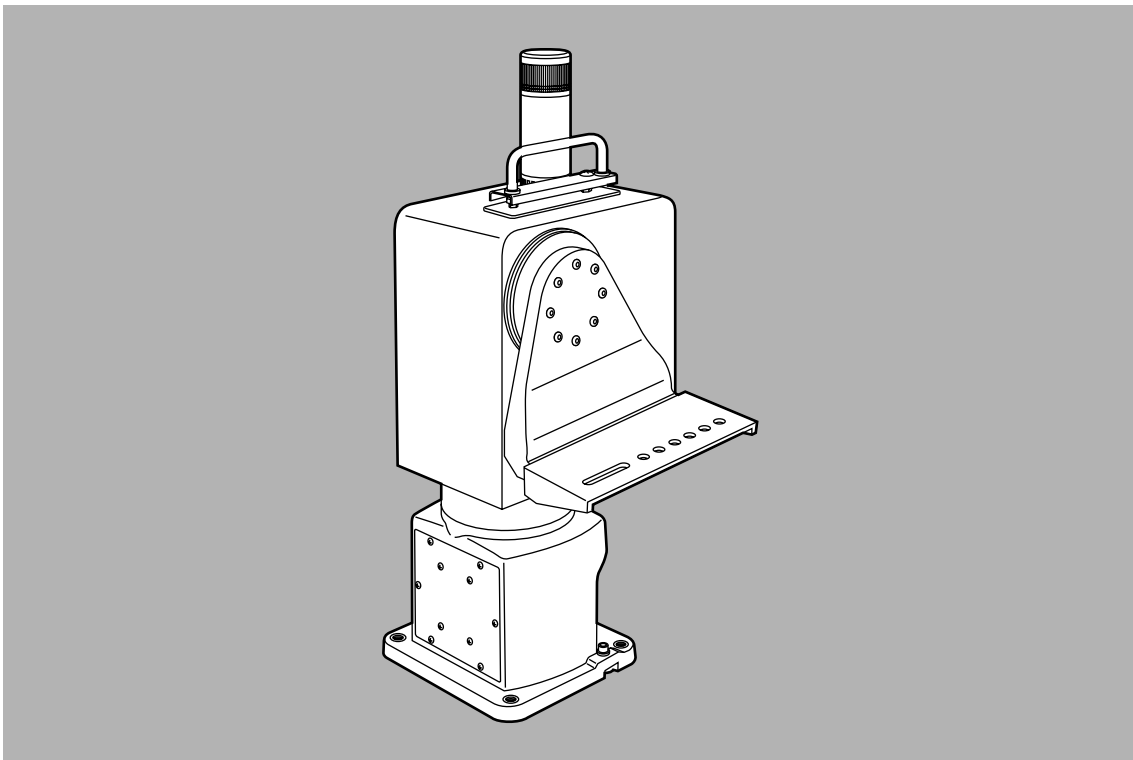


# Operating Instructions

Indoor Pan/Tilt Head



AW-PH500P





**Panasonic**<sup>®</sup>

Before attempting to connect, operate or adjust this product, please read these instructions completely.

# Safety precautions

	<b>CAUTION</b> 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 (service) instructions in the literature accompanying the appliance.

**WARNING:**  
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

**CAUTION:**  
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, REFER CHANGE OF SWITCH SETTING INSIDE THE UNIT TO QUALIFIED SERVICE PERSONNEL.

**FCC Note:**  
This device complies with Part 15 of the FCC Rules. To assure continued compliance follow the attached installation instructions and do not make any unauthorized modifications.

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.

**CAUTION:**  
TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Replace battery with part No. CR2032 only.  
Use of another battery may present a risk of fire or explosion.  
Caution—Battery may explode if mistreated.  
Do not recharge, disassemble or dispose of in fire.

 indicates safety information.

Thank you very much for purchasing the AW-PH500 indoor pan/tilt head. This pan/tilt head is designed to be used with electronic news gathering (ENG) cameras. A studio pan/tilt head system can be constructed by using the AW-PH500 in combination with any model in the AW-F575 series of ENG cameras.

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# Overview

- This stand-alone indoor pan/tilt head for ENG applications enables the camera to be turned 95 degrees upward, 95 degrees downward and 300 degrees on the horizontal.
- A total weight of 15 kg including the camera and lens can be supported.
- Direct control can be exercised from the AW-RP301 pan-tilt control panel. (However, the camera itself cannot be controlled from the panel).
- The pan/tilt head can be controlled directly from the AW-RP501 hybrid control panel.
- When the AW-RP305 multi-control panel or AW-RP505 multi-hybrid control panel is used, up to five pan/tilt heads can be controlled directly through the AW-HB505 multi-port hub. (However, the camera itself cannot be controlled from the AW-RP305).
- Control can be exercised from a PC, etc. using the RS-232C interface. (Up to 50 points can be preset when control is exercised using the RS-232C interface).
- Control can be exercised using a contact-type controller.

# Check the accessories supplied

- Rotary arm (×1)
- Rotary arm anchoring screws (×8)
- Rotary arm anchoring flat washer (×8)
- Rotary arm anchoring spring washer (×8)
- Camera mounting board anchoring screws (×2)
- Flat washers (×2)
- Spring washers (×2)

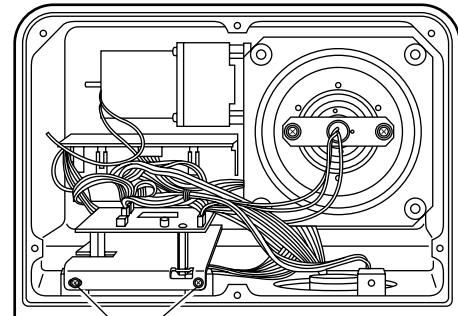
# Operating precautions

In addition to the "Safety precautions," please heed the precautions described below.

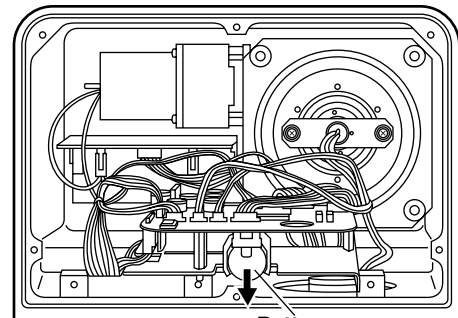
This pan/tilt head uses a manganese dioxide-lithium battery (CR2032). Be absolutely sure to remove this battery when the pan/tilt head is to be scrapped or its printed circuit board is to be scrapped. Be absolutely sure to comply with the regulations applicable in the country concerned that govern the disposal of batteries which have been removed from equipment and batteries which have been replaced. Do not dispose of this battery as household garbage.

## ■ How to replace the battery

1. Remove the panel by removing the six screws on the side opposite to the one with the rotary arm.
2. Remove the two screws shown in the figure on the right, and draw out the circuit board.
3. Pull down the battery to remove it, and then install a replacement battery.



