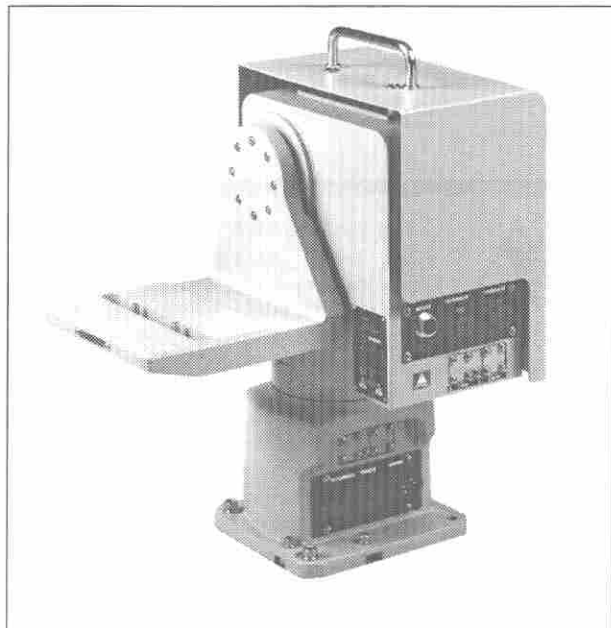


# Operating Instructions

**Panasonic®**


Outdoor Pan/Tilt Head

Model No. **AW-PH600P**



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

For U.S.A.



**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.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For CANADA

This Class A digital apparatus complies with Canadian ICES-003.  
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.



SA 1965

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.



SA 1966

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.

The information marking of this product may be found on the bottom of the product.  
The serial number of this product may be found on the bottom of the product.  
You should note the serial number of this product 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. \_\_\_\_\_

# CONTENTS

WARNING/CAUTION FOR SAFETY .....	4
PREFACE .....	5
PRECAUTIONS .....	6
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS .....	7
MOUNTING .....	10
■ Precautions for Installation .....	10
■ Installation Procedures .....	11
■ Installing Video Relay Box .....	11
■ Mounting the Tilting Arm .....	13
■ Setting the Cable Compensation Circuit .....	13
■ Mounting the Housing .....	14
CONNECTION .....	15
■ Connecting to the Housing .....	15
■ Connecting Cables to the Pan/Tilt Head .....	16
■ In Case of Using a Control Panel .....	21
■ Controlling with RS-232C .....	22
■ Controlling with RS-232C and a Control Panel .....	24
■ Control with Contact Signals .....	26
BEFORE USE .....	27
■ Setting the Limiter .....	27
■ Resetting the Limiter .....	28
■ Setting the Limiter Again .....	29
■ Replacing Expendables .....	30
SPECIFICATIONS .....	31
STANDARD ACCESSORIES .....	32
APPEARANCE .....	33

# WARNING/CAUTION FOR SAFETY

## **WARNING**

- **Refer all servicing to qualified personnel**  
To reduce the risk of electric shock, don't remove cover or back, unless you are a qualified personnel. Refer all mountings, connections, servicing to qualified service personnel.
- **No water or moisture inside**  
Do not let water or moisture into the product, or expose it to moisture, to prevent a fire and electric shock.
- If you see smoke or smell an odor from the product, if water or other foreign matter gets inside, if it is damaged by dropping, or if you find anything wrong with it, immediately stop using it.
- **Do not disassemble or modify the product to prevent a fire and electric shock.**

## **CAUTION**

- **Install it at a stable place and fasten it securely.**  
The product may fall due to unstable installation, possibly causing injuries and accidents.
- **Be sure to switch power off before maintenance or installation.**  
Otherwise, there is the danger of fingers caught in the rotating parts or of other injuries.
- Do not install this product near any object that burns easily.  
In case of using a halogen lamp, installation of it near such an object could cause a fire due to the heat generated by the lamp.

## PREFACE

- The AW-PH600 is an outdoor pan/tilt head for the Panasonic series of convertible cameras. An outdoor pan/tilt head system can be built by combining it with the outdoor camera housing AW-CH600 and AC adaptor AW-PS600.
- This is an installing type outdoor pan/tilt head which can be turned 40 degrees up, 45 degrees down, and 300 degrees horizontally.
- Can carry a camera and a lens of up to 10 kg in total. (Except the camera housing)
- The pan/tilt head can be directly controlled from a pan/tilt control panel (AW-RP301 or AW-RP305). (No camera control)
- The camera and pan/tilt head can be directly controlled from the hybrid control panel (AW-RP501).
- Up to 5 cameras with pan/tilt heads can be controlled from the multihybrid control panel (AW-RP505) via the multiport hub (AW-HB505).
- The pan/tilt head can be controlled from a personal computer via the RS-232C. (Up to 50 points can be preset.)
- The pan/tilt head can be controlled with a contact type controller.

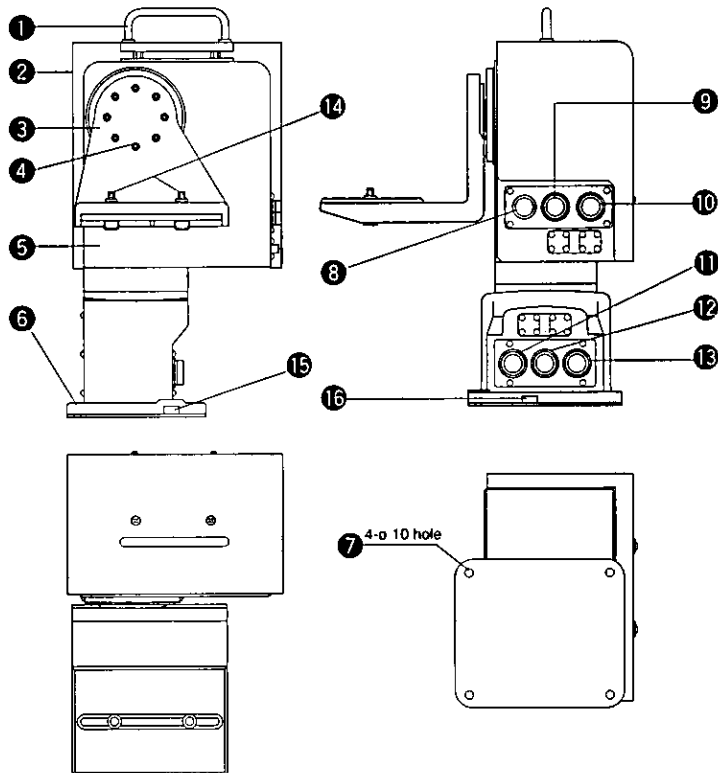
# PRECAUTIONS

- The manganese dioxide lithium battery (CR2032) is used in this pan/tilt head.  
Before disposing of the pan/tilt head or of its printed circuit board, be sure to remove the battery from it.
- Be sure to observe the applicable laws and regulations in disposing of removed or replaced batteries. Do not dispose of them as ordinary waste.
- For the battery removal procedures, see the description of battery replacement in the section on Replacing Expendables (page 30).
- Operating Temperature Range  
Avoid using the product at a cold place below  $-20^{\circ}\text{C}$  or at a hot place above  $+60^{\circ}\text{C}$  because extremely low or high temperature will adversely affect the parts inside.

