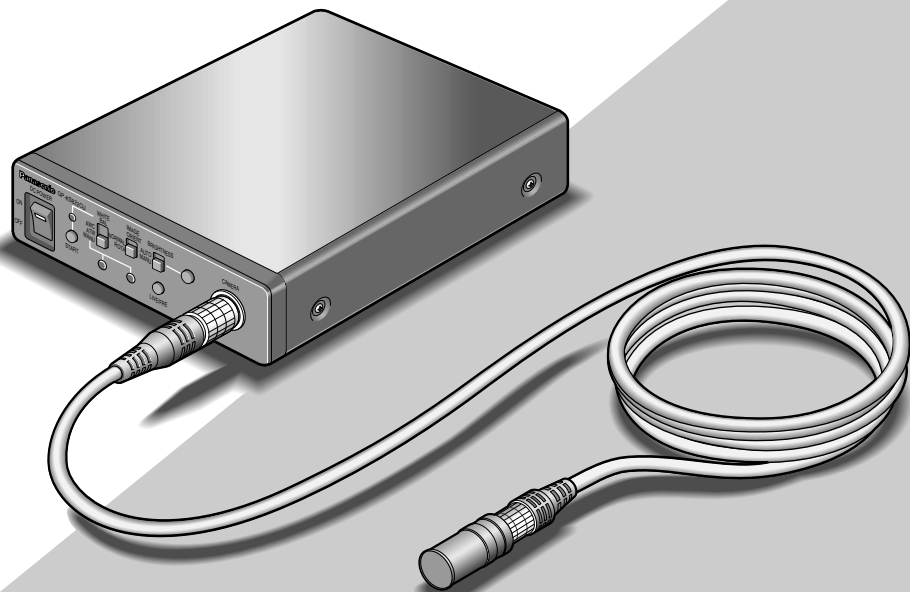# Panasonic

Operating Instructions

Camera Head

Model No. GP-KS822H

Camera Control Unit

Model No. GP-KS822CU

Cable : Option

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

Caution:

Before attempting to connect or operate this product, please read the label on the top and bottom.

The serial number of this product may be found on the surface of the unit.
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

Serial No. _____

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 use near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not misuse 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 stepped on or pinched particularly at plugs, convenient receptacles and the points 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-overs.

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 when the 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.

CONTENTS

PREFACE

Panasonic's GP-KS822CU and GP-KS822H Industrial Color Camera overcomes space limitations that have complicated many video applications. Weight of only 14 g {0.035 lbs}, this remarkably compact camera measures only two-thirds of an inch in diameter and less than two inches in length. With the 380 000-pixel for NTSC (440 000-pixel for PAL), 1/2-inch CCD pick-up device, horizontal resolution is more than 480 lines, and signal-to-noise ratio is 50 dB. Brightness Switch and knob lets you obtain the video level to your preference. This CCU has a Freeze function for a still image and a Image Orientation function for rotating an image.

FEATURES

1. 1/2 inch Interline CCD image sensor.
2. 480 lines of horizontal resolution.
3. 6 lx {0.6 footcandles} at F1.4 of minimum scene illumination.
4. 50 dB of signal to noise ratio.
5. Selectable trough the Lens Auto Tracing White Balance (ATW), Auto White Balance Control (AWC) or Manual White Balance Control.
6. Automatic Gain Control (AGC) and Electric Light Control (ELC) are available.
7. Brightness Switch and knob enables to adjust the video level to your preference.
8. The preset 1, preset 2 and automatic setting mode are provided for Light Measurement Area Selection.
9. 2-memory AWC mode is available.
10. Freeze function
11. Image Orientation function
12. DC 12 V operation
13. 2 m {6.6 ft.} and 3.8 m {12.5 ft.} cable length between camera head and camera control unit with optional camera cable.
14. S-VHS Video Output is provided.

PRECAUTIONS

- Do not attempt to disassemble the camera.
  To prevent electric shock, do not remove screws or cover. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.

- Do not expose the camera or camera control unit to rain or moisture, or do not try to operate it in wet areas.
  Do take immediate action if ever the camera or camera control unit do become wet. Turn power off and refer servicing to qualified service personnel.
  Moisture can damage the camera and camera control unit and also create the danger of electric shock.