Screws (x2)

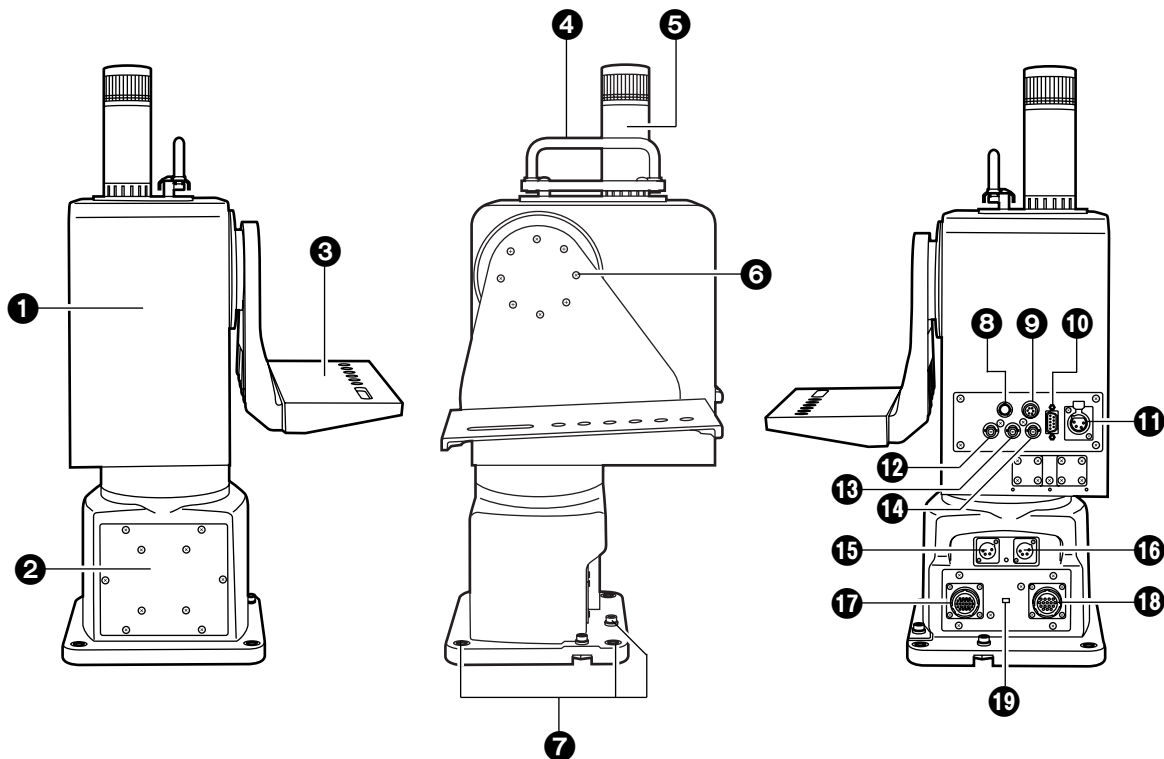


Battery

## Installation precautions

- In deciding where to attach the pan/tilt head, give due consideration to the weight of the pan/tilt head and the weight of the camera to be mounted on it, and select a flat and level location where the pan/tilt head can be firmly secured. Secure the pan/tilt head firmly so that it will not shake, rock or wobble whether it is stationary or rotating. Read through the installation procedure and install the pan/tilt head securely.
- A camera weighing up to 15 kg can be mounted on the pan/tilt head. A camera weighing more than 15 kg including the weight of its lens cannot be used.
- No screws for attaching the pan/tilt head are provided with the pan/tilt head. Select the screws to be used by giving due consideration to the location where the pan/tilt head is to be attached and the weight of the camera which will be mounted on the pan/tilt head.
- Do not install the pan/tilt head in an extremely hot or cold location where the temperature will drop below  $-20\text{ }^{\circ}\text{C}$  or rise above  $+60\text{ }^{\circ}\text{C}$  since doing so will give rise to instability in the operation of the pan/tilt head.
- To supply power to the pan/tilt head, be sure to use only the AW-PS505 AC adapter designed exclusively for this pan/tilt head.
- The maximum power which can be supplied to the camera is 2 A (DC 12 V).
- Do not use your hands to turn the rotating parts. Doing so may cause malfunctioning.
- Before installing the pan/tilt head, be absolutely sure to turn its power off.
- Before checking the pan/tilt head's operations and actually using it, always check to ensure that nobody is within the rotational range of the pan/tilt head.

# Parts and their functions



## ① Rotary head

This rotates in the panning direction.

## ② Pedestal

## ③ Rotary arm

The ENG camera is mounted on this arm. The arm rotates in the tilting direction.

## ④ Grip

This is where the pan/tilt head is held. Use it to carry the pan/tilt head from one place to another or pick it up when installing it.

## ⑤ Tally lamp

This is lit by the tally ON signal of the hybrid controller or other device. For further details, refer to the operating instructions of the controller.

## ⑥ Rotary arm anchoring screws (supplied)

These hexagon head bolts (×8) are used to anchor the rotary arm.

## ⑦ Holes for attaching the pan/tilt head

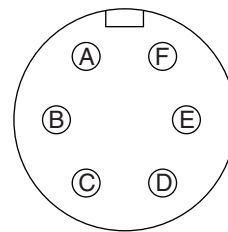
These holes are used for anchoring the pan/tilt head when it is installed.

## ⑧ Lens I/F connector (12-pin round)

This connector is used to control the zooming and focusing of the motorized lens unit.

## ⑨ ND/EXT CONTROL connector

This output connector is used to perform ON/OFF control for the motorized ND filter, the ND filter of a lens with a built-in motorized extender and the lens extender. The connector has contact outputs. The R03-P6M or R03-PB6M connector made by Tajimi Electronics Co., Ltd. is compatible.

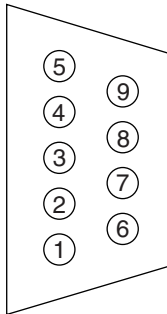


- A** : ND signal
- B** : ND return
- C** : EXT signal
- D** : EXT return
- E** : GND
- F** : VCC (+15 V)

# Parts and their functions

## ⑩ COMPONENT INPUT connector (9-pin D-sub)

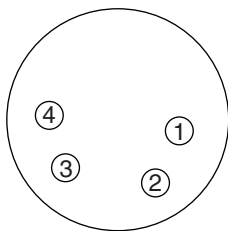
The component signals of the camera are input to this connector.



- 1: R GND
- 2: G GND
- 3: R/Pr/C
- 4: G/Y/Y
- 5: B/Pb
- 6: NC
- 7: NC
- 8: B GND
- 9: NC

## ⑪ CAMERA POWER OUT connector (4-pin Cannon)

The DC 12 V power supplied to the camera is output from this connector.



- 1: GND
- 4: +12 V

## ⑫ VIDEO IN connector (BNC)

This connector is connected to the video signal connector on the camera.

(1 V [p-p]/75 Ω)

## ⑬ G/L OUT connector (BNC)

The G/L signals sent from the controller are output from this connector which is connected to the G/L input connector on the camera.

## ⑭ CAMERA CONTROL OUT connector (BNC)

This connector is connected to the control input connector on the camera when connecting a camera which is to be controlled using the AW-RP501 controller.

Refer to page E-11 when the AW-F575 ENG camera is to be connected.

## ⑮ POWER1 INPUT connector (4-pin Cannon)

The DC 15V power which is supplied from the AW-PS505 AC adapter is connected to this connector.

When the MOTOR POWER SELECT switch ⑲ is at the left setting, the power is supplied to both the pan/tilt head and the camera. When it is at the right setting, the power which is supplied from the POWER2 INPUT connector is used as the power supply for the pan/tilt head's motor.

## ⑯ POWER2 INPUT connector (4-pin Cannon)

The DC 15V power which is supplied from the AW-PS505 AC adapter is connected to this connector.

The power is supplied to the pan/tilt head's motor only when the MOTOR POWER SELECT switch ⑲ is at the right setting. Use this connector if the camera has a high power consumption.

## ⑰ P/T CONTROL INPUT connector (24-pin round)

The pan/tilt head control cable (AW-CA24U10, 20 or 30) is connected to this connector.

Refer to the section entitled "Connections."

## ⑱ CAMERA VIDEO/CONTROL IN/OUT connector (16-pin round)

The video camera control cable is connected to this connector.

Refer to the section entitled "Connections."

## ⑲ MOTOR POWER SELECT switch

This switch selects the power input of the pan/tilt head's motor. At the left setting, the power input to the POWER1 connector is used as the power supply of the pan/tilt head's motor; at the right setting, the power input to the POWER2 connector is used.