## Caution

Danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

# MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



**1 Grip**

Used in carrying, installing, or lifting the pan/tilt head.

**2 Cover**

This cover protects the pan/tilt head from direct exposure to sunlight.

**3 Tilting Arm**

This arm is for mounting the outdoor camera housing AW-CH600. It turns in the vertical directions.

**4 Tilting Arm Screws (accessories)**

Eight bolts with hexagonal hole for screwdriver are supplied for fastening the tilting arm.

**5 Panning Head**

Turns to the right and left.

**6 Base**

**7 Pan/Tilt Head Mounting Holes**

There are four holes for mounting the pan/tilt head.

**8 ND/EXT Connector [ND/EXT]**

Connect the cable for ND/EXT (lens ND filter and extender) control from the camera housing AW-CH600.

\* ND/EXT can be controlled, provided that a lens with the ND filter/extender function is used and is wired in the camera housing AW-CH600. For wiring in the camera housing, refer to the Operating Instructions for the lens used and for the camera housing.

**9 Housing I/F Connector [HOUSING I/F]**

Connect the housing I/F cable from the camera housing AW-CH600 to this connector.

**10 Camera I/F Connector [CAMERA I/F]**

Connect the camera I/F cable from the camera housing AW-CH600 to this connector.



**11 Pan/Tilt Control Connector [P/T CONTROL]**  
Connect the pan/tilt head control cable to this connector.

**12 Remote Connector [REMOTE]**  
Connect the video camera control cable to this connector.

**13 Power Connector [POWER]**  
Connect the 15V DC power cable from the AC adaptor AW-PS600 to this connector.

**14 Housing Mounting Bolt**  
Two bolts with hexagonal hole for screwdriver and plain washer supplied for fastening the camera housing.

**15 Anti-Fall Wire Bolt**  
This bolt fastens the anti-fall wire which prevents the pan/tilt head from falling from its installed position.

**16 Grounding Bolt**  
This bolt is used to connect the wire for system grounding (frame grounding bolt).

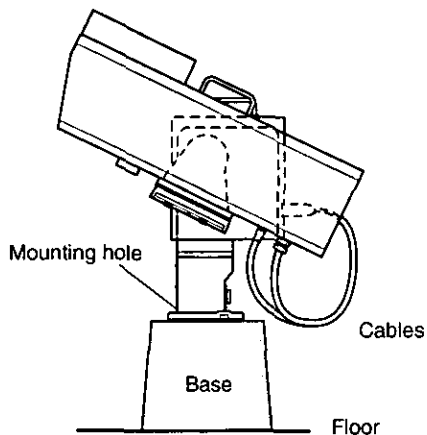
# MOUNTING

## ■ Precautions for Installation

- Choose a level place free of irregularities where the pan/tilt head can be installed securely, considering its weight and the load to be mounted on it. Fasten the pan/tilt head securely so it will not be unsteady regardless of whether it is still or in motion. If the pan/tilt head is mounted insecurely, or if its bolts are loose, the product may slip out of position or fall, possibly causing an accident.
- The maximum payload is 10 kg (including the lens and camera, but not the camera housing). The pan/tilt head cannot be used for a load over 10 kg.
- The bolts for mounting the pan/tilt head are not supplied. Choose the bolts as appropriate to the place of installation and the load.
- Fasten the camera housing to the pan/tilt head securely. Make sure that it will not be unsteady regardless of whether it is still or in motion.
- Do not install the pan/tilt head at a cold place (below  $-20^{\circ}\text{C}$ ) or a hot place (over  $+60^{\circ}\text{C}$ ) because extremely low or high temperature will cause operation instability.
- To supply power to the pan/tilt head, be sure to use the special AC adaptor AW-PS600.
- The AC adaptor is to be wired locally. Read the Operating Instructions for the AC Adaptor AW-PS600 and wire it with attention paid to safety.
- Do not turn the rotary parts by hand. Otherwise, it can cause trouble.
- Be sure to switch power off before installing the pan/tilt head.
- Secure enough space around the pan/tilt head and camera housing so there will be no obstacles in their operating range.
- When checking the pan/tilt head for operation and when actually operating it, make sure that there is no one in its operating range.

## ■ Installation Procedures

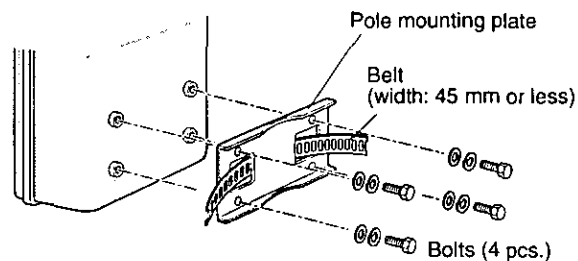
- Fasten the pan/tilt head securely using the four mounting holes.
- Install the pan/tilt head on a base so that the head will be high enough from the floor to prevent problems resulting with the cables from the housing rubbing with the floor.



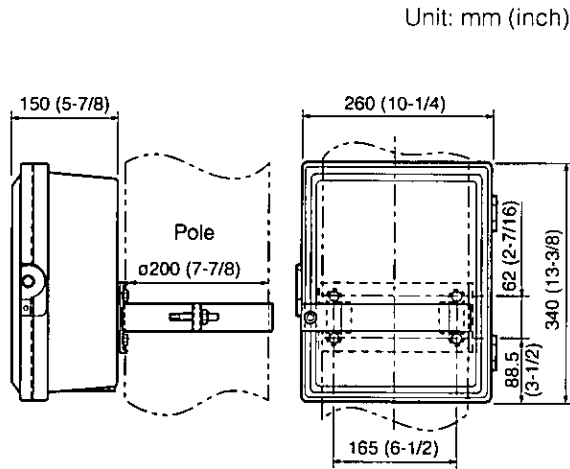
## ■ Installing Video Relay Box

- The maximum cable extension distance from the pan/tilt head to the control panel, monitor, etc. is 500 m. But the optional cables for pan/tilt head control and video camera control are 10 m, 20 m and 30 m long, respectively. In cases where cable extension is necessary, install the supplied video relay box at a point within the optional cable length, and connect the optional cable in the relay box to coaxial cables (5C-2V or equivalent) and 10 BASE-T cable, for example. (For details, refer to the section CONNECTION.