- Ambient Temperature range
  Do not install the camera in the place which is beyond 10 °C to 45 °C {50 °F to 113 °F}.

- Do not drop anything inside the camera.
  Dropping metal for example inside the camera could permanently damage the unit.

- Never crush or pinch the camera cable.
  Do not bend the camera cable into a curve whose radius is too small.

- Whether the camera is in use or not, never face it toward the sun.
  Do use caution when operating the camera in the vicinity of spot lights or other lights and light reflecting objects.

- Do not loosen the chassis of the camera head.

- Do not connect Panasonic GP-KS162CU and GP-KS822H, nor GP-KS822CU and GP-KS162H.

- How to take care of this camera.
  After turning OFF the DC power switch, clean it with a dry cloth. If it is difficult to remove the dirt or dust, clean it up with a cloth applied the neutral cleanser.
  Use the lens cleaning tissue paper(may be available at your local camera store) for lens cleaning.

- Connect this to a DC 12 V, min. 600 mA CLASS 2 Power supply only.

- After using the camera, turn OFF the DC power switch and put the lens cap on the camera head.

- Every necessary procedures with regard to install this product should be made by qualified service personnel or system installers.

Caution:
Connecting or disconnecting camera cable to/from the camera control unit must be done after turning OFF the DC power switch. Otherwise, the camera head may be damaged.

SYSTEM BLOCK DIAGRAM

GP-KS822 Standard Configuration
Camera Head, Tripod Attachment, Camera Control Unit.

Optional
Camera Cable
GP-CA162/2: 2 m
GP-CA162/38: 3.8 m

Camera Head
(GP-KS822H)

Camera Control Unit GP-KS822CU
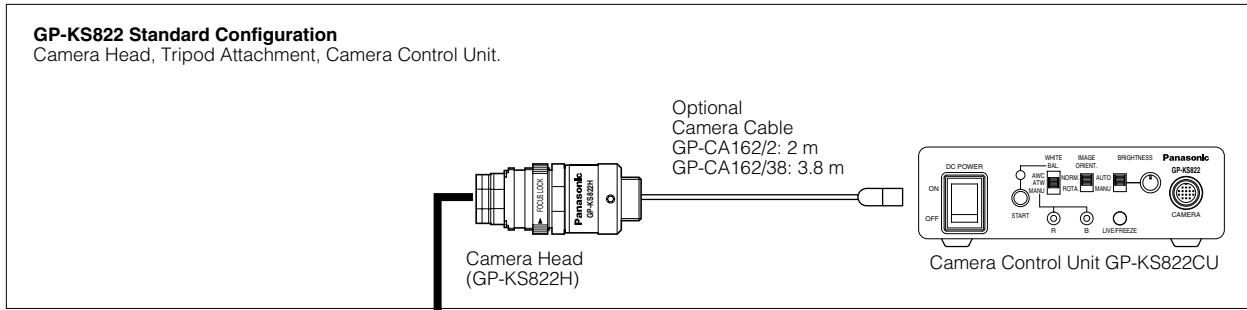
Optional Accessories

Wide Angle Lens
GP-LM3TA
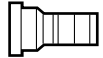
Wide Angle Lens
GP-LM7TA

Pinhole Lens
GP-LP12TA

Tele Angle Lens
GP-LM15TA

C-Mount Adaptor
GP-AD22TA
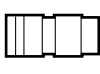
Tele Angle Lens
GP-LM24TA