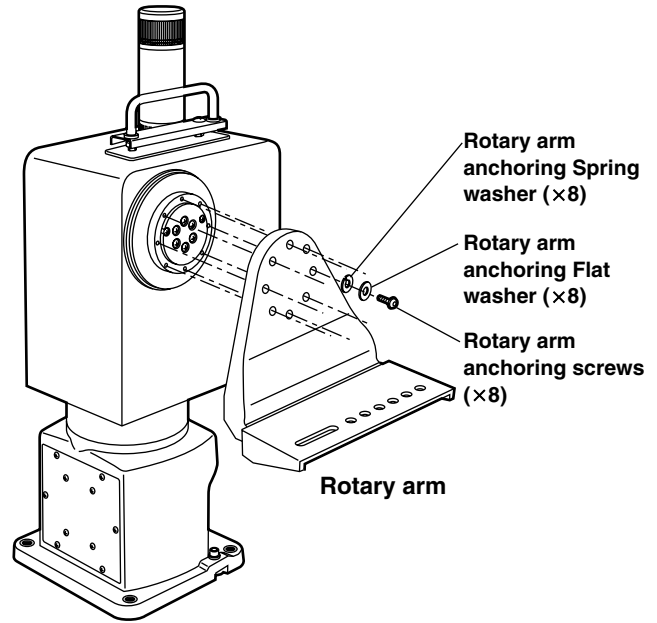
# Attaching the pan/tilt head

(Be absolutely sure to ask your dealer to do this work.)

## ■ Assembling the pan/tilt head

### ● Attaching the rotary arm

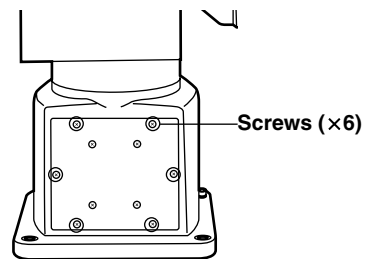
Use the rotary arm anchoring screws (×8, supplied), rotary arm anchoring flat washers (×8, supplied) and rotary arm anchoring springwashers (×8, supplied) to attach the rotary arm (supplied) to the pan/tilt head. Tighten up the screws securely to prevent the arm from coming loose during use.



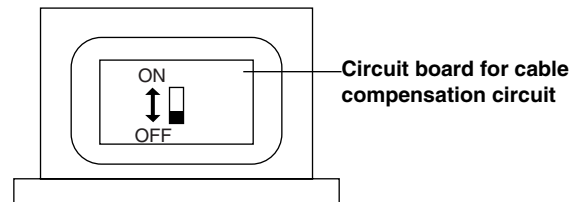
### ● Setting the cable compensation circuit

A maximum length of up to 500 meters is allowed for the cables (including the video camera control cable) between the pan/tilt head and controller when the 5C-2V cables are used. However, if the cable length is to exceed 300 meters, set the cable compensation circuit to ON by following the steps below.

1. Remove the six screws on the side opposite to the connector panel of the pan/tilt head pedestal, and pull the panel out toward you.



2. Set the switch on the printed circuit board attached to the panel to ON.



3. Return the panel to its original position, and anchor it using the screws. (Fasten the panel securely.)

# Attaching the pan/tilt head

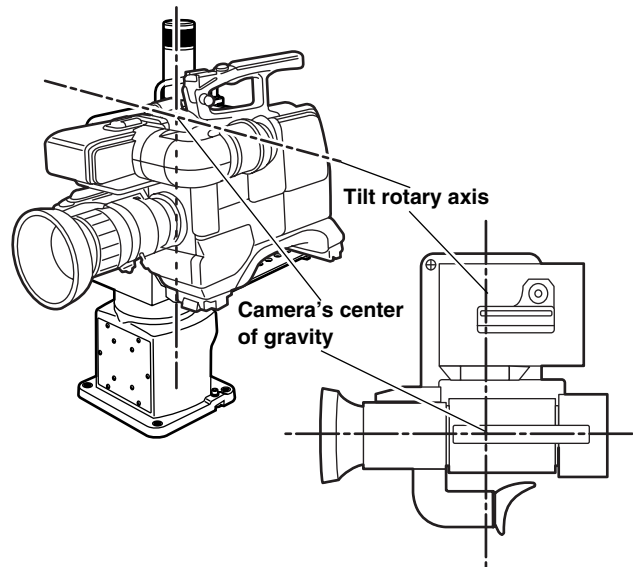
(Be absolutely sure to ask your dealer to do this work.)

## ■ Installation procedure

### ● How to attain camera balance

Be absolutely sure to follow the steps below to attain the camera balance when installing the camera on the pan/tilt head.

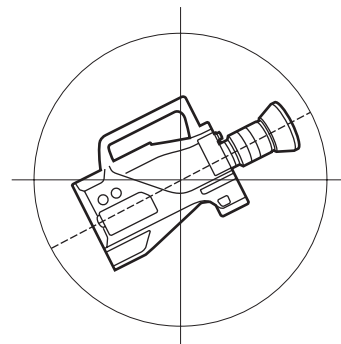
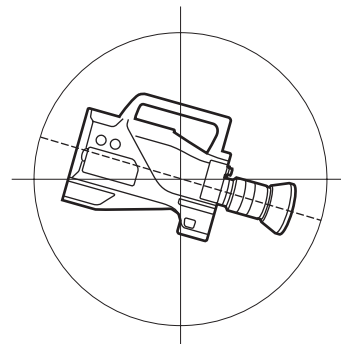
1. Position the pan/tilt head so that its tilt axis is on the horizontal, and attach the camera arm.
2. Position the camera using the balance points specified in the camera's manual as a guideline, and use the screw to secure.  
If the balance points are not specified, to position the camera, use the point where the center of gravity in the perpendicular direction of the camera with its attached lens is aligned with the tilt rotary axis, and use the screw to secure.
3. To acquire a reference for positioning while the tilt axis remains on the horizontal, capture on the screen a subject which can be clearly verified on-screen, and preset the position in the memory.



#### <Note>

Depending on the installation conditions, select an angle at which the camera which will be most often used in actuality rather than the horizontal.

4. After tilting the camera as far as it will go both upward and downward from the preset position, allow the camera to return to the preset position.
  - ① If the camera goes past the preset position when it has returned from the upward direction or if it stops before reaching the preset position when it has returned from the downward direction  
→ This means that the front of the camera (lens side) is too heavy.  
Shift the camera's installation position back.
  - ② If the camera stops before reaching the preset position when it has returned from the upward direction or if it goes past the preset position when it has returned from the downward direction  
→ This means that the back of the camera is too heavy.  
Shift the camera's installation position forward.
5. By repeating the above steps, even out in both the upward and downward directions as far as you can the movement past the preset position or the failure to return to this position.  
Finally, in the slow-motion mode operate the joystick and make fine adjustments so that the movements will become smooth.





# Attaching the pan/tilt head

(Be absolutely sure to ask your dealer to do this work.)

## ● Attaching the AW-F575

Use the WV-QT700 tripod stand to attach the AW-F575 camera.

<Note>

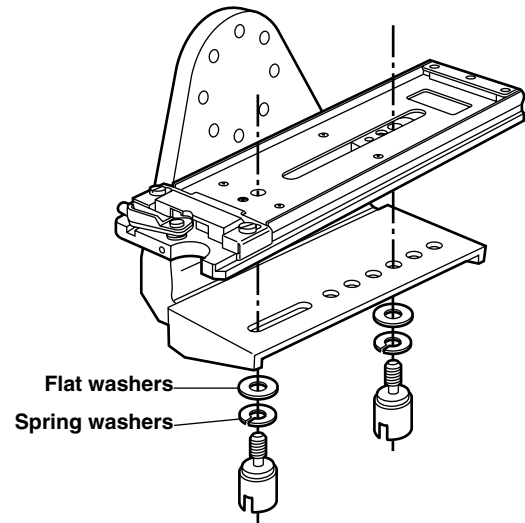
When attaching a camera other than the AW-F575, check its weight and dimensions to confirm whether it can be attached.