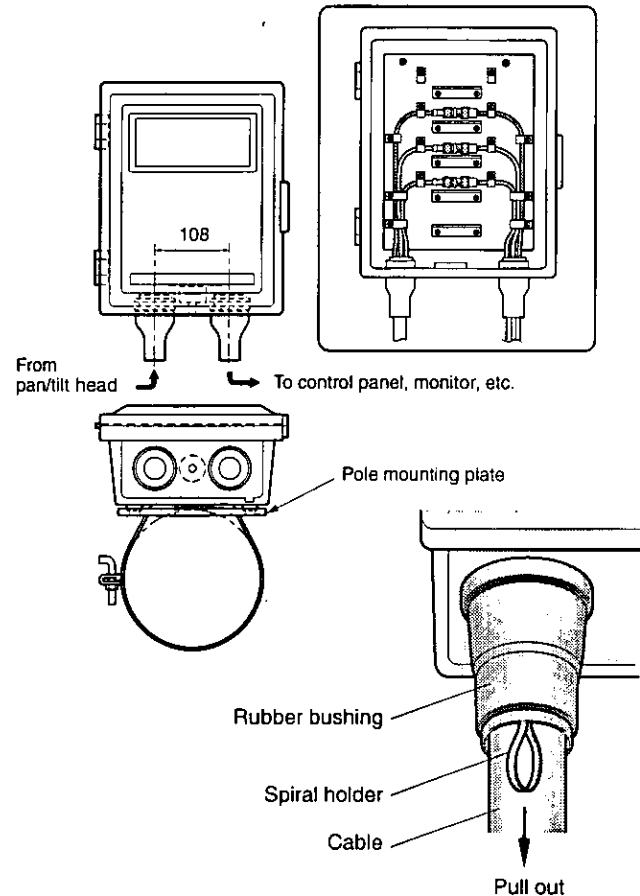
- ① Fasten the pole mounting plate and the belt (to be locally purchased) on the back of the video relay box with the four bolts (supplied).



- ② Fasten the video relay box to the pole using the pole mounting plate and the belt.

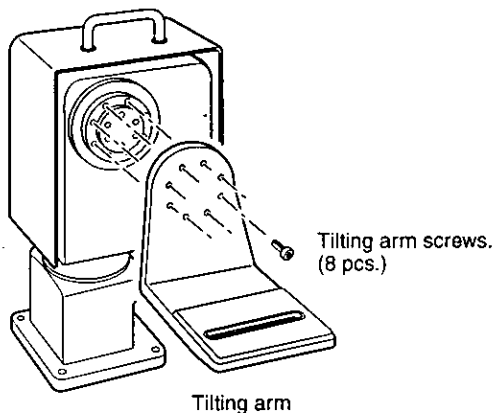


- ③ Pass the cables through the rubber bushing at the bottom of the video relay box, and pull out the spiral holder. The cables are fastened in place. Connect and clamp the cables in the video relay box as shown in the figure.



## ■ Mounting the Tilting Arm

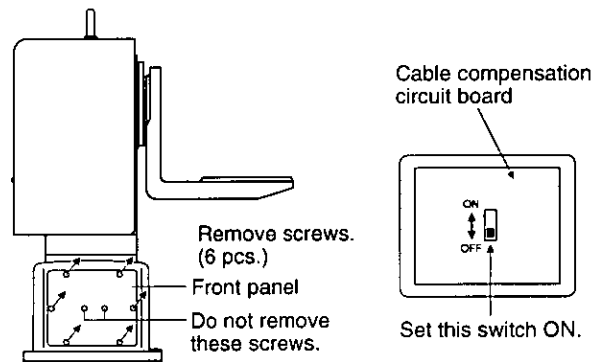
- Mount the tilting arm (an accessory) with the eight tilting arm screws (accessories).
- Tighten the screws securely so they won't become loose while the arm is in use.



## ■ Setting the Cable Compensation Circuit

The maximum cable length from the pan/tilt head to the controller is 500 m (in case of a 5C-2V cable), including the length of the video camera control cable. If cable length is over 300 m, take the following steps to set the cable compensation circuit to ON.

- ① Remove the six screws from the front panel of the base, and pull out the panel toward yourself. Do not remove the two screws in the center of the panel.
- ② Set the switch on the printed circuit board at the rear side of the panel to ON.
- ③ Place the panel back on and tighten the screws. (Mount the panel securely to prevent rainwater, etc. from getting inside.)

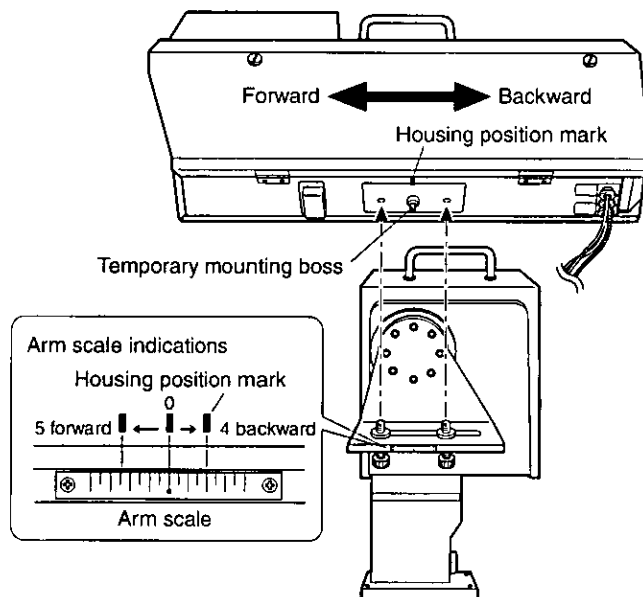


## ■ Mounting the Housing

- With the tilting arm held horizontal, fit the temporary mounting boss on the bottom of the housing into the groove in the arm, and temporarily fasten the housing from below with the two housing mounting bolts.
- Move the camera housing back and forth till it is well balanced, then fasten it securely.  
As the stop position depends heavily on the balance of the camera housing, be sure to check the accuracy of the preset stop positions after tilting with the picture from the camera.
- \* Rough Yardstick for Good Balance ( $\pm 5'$  from preset stop position)  
The position of good balance varies depending on the combination of the camera and lenses.  
Set the arm scale in line with the housing position mark (■), referring to the table below.

