sheathing	▶	• The power cord, power connector, or power plug is damaged. Use of the damaged cord, connector, or plug may cause electric shock or fire. Disconnect the power plug immediately and request repair to your dealer.	–
Heated portion of power line consisting of power cord, connector, and power plug during use	▶		
The power cord gets hot when bent or stretched.	▶		

Specifications

• General

Power source:	WV-CP500L: 220 to 240 V AC 50 Hz
	WV-CP504L: 24 V AC 50 Hz, 12 V DC
Power consumption:	WV-CP500L: 3.7 W
	WV-CP504L: 24 V AC: 3.6 W, 12 V DC: 310 mA
Ambient operating temperature:	–10 °C to +50 °C
Ambient operating humidity:	Less than 90 % (non condensing)
Video output:	VBS: 1.0 V [p-p]/75 Ω, PAL, BNC connector
External terminal:	Alarm output
Dimensions:	WV-CP500L: 75 (W) x 65 (H) x 132.5 (D) mm
	(Connectors and terminals excluded)
	WV-CP504L: 72 (W) x 65 (H) x 103.5 (D) mm
	(Connectors and terminals excluded)
Weight:	WV-CP500L: Approx. 420 g (Power cord excluded)
	WV-CP504L: Approx. 340 g
Finish:	Light FL silver

• Camera

Image sensor:	1/3 inch interline transfer CCD
Effective pixels:	976 (H) x 582 (V)
Scanning area:	4.8 mm (H) × 3.6 mm (V)
Scanning system:	2:1 interlace
Scanning frequency:	Horizontal: 15.625 kHz
	Vertical: 50 Hz
Synchronization:	Internal (INT), multiplexed vertical drive (VD2) or line-lock (LL)*
	* Phase adjustable
Resolution:	Horizontal: 650 TV lines typ
	Vertical: 400 TV lines or more (at center)
Minimum illumination:	Color mode: 0.1 lx (sensitivity up OFF, AGC HIGH: F1.4)
	0.003 lx (sensitivity up 32x, AGC HIGH: F1.4)*
	Simple BW mode: 0.07 lx (sensitivity up OFF, AGC HIGH: F1.4)
	0.002 lx (sensitivity up 32x, AGC HIGH: F1.4)*
	* Converted value
Signal-to-noise ratio:	50 dB (AGC OFF)
Dynamic range:	54 dB typ. (Super Dynamic 5 ON)
ALC lens drive:	DC drive
Lens mount:	CS-mount
Functions:	
Camera title:	Up to 16 characters (alphanumeric characters, marks)
Light control mode setting:	ALC/ALC+/ELC
Super Dynamic 5	ON/OFF
Electronic shutter speed:	OFF (1/50), 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000,
	1/10000 s
AGC:	ON (HIGH, MID, LOW)/OFF
Sensitivity up:	OFF/AUTO (×2, ×4, ×6, ×10, ×16, ×32)/FIX (×2, ×4, ×6, ×10,

	×16, ×32)
White balance:	ATW1/ATW2/AWC
Digital noise reduction:	HIGH/LOW
Simple black/	
white changeover:	AUTO/OFF
VMD:	Video Motion Detection
	Scene Change Detection
Number of scene file:	2
Privacy zone:	ON (1)/ON (2)/OFF
Image stabilizer:	ON/OFF
Electronic zoom:	ON (up to 2x)/OFF
Display language:	JAPANESE/ENGLISH/FRANÇAIS/ESPAÑOL/DEUTSCH/
	ITALIANO/РУССКИЙ

Standard accessories

CD-ROM* .... 1 pc.
Installation Guide (this book) .... 1 pc.
*The CD-ROM contains the operating instructions (PDF).

The following parts are used during installation procedures.
Power cord (only for WV-CP500L) .... 1 pc.
Power cord plug (only for WV-CP504L) .... 1 pc.

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.

Panasonic Corporation

http://panasonic.net

Importer's name and address to follow EU rules:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg F.R.Germany