## ● Attaching the tripod stand

Place the WV-QT700 tripod stand on the arm, and anchor it from below using the two screws supplied with the pan/tilt head. Be sure to use both flat and spring washers when anchoring the tripod stand.

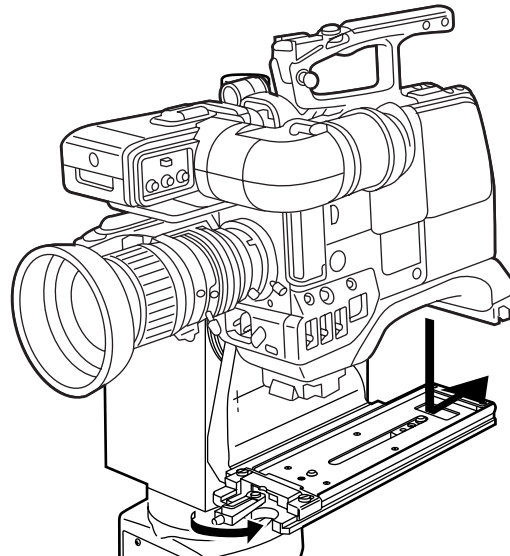
<Note>

Use a screwdriver or other such tool to secure the screws firmly.



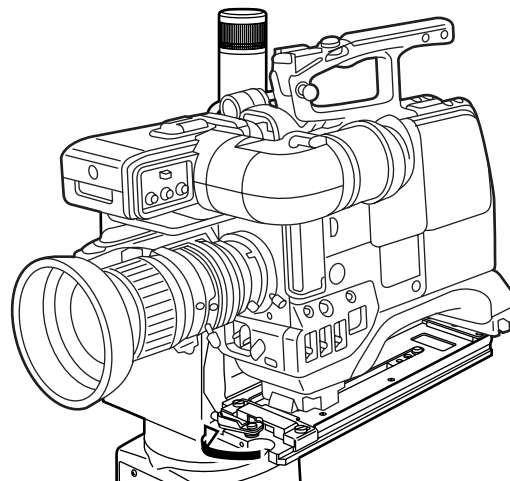
## ● Attaching the AW-F575 camera

1. While pushing the lock knob on the tripod stand, move the lock lever in the direction of the arrow.
2. Insert the catch at the rear of the camera into the groove on the tripod stand.



3. Place the camera proper on the tripod stand.

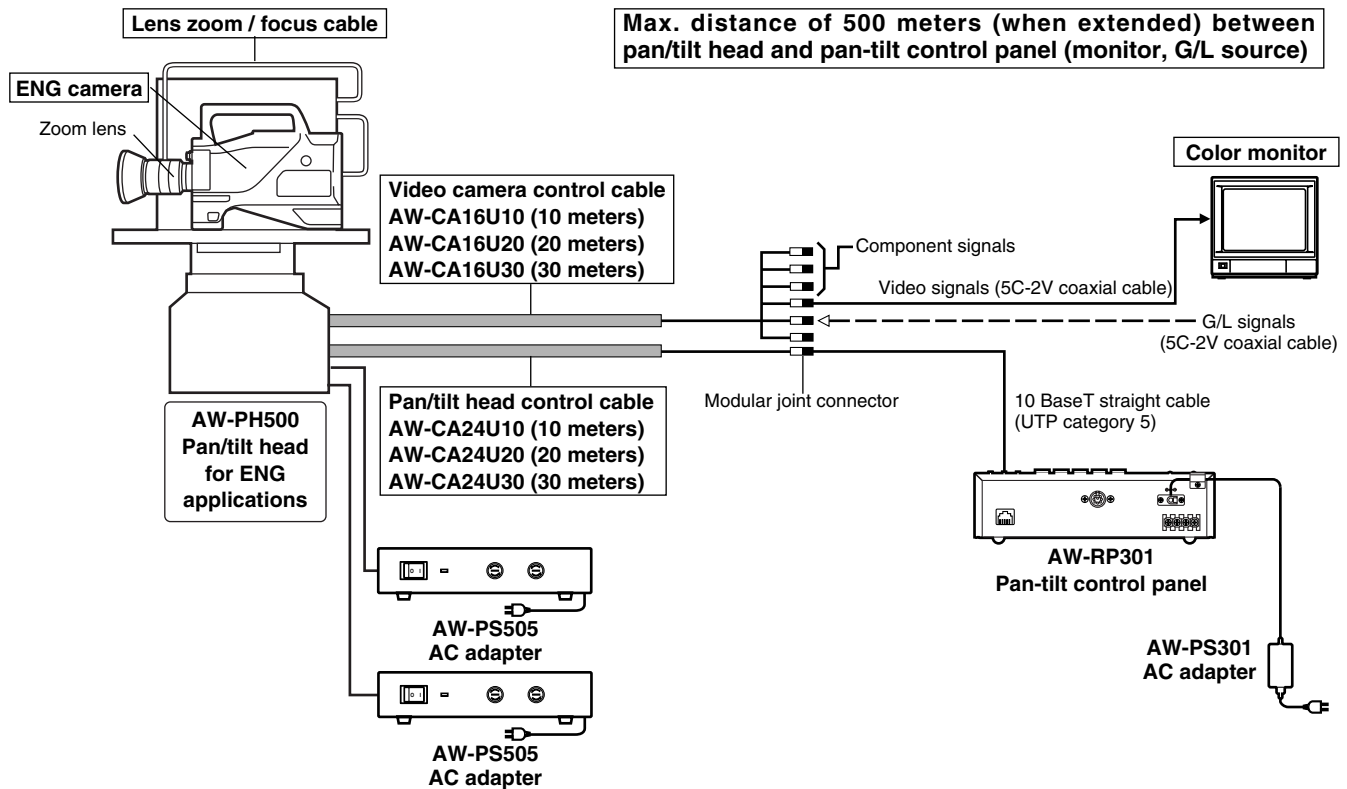
4. When the lock lever of the tripod stand is moved in the direction of the arrow, the camera proper is slid toward the rear and anchored.