Camera	Lens	Housing Position
AW-E300	AW-LZ14MD55	5 backward
AW-E600	AW-S14XBMD	0
AW-E600	CANNON 14X	5 backward
AW-E600	CANNON 17X	more than 8 backward
AW-E800	AW-LZ17MD9	7.5 backward
AW-E800	FUJINON 36X (A36X14, 5BERD-E28)	7 backward

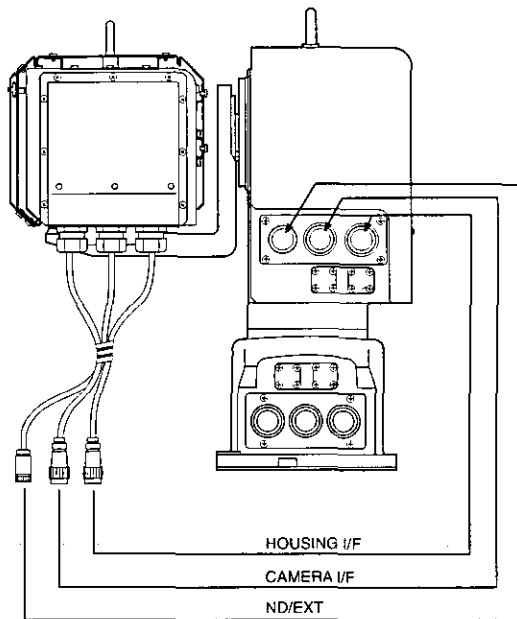
Camera Housing AW-CH600



# CONNECTION

## ■ Connecting to the Housing

- Connect the cables from the bottom of the camera housing to the connectors on the panning head, respectively.

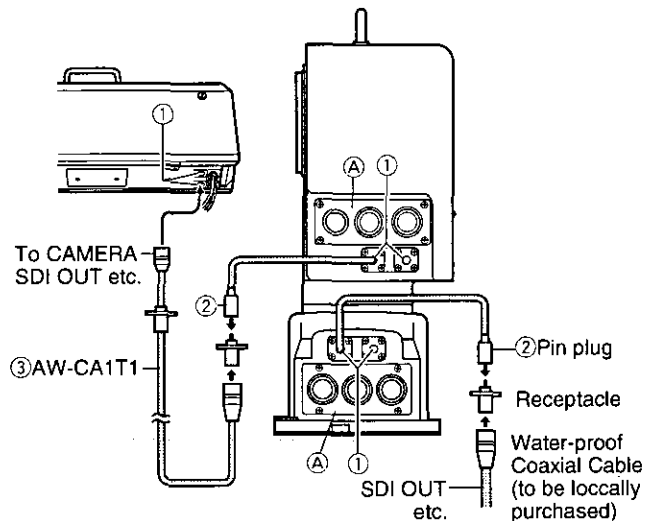


## ● How to Connect the Spare Coaxial Cable (Option AW-CA1T1) for SDI Output, etc.

Remove the blank panel.

Pull out the pin plug and connect it to the receptacle. (Remove panel (A), insert your finger there and pull the pin plug out.)

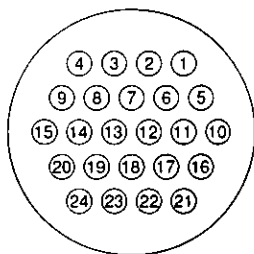
Fasten the receptacle with the removed screw and connect the optional cable AW-CA1T1.



## ■ Connecting Cables to the Pan/Tilt Head

### ● Pan/Tilt Control Connector [P/T CONTROL]

- The pan/tilt head control cable is connected to this connector.
- Connect it to the PAN/TILT CONTROL OUT connector on a control panel (AW-RP301, AW-RP305, AW-RP501, or AW-RP505) or on the multiport hub (AW-HB505).



Pin No.	Signal	Function
1	DI UP	Up control input (Contact signal)
2	DI DOWN	Down control input (Contact signal)
3	DI LEFT	Left control input (Contact signal)
4	DI RIGHT	Right control input (Contact signal)
5	DO RUN	Run signal output (Contact signal)
6	DI OPT SEL	Power control input
7	DGND	GND
8, 9	NC	Unused
10	HOT2	Pan/tilt head receiving data (with controller in use)
11	HOT1	Pan/tilt head sending data (with controller in use)
12	COLD1	Pan/tilt head sending data (with controller in use)
13	COLD2	Pan/tilt head receiving data (with controller in use)
14	TALLY IN	Tally control input
15	DGND	GND
16	TXD232	Pan/tilt head sending data (RS-232C)
17	RXD232	Pan/tilt head receiving data (RS-232C)
18	DGND	GND
19 to 23	NC	Unused
24	FG	Frame grounding

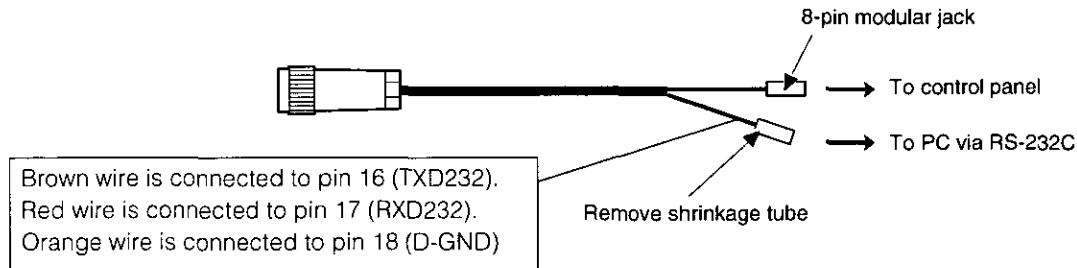


- Use the following optional cables for connection.

Pan/tilt head control cable	10 m:	AW-CA24U10
	20 m:	AW-CA24U20
	30 m:	AW-CA24U30

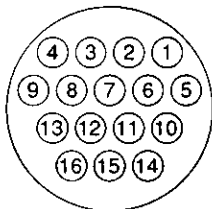
Cable extension is permissible up to 500 m. For cable extension, use a commercially available 8-pin modular jack and a 10BASE-T straight cable (UTP category 5).

- To control the pan/tilt head with the RS-232C, remove the shrinkage tube from the 10-m optional cable mentioned above, and attach a connector that suits the device to be used. To control also the camera with the RS-232C, it is necessary to connect the pan/tilt head receiving data (RS-232C) to the command line of the camera. Refer to the description of the cases where the RS-232C is used for control.



## ● Remote Connector (REMOTE)

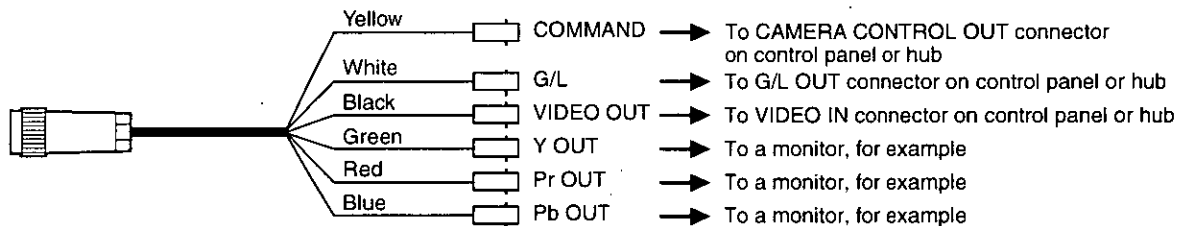
- The video camera control cable is connected to this connector.