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

Camera Control Unit GP-KS822CU

AWC1
AWC2
Switch Label
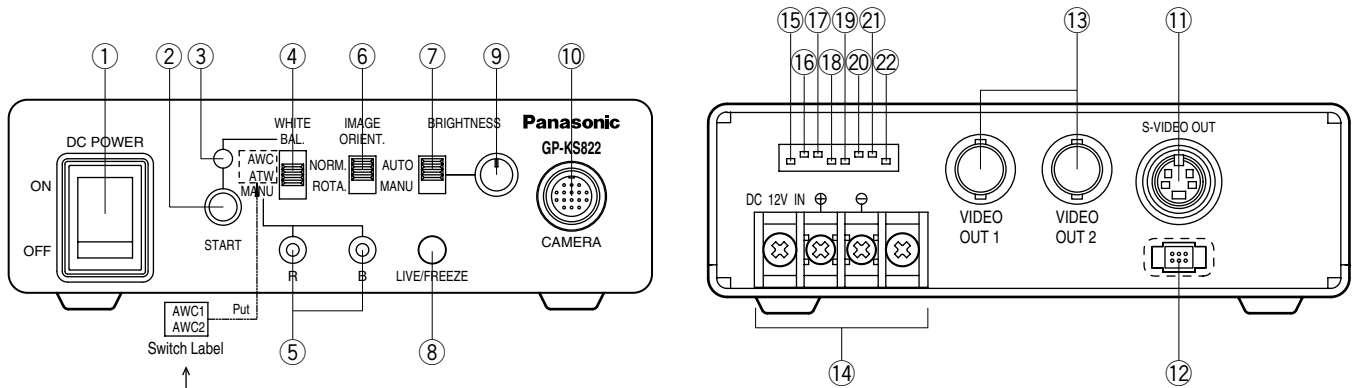
When using in this mode, please put the
Switch Label (the Switch Label is enclosed).

Camera Head GP-KS822H
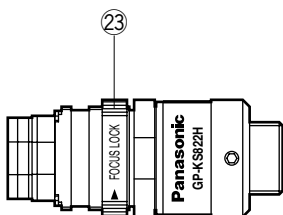
Camera Control Unit GP-KS822CU

① **DC Power On/Off Switch (DC POWER, ON/OFF)**

② **Auto White Balance Control Button (AWC START)**
The white balance can be set by pressing this button when the White Balance Selection Switch (④) is set to the AWC position.

③ **White Balance Indicator**

④ **White Balance Selection Switch (WHITE BAL, AWC/ATW/MANU)**
AWC: The white balance is automatically set and fixed by detecting the characteristic/color temperature of light source through the lens and controlling the gain of red and blue signal.
The White Balance Indicator blinks during the setting.
When the setting is successfully performed, the White Balance Indicator turns off.
When the setting fails, the White Balance Indicator turns on.
ATW: The white balance is automatically and continuously set by detecting the characteristic/color temperature of light source through the lens and controlling the gain of red and blue signal even if the characteristic/color temperature varies.
MANU: The R/B gain of the white balance can be adjusted manually by means of the R and B gain controls.

⑤ **R/B Gain Controls (R/B)**
These controls are used to adjust the R and B gain of the white balance.
These controls work only when the White Balance Selection Switch (AWC/ATW/MANU) is set to MANU.

⑥ **Image Orientation Selection Switch (IMAGE ORIENT., NORM./ROTA.)**
NORM.: The shot image is outputted normally.
ROTA. : The shot image rotates 180 degrees.

⑦ **Brightness Selection Switch (BRIGHTNESS, AUTO/MANU)**
AUTO: When this switch is set to the AUTO position, the ELC On/Off Switch (⑮) and AGC Switch (⑯) becomes effective. The ELC & AGC of the target level changes by rotating the BRIGHTNESS control knob.
MANU: When this switch is set to the MANU position, the video level is adjustable by means of the BRIGHTNESS control knob.
Note:
Since the variable range of MANU is limited depending on the shot image conditions, normally use in AUTO.

⑧ **Live/Freeze Button (LIVE/FREEZE)**
The image carries out toggle operation of Freeze/Live by pressing down the button.

⑨ **Brightness control knob**
This controls the ELC & AGC of the target level or video level.

⑩ **Camera Cable Connector (CAMERA)**
This 16-pin connector is used for connection of camera cable.
Caution: Connecting or disconnecting the camera cable must be done after turning OFF the Power ON/OFF switch.

⑪ **S-VHS Video Output Connector (S-VIDEO OUT)**
The Luminance (Y) and chroma (C) signals for S-VHS VTR or monitor are provided at the connector.

⑫ **EVR Adjustment Connector**
This connector is used to connect with the EVR.

⑬ **Video output Connectors (BNC) (VIDEO OUT 1,2)**
A composite video signals is provided at this connector.

⑭ **DC 12V Input Terminals (DC 12 V IN)**
These terminals accept an external DC source supplying nominal power of 12 V, min. 600 mA
CAUTION: CONNECT THIS TO A DC 12 V CLASS 2 POWER SUPPLY ONLY.

> **Caution:** To prevent fire or shock hazard, the UL listed wire VW-1 style 1007 should be used for the cable for DC 12 V Input Terminal.