# Connections

## ■ When using the control panel

### ● Standard connections

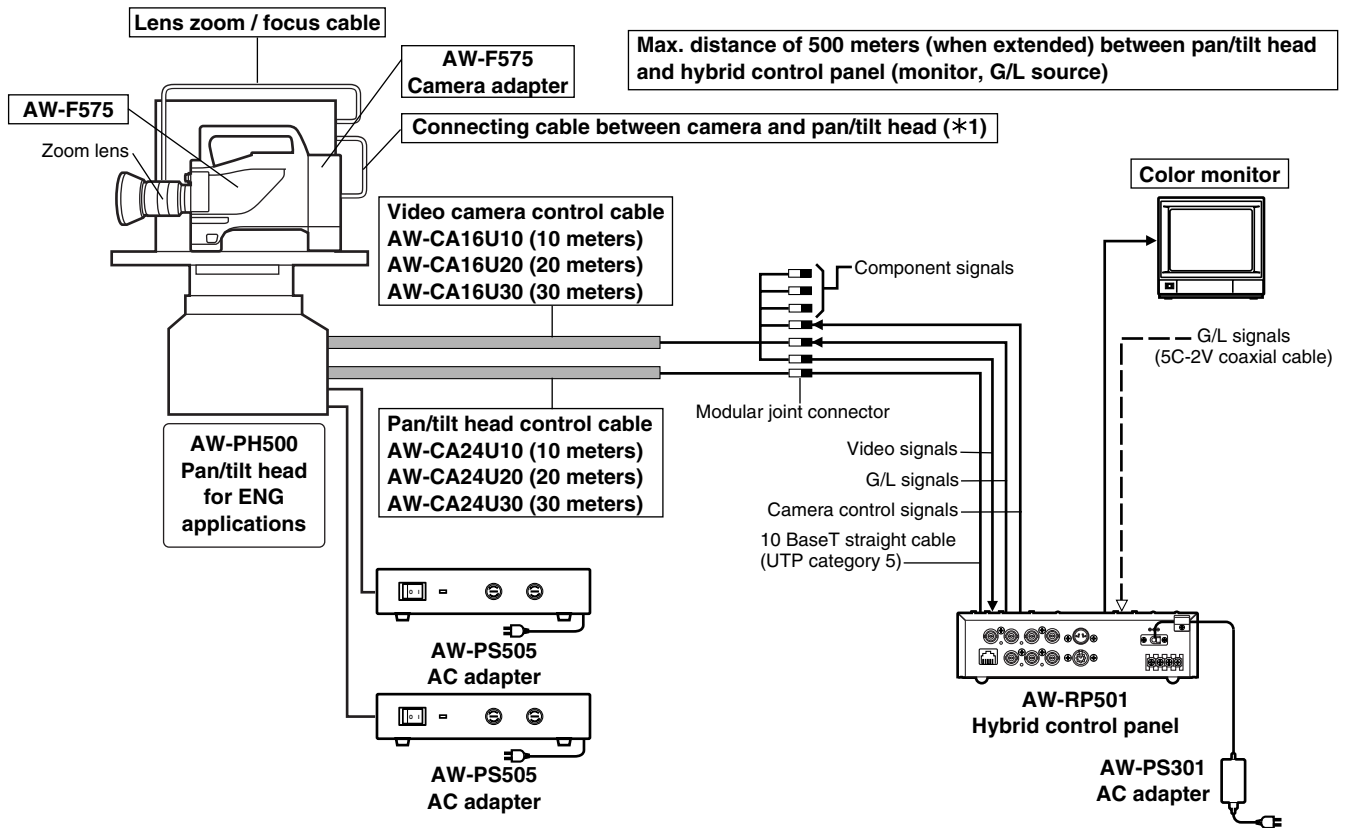


### <Notes>

- If two to five cameras and pan/tilt heads are to be connected, use the AW-RP305 as the controller, and connect the units through the AW-HB505 multi-port hub. For details on the connections, refer to the operating instructions of the units concerned.
- The distance between the camera pan/tilt head and controller can be extended to 500 meters (maximum) using the 10 BaseT straight cable (UTP category 5).
- The cable for outputting the video signals from the camera pan/tilt head and the cable for inputting the G/L signals to the pan/tilt head can be extended to 500 meters (maximum) using the 5C-2V coaxial cable.
- Provide the cables listed below for the connections between the camera and pan/tilt head. Make the cables long enough to support the connections when the camera is attached to the pan/tilt head and the pan/tilt head is moved upward and downward.  
(Approx. 60 cm: This length differs depending on the camera which is attached and the positions of the camera's connectors.)
  - ① DC power cable (DC 12 V, 4-pin Cannon connector at pan/tilt head end)
  - ② Video output cable (composite video, BNC connector at pan/tilt head end)
  - ③ G/L input cable (G/L signals, BNC connector at pan/tilt head end)
  - ④ Component output cable (component signals: 9-pin D-sub connector at pan/tilt head end; used only when component signals are to be output from a camera with component output connectors)
- When a motorized zoom lens is used, and its zoom/focus functions are to be controlled from the pan-tilt control panel, select a cable which is long enough to support the connections when the pan/tilt head is moved upward and downward, as with the cables listed above.  
(Recommended cable: S14 × 7.5BMD-D24 made by Fujinon)

# Connections

## ● When the AW-F575 is used as the camera to be installed



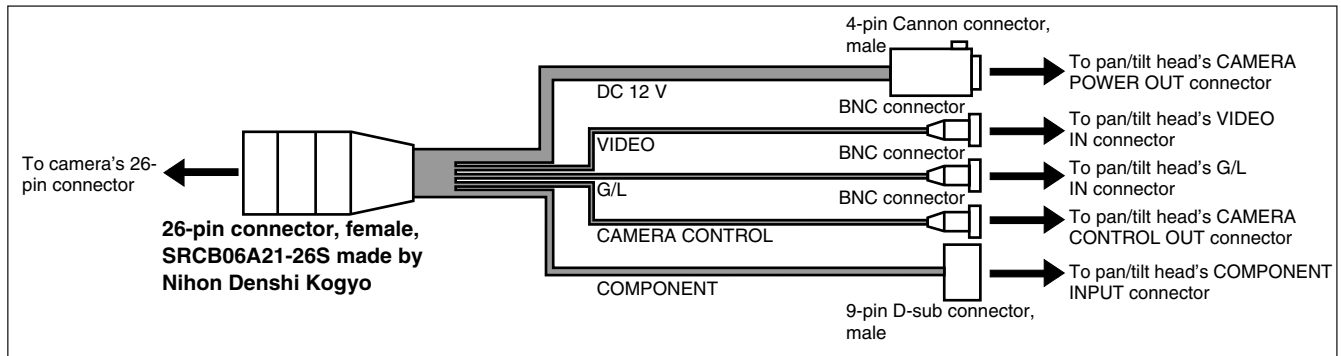
### <Notes>

- If the AW-F575 camera is used, the camera can be controlled from the hybrid control panel by performing the connections as described below.
- If two to five cameras and pan/tilt heads are to be connected, use the AW-RP505 as the controller, and connect the units through the AW-HB505 multi-port hub. For details on the connections, refer to the operating instructions of the units concerned.
  - When multiple cameras and pan/tilt heads are to be controlled, priority is given to the switches on the camera in the case of cameras other than the one selected by the multi-hybrid control panel.  
Example: If color bar signals have been selected by the side panel switch on camera 1 and the multi-hybrid control panel has selected the camera video signals, when camera 1 is selected by the control panel, the video output of camera 1 will be selected as the camera video signals. However, when a camera other than camera 1 is selected by the control panel, the video output of camera 1 will be returned to the color bar signals. The same result will also be obtained with the other switches.
  - The distance between the camera pan/tilt head and controller can be extended to 500 meters (maximum) using the 10 BaseT straight cable (UTP category 5).
  - The cable for outputting the video signals from the camera pan/tilt head and the cable for inputting the G/L signals to the pan/tilt head can be extended to 500 meters (maximum) using the 5C-2V coaxial cable.
- The AW-F575 camera is set to the “night eye” mode when the GAIN selector switch on the AW-RP501 hybrid control panel or AW-RP505 multi-hybrid control panel is set to the AGC position.