Pin No.	Signal	Function
1	COMMAND	Camera control signal input/output
2	GND	GND
3	G/L IN	External sync 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	NC
10	Pr OUT	Camera Pr signal output
11	GND	GND
12	Pb OUT	camera Pb signal output
13	GND	GND
14	NC	Unused
15	NC	Unused
16	FG	Frame grounding

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

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

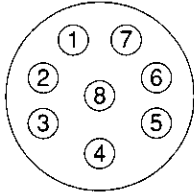


\* Y, Pr and Pb signals are not output unless they are output from the camera.  
 A convertible camera requires studio card 1 (AW-PB301) and component cable (AW-CA50C15) at the same time.

- To also control the camera with the RS-232C, use the 10-m cable mentioned above, and connect the pan/tilt head receiving data (RS-232C) to the command line of the camera.  
 Refer to the description of the controlling with RS-232C.

## ● Power Connector [POWER]

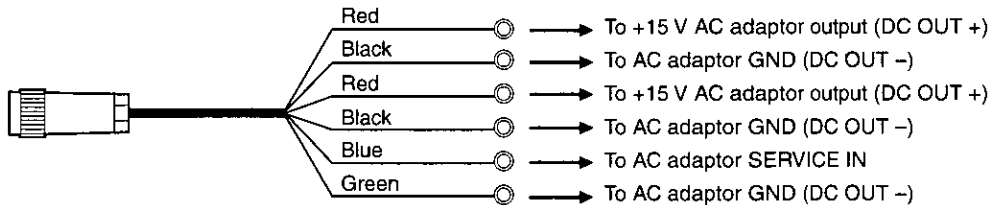
- Use the AC adaptor AW-PS600 to supply power.



Pin No.	Signal	Function
1	Vcc (+15V)	DC +15 V power input
2	GND	GND
3	Vcc (+15V)	DC +15 V power input
4	GND	GND
5	NC	Unused
6	NC	Unused
7	OP	Service switch input
8	FG	Flame grounding

- Use the following optional cable for connection to the AC adaptor.

Pan/tilt head power cable 30 m: AW-CA8U30

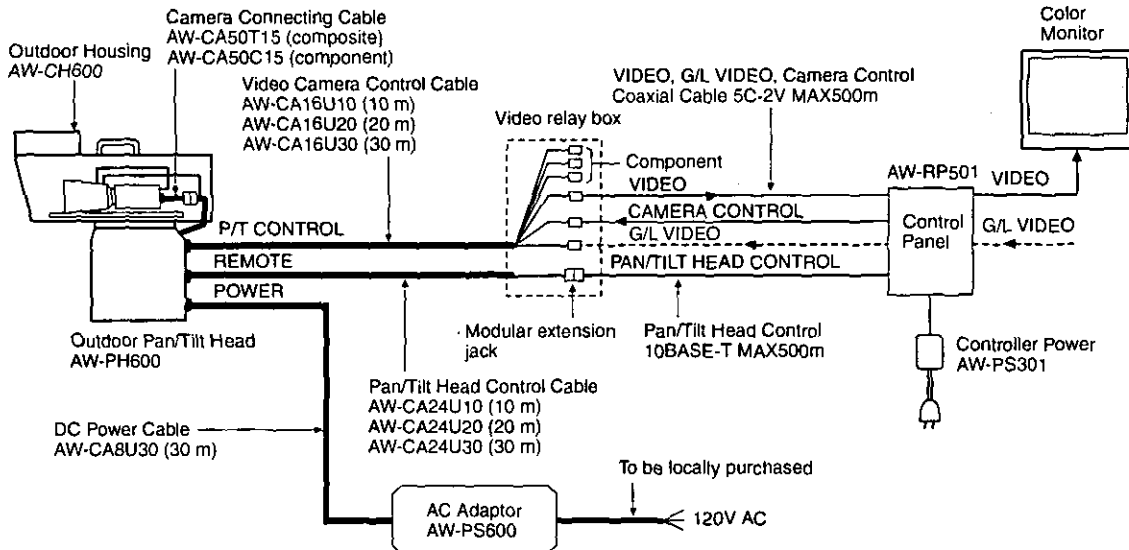


Connect them to the AC adaptor terminal board. Check that these wires are connected to the correct pins on the terminal board.

Refer to the Operating Instructions for the AC Adaptor AW-PS600.

## ■ In Case of Using a Control Panel

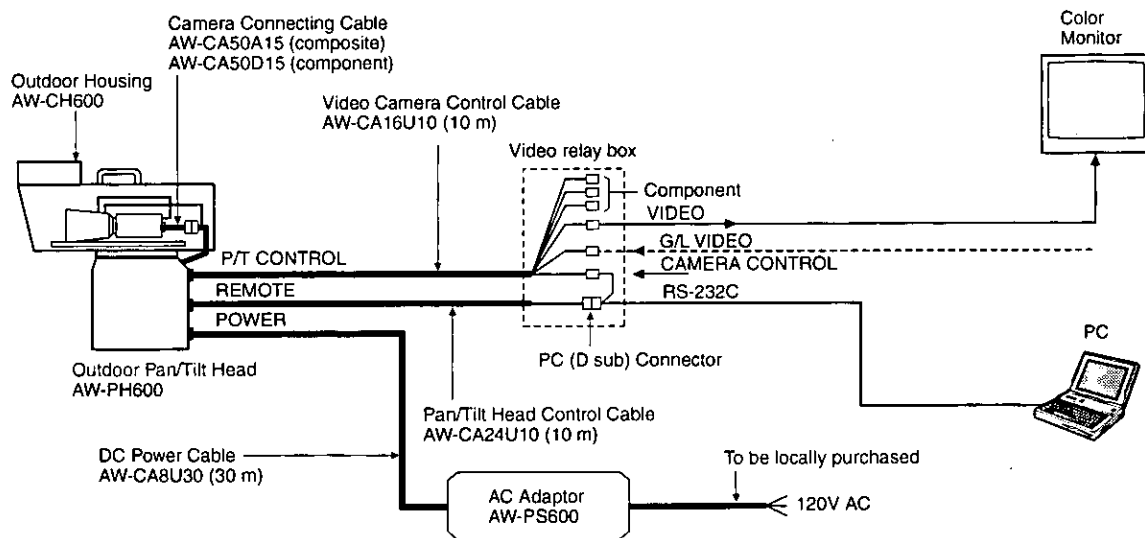
- If the number of cameras and pan/tilt heads is 2 to 5, use the control panel AW-RP505 and connect them to it via the multiport hub AW-HB505. For connecting instructions, refer to the Operating Instructions for the products concerned.
- To control pan/tilt heads only, use the control panel AW-RP301 or AW-RP305.
- To use the video relay box, connect it at the point indicated by the dotted line in the figure below.