⑮ **Electronic Light Control (ELC) On/Off Switch** □ on ■ off
When shooting the objects under the high light condition, the lighting can be controlled by the electronic shutter mode. This is used to disable the ELC function.

⑯ **AGC On/Off Switch** ■ on □ off
When shooting the objects under the low light condition, the video level can be controlled by the gain of the video amplifier. This switch is used to disable the AGC function.

⑰ **2-Memory AWC Mode On/Off Switch** ■ on □ off
By turning on this switch, the two kinds of white balance can be memorized.
The function of the White Balance Selection Switch is changed as shown below by turning on this switch.
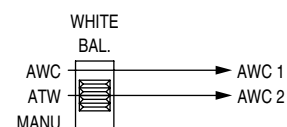
⑱ **Mirror/Rotate Selection Switch** ■ on □ off
When the Image Orientation Selection Switch is set to the ROTA., this switch becomes effective. By turning on this switch, the shot image changes to the MIRROR (right-and-left reversal) image .

⑲/⑳ **Light Measurement Area Selection Switch** ☐ on ■ off

The back light sensing zone can be set in the BRIGHT-NESS AUTO mode.

00: OFF (All of the screen)
01: Preset 1 (Pattern 1 Sensing Zone)
10: Preset 2 (Pattern 2 Sensing Zone)

Sensing Zone

Preset 1   Preset 2
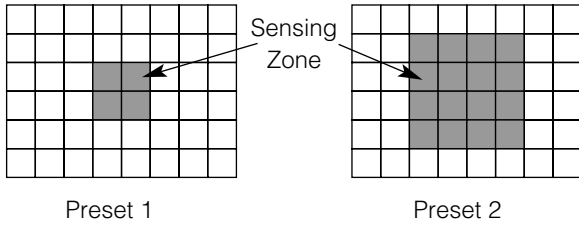
11: Automatic Sensing Zone (The sensing zone is auto-matically set according to the object.)

㉑ **Aperture Level Selection Switch** ☐ on ■ off

The aperture level can be selected by this switch. High level can be obtained by turning on this switch. Low level can be obtained by turning off this switch.

㉒ **Cable Selection Switch** ■ on ☐ off

This switch is provided for the camera cable GP-CA162/2 and GP-CA162/38. When using the camera cable GP-CA162/38, turn on this switch.

Camera Head GP-KS822H

㉓ **Focus Lock Ring**

This ring is used to secure the Focus Ring.

PREPARATIONS

Caution: Keep the DC Power switch of the camera in the OFF position through the installation.

GP-KS822H with GP-LM3TA, GP-LM7TA, GP-LM15TA or GP-LP12TA

1. Remove the front cap of the camera and confirm that the surface of the optical filter of the camera head is clean.
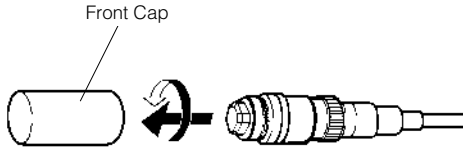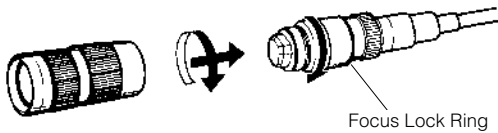
Front Cap

If the surface of the optical filter is dirty or dusts are on it, clean it up with a blower brush which is for film camera lenses (may be available at your local camera store) or supplied lens cleaning tissue paper.

2. Rotate the focus lock ring fully clockwise.
   Mount the Pinhole Lens, Wide-angle Lens or Super Wide-angle Lens to the camera by rotating it clockwise slowly.

Focus Lock Ring

GP-KS822H with GP-AD22TA and optional C-mount lens

1. Remove the front cap of the camera head and confirm that the surface of the optical filter of the camera head is clean.
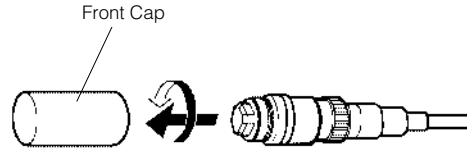
Front Cap

If the surface of the optical filter is dirty or dusts are on it, clean it up with a blower brush which is for film camera lenses (may be available at your local camera store) or supplied lens cleaning paper.