# Connections

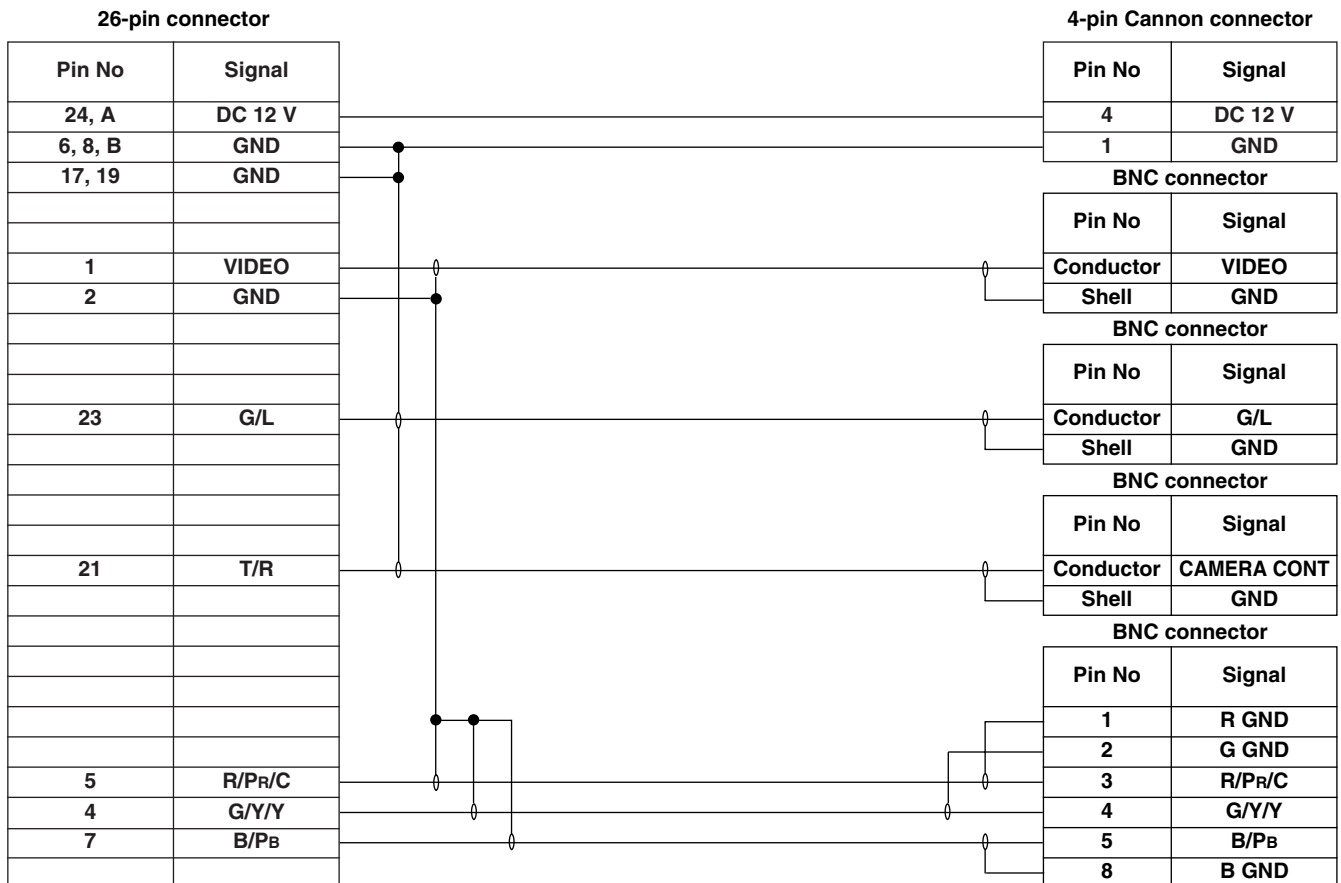
## <Note>

- Provide the cable shown in the figure described below to connect the camera with the pan/tilt head (\*1). Make the cable long enough to support the connection when the camera is attached to the pan/tilt head and the pan/tilt head is moved upward and downward. (Approx. 60 cm: This length differs depending on the camera which is attached and the positions of the camera's connectors.)



- Use a 1.5C-2V coaxial cable for the video and camera control signals.
- Provide cables with a nominal cross-sectional area of 0.3 mm<sup>2</sup> or more that comply with the Electrical Appliance and Material Control Law for the DC power supply and GND (connected using 4-pin Cannon connectors).

## ● Cable wiring diagram



## <Note>

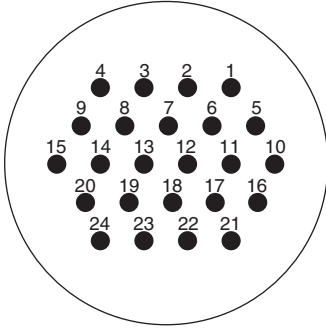
When a motorized zoom lens is used, and its zoom/focus functions are to be controlled from the pan-tilt control panel, select a cable which is long enough to support the connections when the pan/tilt head is moved upward and downward, as with the cables listed above. (Recommended cable: S14 × 7.5BMD-D24 made by Fujinon)

# Connections

## ■ Connecting the cables to the pan/tilt head

### ● Pan-tilt control connector

The pan/tilt head control cable is connected here.



Pin No.	Signal	Function
1	DI UP	Upward direction control input (contact signal)
2	DI DOWN	Downward direction control input (contact signal)
3	DI LEFT	Leftward direction control input (contact signal)
4	DI RIGHT	Rightward direction control input (contact signal)
5	DO RUN	Rotation underway signal output
6	DI OPT SEL	Power control input
7	DGND	GND
8, 9	NC	Not used
10	HOT2	Data transmitted from pan/tilt head (when controller is used)
11	HOT1	Data transmitted from pan/tilt head (when controller is used)
12	COLD1	Data transmitted from pan/tilt head (when controller is used)
13	COLD2	Data transmitted from pan/tilt head (when controller is used)
14	TALLY IN	Tally control input
15	DGND	GND
16	TXD232	Data transmitted from pan/tilt head (RS-232C)
17	RXD232	Data transmitted from pan/tilt head (RS-232C)
18	DGND	GND
19 - 24	NC	Not used

This connector is connected to the PAN/TILT CONTROL OUT connector on the control panel (AW-RP301, AW-RP501 or AW-RP505) or multi-port hub (AW-HB505).

For connection, use one of the optional cables listed below.

Pan/tilt head control cable	10 meters: AW-CA24U10
	20 meters: AW-CA24U20
	30 meters: AW-CA24U30
● Contact control signals are not connected to this cable.	

The cable can be extended to 500 meters (maximum). To extend the cable, use a commercially available 8-pin modular jack used for extension purposes, and extend using a 10 BaseT straight cable (UTP category 5).

When using the RS-232C interface to control the pan/tilt head, remove the cable housing of the 10-meter optional cable mentioned above, and attach a connector which fits the unit used.

Refer to the case where control is exercised using the RS-232C interface.

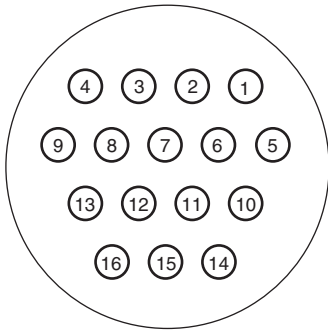


- The brown wire is connected to pin 16.
- The red wire is connected to pin 17.
- The orange wire is connected to pin 18.

# Connections

## ● Remote connector

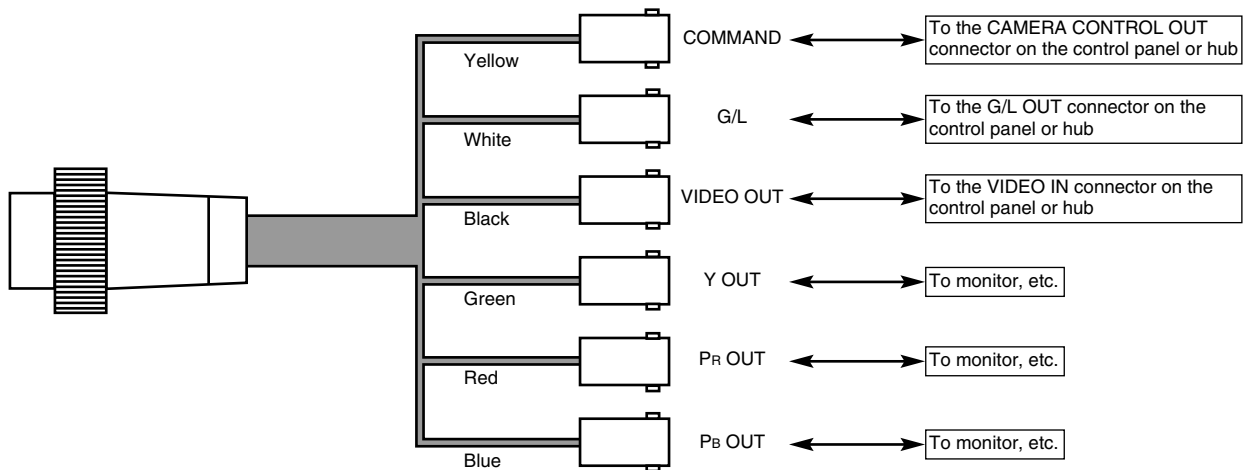
The video camera control cable is connected here.