## ■ Controlling with RS-232C

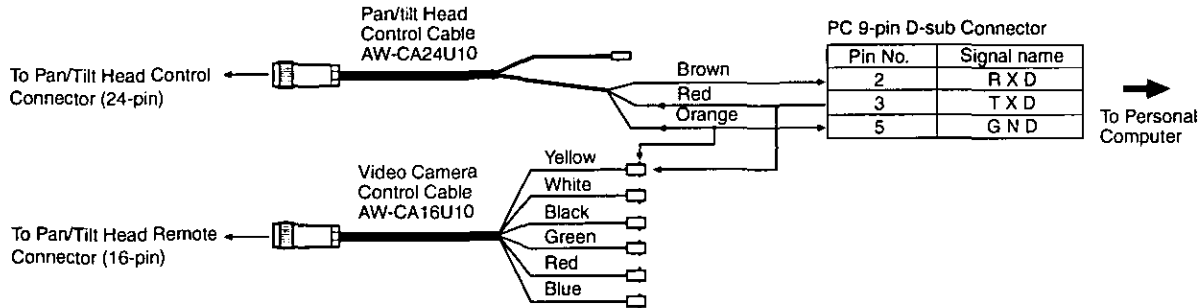
### ● Connection

- Connect the camera housing, pan/tilt head and cables (for pan/tilt head control, remote, and power supply) in the same way as in case of using a control panel.
- The RS-232C cable (AW-CA50A15 for composite or AW-CA50D15 for component) is used as camera connecting cable (I/F REMOTE 50P in the camera housing).
- Use 10-m cables for pan/tilt head control (P/T CONTROL) and video camera control (REMOTE).
- In case of using the video relay box, connect it at the point indicated by the dotted line in the figure below.



## ● Connection to a Personal Computer

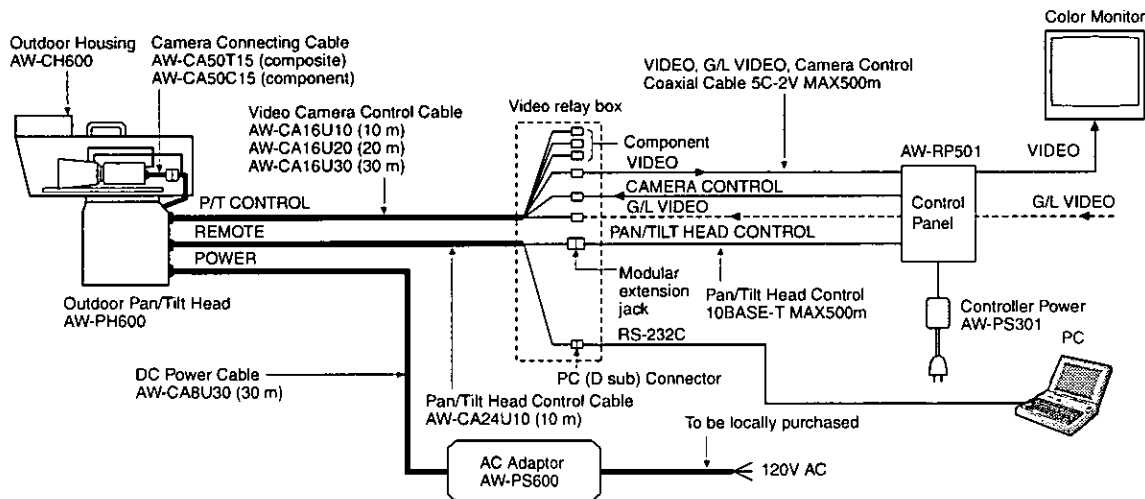
- Remove the shrinkage tube from the end of the pan/tilt head control cable AW-CA24U10 and connect its brown wire (16P:TXD), red wire (17P:RXD) and orange wire (18P:GND) to the RS-232C cable of the personal computer.
- Connect the red wire (RXD) and orange wire (GND) also to the yellow connector (COMMAND; camera control signal line) of the video camera control cable.
- The distance between the pan/tilt head and personal computer should be 15 m or less. To extend the cable longer than 15 m, send the signals converted from RS-232C to RS-422 and convert them back to RS-232C at the receiving end.
- Use a cross cable for connection of the pan/tilt head to a personal computer.



## ■ Controlling with RS-232C and a Control Panel

### ● Pan/Tilt Head Control with RS-232C, Camera Control with a Control Panel

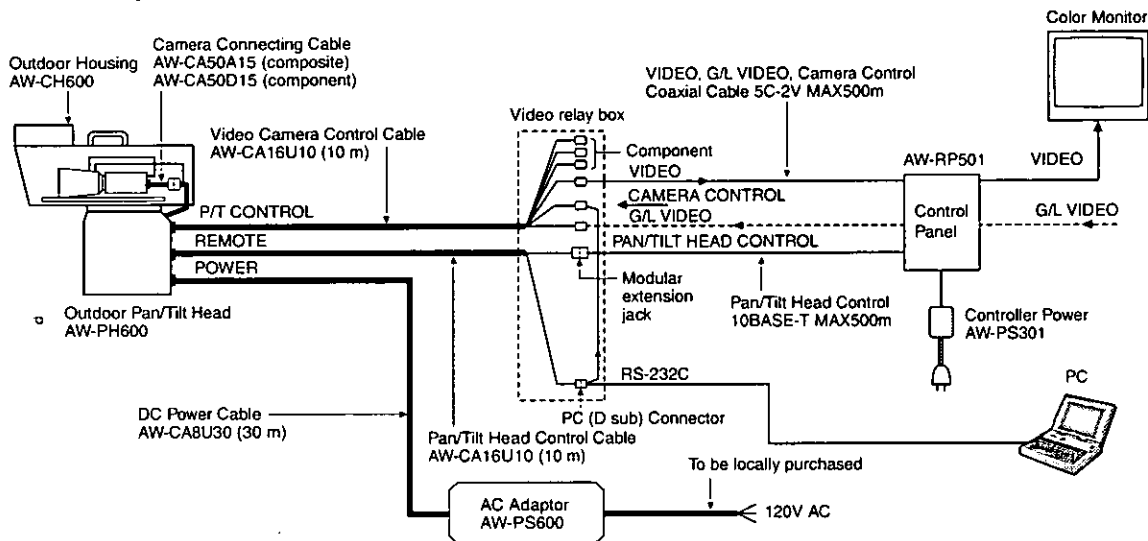
- Connect the pan/tilt head to the control panel in the same way as described in ■ In Case of Using a Control Panel.
- Connect the pan/tilt head to the personal computer in the same way as described in ● Connection to a Personal Computer on the preceding page except that it is not necessary to connect the red and orange wires (RXD) of the pan/tilt head control cable to the yellow connector (COMMAND line) of the video camera control cable.
- The maximum distance between the pan/tilt head and personal computer is 15 meters. To extend over 15 m requires signal transmission by conversion from RS-232C to RS-422 and conversion back to RS-232C on the receiving end.
- Use a cross cable to connect the pan/tilt head to the personal computer.
- Use the AW-CA50T15 or AW-CA50C15 (component) cable as camera connection cable (within the housing).
- In case of using a video relay box, connect it at the point indicated by dotted line in the figure below.