2. Attach the optional C-mount lens to the C-mount Adaptor GP-AD22TA by rotating it clockwise.
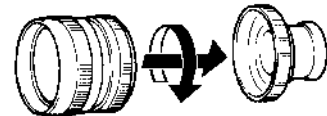
3. Rotate the focus lock ring fully
   Mount the lens and C-mount adaptor by rotating them clockwise slowly.

Focus Lock Ring
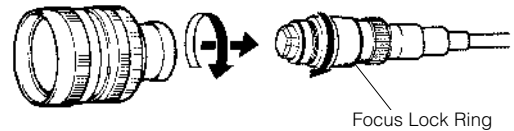
Caution: If the optional C-mount lens size exceeds 50.8 mm {2"} in diameter, 70 mm {2-3/4"} in length and 300 g {0.66 lbs} in weight, both the camera and lens should be secured.

SPECIFICATIONS

Pick-up Device :	For NTSC : 1/2-inch Interline transfer CCD image sensor with 768 (H) x 494 (V) pixels
	For PAL : 1/2-inch Interline transfer CCD image sensor with 752 (H) x 582 (V) pixels
Horizontal Resolution :	480 lines
Minimum Scene Illumination :	6 lx {0.6 footcandles} (F1.4 with AGC ON more than 30 IRE of Y signal with set up)
Signal to Noise Ratio :	50 dB (Standard condition, Y signal)
Video Output :	1.0 V[P-P]/75 Ω, composite video, BNC connector x 2)
Scanning System :	2:1 Interlace
Synchronization :	Internal Sync only
White Balance :	Auto Tracing White Balance(ATW)/Auto White Balance Control(AWC)/Manual(MANU)
AGC:	ON/OFF (Approx. 12 dB gain at AGC on position)
ELC:	ON/OFF
Brightness:	MANUAL/AUTO
Light Measurement Area:	FULL/PRESET1/PRESET2/AUTO
Image Orientation:	NORMAL/ROTATE or NORMAL/MIRROR
Freeze:	FREEZE/LIVE
Aperture Compensation:	HIGH/LOW
Function Switches:	Auto White Balance Control Button
	White Balance Selection Switch (AWC/ATW/MANU (Manual))
	Image Orientation Selection Switch (NORM. (Normal) / ROTA. (Rotate))
	Brightness Selection Switch (AUTO/MANU (Manual))
	Live/Freeze Button
	ELC On/Off Switch
	AGC On/Off Switch
	2-Memory AWC Mode On/Off Switch
	Mirror/Rotate Selection Switch
	Light Measurement Area Selection Switch
	Aperture Level Selection Switch
	Cable Selection Switch
Controls:	White Balance R/B Gain Control
	Brightness Control
Power Source :	12 V DC, 450 mA
Camera Cable Length :	GP-CA162/2 Cable 2 m {6.6 ft.}
	GP-CA162/38 Cable 3.8 m {12.5 ft.}
Ambient Temperature :	10 °C to 45 °C {50 °F to 113 °F}
Dimensions :	Camera Head : 17 (Diameter) x 35.5 (D) mm {2/3" (Diameter) x 1-1/2"(D)}
	Camera Control Unit : 120 (W) x 36 (H) x 157 (D) mm {4-11/16" (W) x 1-7/16" (H) x 6-1/8" (D)}
Weight :	Camera Head : 14 g {0.035 lbs}
	Camera Control Unit : 530 g {1.2 lbs}

Weight and dimensions indicated are approximate.
Specifications are subject to change without notice.

STANDARD ACCESSORIES

- Operating Instructions (this Document)

OPTIONAL ACCESSORIES

.
- Camera Cable GP-CA162/2 or GP-CA162/38
. • C-mount Adaptor GP-AD22TA
. • Wide Angle Lens GP-LM3TA or GP-LM7TA
. • Pinhole Lens GP-LP12TA
. • Tele Angle Lens GP-LM15TA or GP-LM24TA

For U.S., Canadian and Puerto Rican fields:

Panasonic System Solutions Company,
Unit Company of Panasonic Corporation of North America
Security Systems
www.panasonic.com/security
For customer support, call 1.877.733.3689
Executive Office: Three Panasonic Way 2H-2, Secaucus, New Jersey 07094
Zone Office
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