Pin No.	Signal	Function
1	COMMAND	Camera control signal input/output
2	GND	GND
3	G/L IN	External sync (gen-lock) signal input
4	GND	GND
5	VIDEO OUT	Camera video signal output
6	GND	GND
7	Y OUT	Camera Y signal output
8	GND	GND
9	NC	Not used
10	PR OUT	Camera PR signal output
11	GND	GND
12	PB OUT	Camera PB signal output
13	GND	GND
14	NC	Not used
15	NC	Not used
16	NC	Not used

Use a coaxial cable (5C-2V) to extend the following optional cables for connection with the control panel (AW-RP501 or AW-RP505).

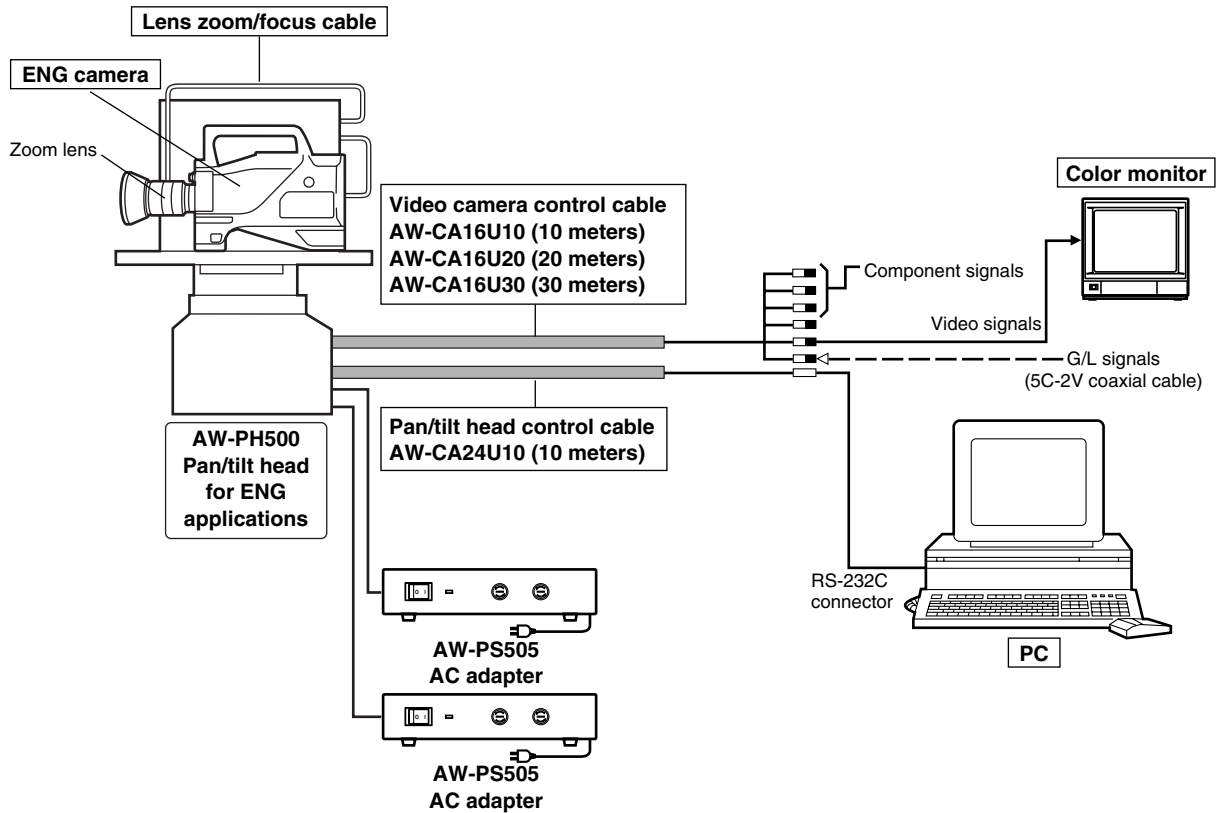
Video camera control cable  
 10 meters: AW-CA16U10  
 20 meters: AW-CA16U20  
 30 meters: AW-CA16U30



- The Y, PR and PB signals are not output if they are not output from the camera.
- Camera control is possible only when the AW-F575 is used as the camera.

# Connections

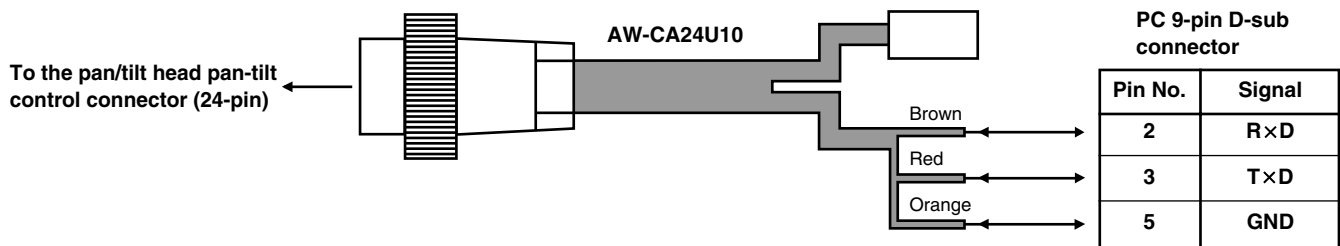
## ■ When using the RS-232C interface to control the pan/tilt head



- The camera cannot be controlled using the RS-232C interface.