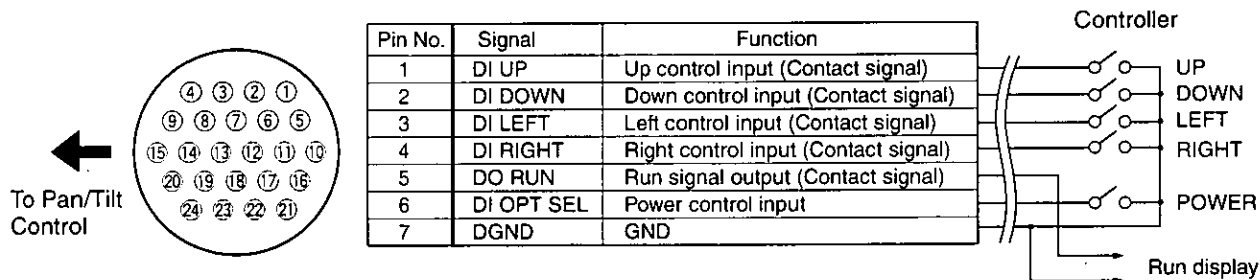
## ● Pan/Tilt Head and Camera Control with RS-232C

- Connect the red and orange wires (RXD, GND) of the pan/tilt head control cable, not the cable from the control panel, to the yellow connector (COMMAND: camera control line) of the video camera control cable (in the same way as described in "• Connection to a Personal Computer (page 23)". Other connection details are the same as described on the preceding page.
- The distance between the pan/tilt head and personal computer should be 15 m or less. To extend the cable longer than 15 m, send the signals converted from RS-232C to RS-422 and convert them back to RS-232C at the receiving end.
- Use a cross cable for connection of the pan/tilt head to a personal computer.
- Use the AW-CA50A15 (composite) or AW-CA50D15 (component) for RS-232C as camera connecting cable (in the camera housing).
- In case of using the video relay box, connect it at the point indicated by the dotted line in the figure.



## ■ Control with Contact Signals

- Use a waterproof cable for contact control because the pan/tilt head control cable has no line for contact control.
- Use each wires in the cable with a nominal cross section of 0.3 mm<sup>2</sup> or over that meets the UL specification.
- Cable extension is permissible up to 30 m.
- The run signal output (5P) is an open-collector output, which remains on at GND level while the pan/tilt head is in operation.



## BEFORE USE

It is recommended that the limiter (operating range) be set before use. There might be some obstacle possibly contacting the camera in the operating range depending on the place of installation. Such contact can be prevented by setting the limiter to stop the camera before the obstacle.

The limiter can be set by control panel operation.

The upper, lower, left and right limits of the operating range can be set. Once the limits are set, they remain valid even if power is switched off.

### ■ Setting the Limiter

#### ● Setting the Upper Limit of Operating Range

- Turn the camera to the desired upper limit by operation on the control panel.
- Keep the MEMORY switch depressed on the control panel and press the PRESET-2 and PRESET-3 switches for 5 seconds or longer simultaneously.
- The upper limit has been set when the LED of the PRESET-5 switch lights. Release the switches.
- Check that the upper limit has been correctly set by operation on the control panel.

#### ● Setting the Lower Limit of Operating Range

- Turn the camera to the desired lower limit by operation on the control panel.
- Keep the MEMORY switch depressed on the control panel and press the PRESET-7 and PRESET-8 switches for 5 seconds or longer simultaneously.
- The lower limit has been set when the LED of the PRESET-5 switch lights. Release the switches.
- Check that the lower limit has been correctly set by operation on the control panel.

## ● **Setting the Left Limit of Operating Range**

- Turn the camera to the desired left limit by operation on the control panel.
- Keep the MEMORY switch depressed on the control panel and press the PRESET-1 and PRESET-6 switches for 5 seconds or longer simultaneously.
- The left limit has been set when the LED of the PRESET-5 switch lights. Release the switches.
- Check that the left limit has been correctly set by operation on the control panel.

## ● **Setting the Right Limit of Operating Range**

- Turn the camera to the desired right limit by operation on the control panel.
- Keep the MEMORY switch depressed on the control panel and press the PRESET-4 and PRESET-9 switches for 5 seconds or longer simultaneously.
- The right limit has been set when the LED of the PRESET-5 switch lights. Release the switches.
- Check that the right limit has been correctly set by operation on the control panel.

## ■ **Resetting the Limiter**

The set limits can be reset by taking the following steps.

### ● **Resetting the Upper Limit of Operating Range**

- Keep the MEMORY switch depressed on the control panel and press the PRESET-2 and PRESET-3 switches for 5 seconds or longer simultaneously.
- The upper limit has been reset when the LED of the RESET-10 switch lights. Release the switches.

## ● Resetting the Lower Limit of Operating Range

- Keep the MEMORY switch depressed on the control panel and press the PRESET-7 and PRESET-8 switches for 5 seconds or longer simultaneously.
- The lower limit has been reset when the LED of the RESET-10 switch lights. Release the switches.

## ● Resetting the Left Limit of Operating Range

- Keep the MEMORY switch depressed on the control panel and press the PRESET-1 and PRESET-6 switches for 5 seconds or longer simultaneously.
- The left limit has been reset when the LED of the RESET-10 switch lights. Release the switches.

## ● Resetting the Right Limit of Operating Range

- Keep the MEMORY switch depressed on the control panel and press the PRESET-4 and PRESET-9 switches for 5 seconds or longer simultaneously.
- The right limit has been reset when the LED of the RESET-10 switch lights. Release the switches.

## ■ Setting the Limiter Again

The same steps set and reset the limiter alternately.

To set the limiter again, reset the current limit and set it again.

A set limit can be set again by taking the following steps.

- Reset the desired limit to be set again, referring to ■ Resetting the Limiter.
- Set the limit again, referring to ■ Setting the Limiter.

## ■ Replacing Expendables (Consult the store where you purchased the product for replacement.)

### ● Replacing the Battery

- The manganese dioxide lithium battery CR2032 is used for the pan/tilt head. It has a service life of about 5 years. The pan/tilt head has data on preset positions, limiter positions, etc. saved in the memory, which keeps the data even if power is switched off. If the battery runs out of its service life, however, the data will be lost when power is switched off.
- Replace the battery when it has run down.

### ● Removing the Battery

- ① Remove the four screws and the cover.
- ② Remove the six screws and the pan/tilt head cover.
- ③ Remove the two screws and the PCB.
- ④ Slide the battery in the holder on the PCB in the arrow direction, and pull it up and off.

### ● Installing the Battery

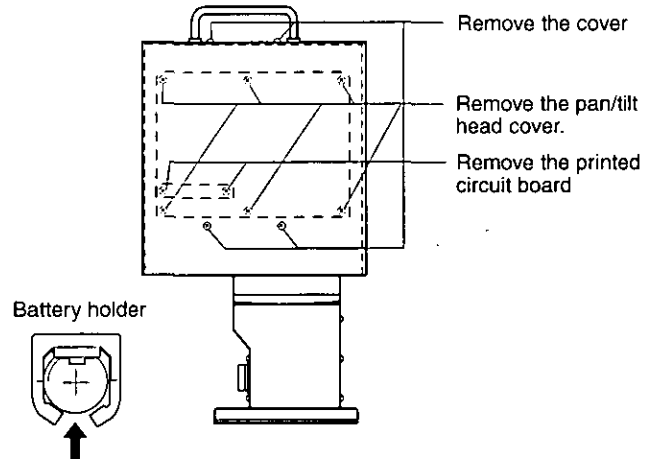
- ① Hold a new battery with its positive end toward yourself, insert it into the battery holder in the arrow direction and push it in.
- ② Fasten the PCB as before.
- ③ Place the pan/tilt head cover and the cover back.

### ● Replacing the Motor

Replace the motor if it is found faulty of operation.

### ● Replacing the Gear

Replace the gear if its preset stop positions accuracy has lowered.



# SPECIFICATIONS

Power supply:	DC +15 V (8-pin round waterproof connector)
Power consumption:	27 W
Camera video output:	Video, component, with 500-m cable compensation (16-pin round waterproof connector)
G/L input:	16-pin round waterproof connector
Camera control:	24-pin round waterproof connector
Pan/tilt head control:	RS-232C/contact signal (24-pin round waterproof connector)
Housing connection:	Camera I/F (24-pin round waterproof connector); for extender/ND filter (6-pin round waterproof connector); housing I/F (8-pin round waterproof connector)
Maximum cable length:	Video, Control: 500 m (coaxial cable 5C-2V or equivalent; 10BASE-T straight cable UTP category 5 or equivalent)
	RS-232C: 15 m
	Contact signal: 30 m
	Power supply: 30 m
Maximum load:	20 kg
Tilt range:	+40°, -45°
Pan range:	±150°
Maximum operating speed:	10° per second (pan), 8° per second (tilt)
Repeatability:	±5' or less
Noise level:	NC40 or less
Limiter function:	Up, down, left, right
Pan/tilt head preset:	50 points
Operating temperature range:	-20°C to +60°C (-4°F to +140°F)
Ambient humidity:	30% to 90%

Dimensions: 386 (W) x 492 (H) x 260 (D) mm [15-3/18" (W) x 19-3/8" (H) x 10-1/4" (D)]  
Weight: Approx. 14 kg (3.1 lbs.)  
Finish: AV ivory paint (Munsell 7.9Y6.8/0.8 or approximate)

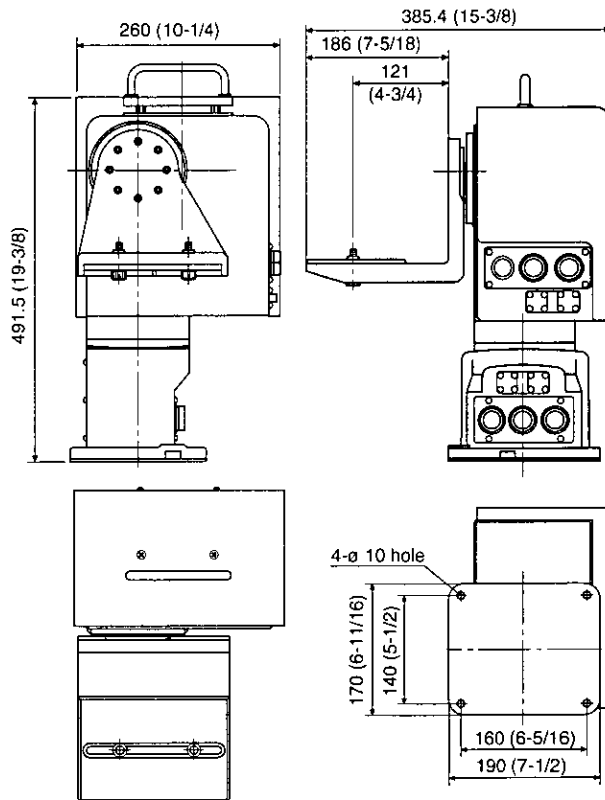
Weight and dimensions indicated are approximate.  
Specifications are subject to change without notice.

## STANDARD ACCESSORIES

Tilting arm ..... 1  
Tilting arm screw ..... 8  
Video relay box (with 1 pole mounting plate) ..... 1 set



# APPEARANCE



Unit: mm (inch)

# Memorandum

A series of 20 horizontal dashed lines for writing.

# Memorandum

-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----  
-----

# **Panasonic**

**PANASONIC BROADCAST & TELEVISION SYSTEMS COMPANY**  
DIVISION OF MATSUSHITA ELECTRIC CORPORATION OF AMERICA

**Executive Office:**

3330 Cahuenga Blvd W., Los Angeles, CA 90068 (323) 436-3500

**EASTERN ZONE:**

One Panasonic Way 4E-7, Secaucus, NJ 07094 (201) 348-7621

**Southeast Region:**

1225 Northbrook Parkway, Ste 1-160, Suwanee, GA 30024 (770) 338-6835

**Central Region:**

1707 N Randall Road E1-C-1, Elgin, IL 60123 (847) 468-5200

**WESTERN ZONE:**

3330 Cahuenga Blvd W., Los Angeles, CA 90068 (323) 436-3500

**Government Marketing Department:**

52 West Gude Drive, Rockville, MD 20850 (301) 738-3840

**Broadcast PARTS INFORMATION & ORDERING:**

9:00 a.m.–5:00 p.m. (EST) (800) 334-4881/24 Hr. Fax (800) 334-4880

Emergency after hour parts orders (800) 334-4881

**TECHNICAL SUPPORT:**

Emergency 24 Hour Service (800) 222-0741

**Panasonic Canada Inc.**

5770 Ambler Drive, Mississauga, Ontario L4W 2T3 (905) 624-5010

**Panasonic de Mexico S.A. de C.V.**

Av angel Urraza Num. 1209 Col. de Valle 03100 Mexico, D.F. (52) 1 951 2127

**Panasonic Sales Company**

**Division of Matsushita Electric of Puerto Rico Inc.**

San Gabriel Industrial Park, 65th Infantry Ave., Km. 9.5, Carolina, Puerto Rico 00630 (787) 750-4300

Printed in Japan

7J1A398C

F0200Y2110 