## ● Connections with the PC

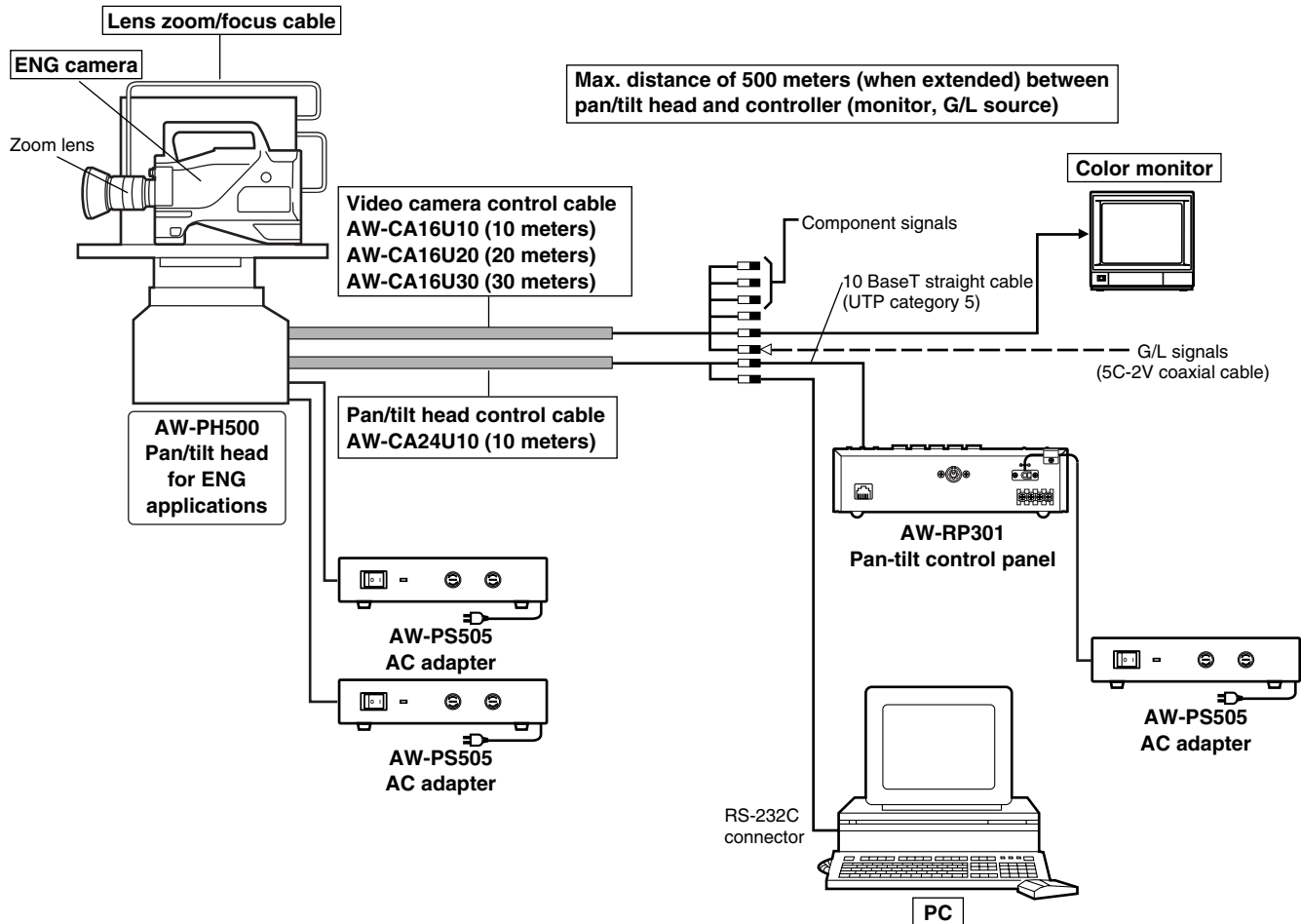
Shown below are the connections for the RS-232C cable from the PC and for the cable from the pan/tilt head when control is to be exercised using the RS-232C interface.



- Keep the length of the cable between the pan/tilt head and PC to less than 15 meters.  
To extend the cable to a length exceeding 15 meters, convert the interface from RS-232C to RS-422 for sending, and convert it back to RS-232C at the receiving end.
- Use a crossover cable between the pan/tilt head and PC.

# Connections

## ■ When using the RS-232C interface and control panel to control the pan/tilt head



### <Notes>

- Keep the length of the cable between the pan/tilt head and PC to less than 15 meters.  
To extend the cable to a length exceeding 15 meters, convert the interface from RS-232C to RS-422 for sending, and convert it back to RS-232C at the receiving end.
- Use a crossover cable between the pan/tilt head and PC.
- Refer to the connections with the PC in the section entitled “When using the RS-232C interface to control the pan/tilt head” for directions on how to connect the pan/tilt head control cable and RS-232C cable.
- If a hybrid panel is used as the control panel when the AW-F575 is to be used as the ENG camera, the camera can be controlled from the control panel. In this case, the connections between the control panel and pan/tilt head and between the camera and pan/tilt head are the same as described in the section entitled “When the AW-F575 is used as the camera to be installed” under “When using the control panel.”
- The camera cannot be controlled using the RS-232C interface.

## ■ Exercising control using contacts

To exercise control using contacts, connect the contact control inputs of the pan-tilt control contractor to DGND. (Pull-up to 5 V inside the pan/tilt head)  
Refer to the connector specifications.



# Specifications

<b>Power supply</b> : DC 12 V
<b>Power consumption</b> : 54 W at DC 12 V (camera power included)
DC 12 V 2.5 A (pan-tilt head only)

 indicates safety information.

## GENERAL

<b>Dimensions (W × H × D):</b>	10-15/16" × 25-1/16" × 12-1/2" (252 × 636 × 317 mm)
<b>Weight:</b>	34.76 lbs (15.8 kg)
<b>Allowable operating temperature:</b>	14 F to 113 F (−10 °C to + 45 °C)
<b>Allowable operating humidity:</b>	Max. 90%
<b>Finish:</b>	Paint with a color approximating Munsell N3.5

## INPUT/OUTPUT CONNECTORS

<b>VIDEO IN:</b>	BNC connector × 1 (connected to camera)
<b>G/L OUT:</b>	BNC connector × 1 (connected to camera)
<b>CAMERA CONTROL:</b>	BNC connector × 1 (connected to camera) ●The AW-F575 is the camera which can be connected.
<b>COMPONENT IN:</b>	D-sub 9-pin connector × 1 (connected to camera)
<b>DC OUT:</b>	4-pin Cannon connector × 1
<b>ND/EXT:</b>	6-pin round connector × 1 For controlling ND filter of motorized lens unit, lens extender
<b>LENS IF:</b>	12-pin round connector × 1 For controlling zooming and focusing of motorized lens unit (Connection of zoom/focus cable of lens)
<b>G/L IN:</b>	16-pin multi-connector × 1 (75 Ω, 1 V [p-p], VBS or BBS, connected to control panel) Extension up to 500 meters enabled by 5C-2C coaxial cable
<b>VIDEO OUT:</b>	16-pin multi-connector × 1 (75 Ω, 1 V [p-p], VBS, connected to control panel) Extension up to 500 meters enabled by 5C-2C coaxial cable
<b>CAMERA CONTROL IN:</b>	16-pin multi-connector × 1 (Connected to control panel) * This works only when the AW-F575 is the camera used. Extension up to 500 meters enabled by 5C-2C coaxial cable
<b>P/T CONTROL IN (SERIAL):</b>	24-pin multi-connector × 1 (Connected to control panel) Extension up to 500 meters enabled by 10 BaseT straight cable (UTP category 5)
<b>P/T CONTROL IN (RS-232C):</b>	24-pin multi-connector × 1 Used for PC control (RS-232C)
<b>DC 12 V IN:</b>	4-pin Cannon connectors × 2 (Connected to AW-PS505)

## FUNCTIONS/PERFORMANCE

<b>Up/down angle of rotation:</b>	190 degrees (approx. ±95 degrees)
<b>Horizontal angle of rotation:</b>	300 degrees (approx. ±150 degrees)
<b>Maximum weight supported:</b>	33 lbs (15 kg)
<b>Noise level:</b>	Less than NC35

# Warranty and after-sale service *(please read carefully)*

For consultation regarding repairs, handling, maintenance, etc.: Contact your dealer first.

## ■ Warranty card (provided separately)

Be certain that you receive the warranty card from your dealer with the date of purchase, name of the store and other pertinent details correctly filled in. Read carefully through the terms and conditions of the warranty, and then store the warranty card in a safe place.

**Warranty period: One (1) year from the date of purchase**

## ■ When requesting repairs

First turn off the power, and then contact your dealer.

### ● During the warranty period

On-site repairs will be conducted in accordance with the terms and conditions of the warranty.

### ● After the warranty period has expired

Repairs will be conducted as requested at cost to the user for any product whose use can be restored by such repairs. The critical parts of the indoor pan/tilt head will be kept for at least 8 years after production of the pan/tilt head has been suspended.

**Note:** A “critical part” is a part which is required in order to maintain the product’s functions.

### ● Repair charge breakdown

Repair charges consist of the technical charges, cost of the parts and travel expenses, etc.

**Technical charges:** These are levied on the work involved in diagnosis, repairing the problem or malfunctioning, replacing the parts, making the necessary adjustments, conducting the inspections upon completion of the repairs, etc.

**Cost of parts:** This is the cost of the parts and auxiliary materials used for the repairs.

**Travel expenses:** These are levied when a service engineer is dispatched to the location of the product.



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# Panasonic

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