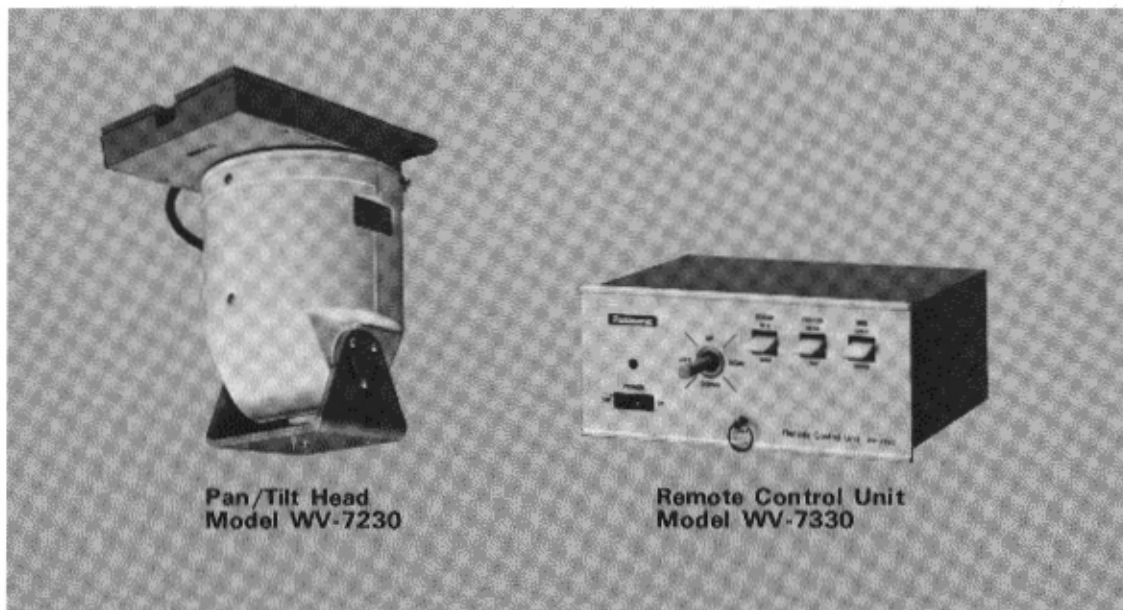


Operating Instructions

Indoor Pan/Tilt Head & Remote Control Unit
WV-7230 & WV-7330



Panasonic

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

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INTRODUCTION

Pan/Tilt Head (WV-7230)

The WV-7230 Pan/Tilt Head with the WV-7330 Remote Control Unit allows remote control of camera panning and tilting. The Pan/Tilt Head can be ceiling mounted or bracket mounted to any flat surface.

The camera can be panned through a total of 340°, and can be tilted through a total of 90° (45° above or below the center position). Panning speed is 7°/sec., tilting speed is 4°/sec.

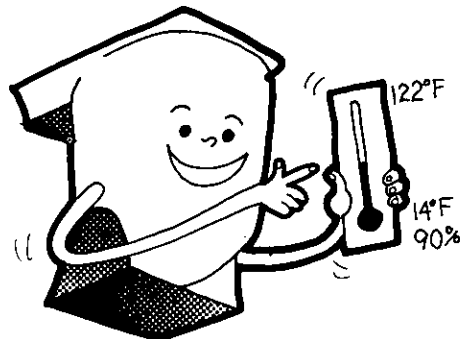
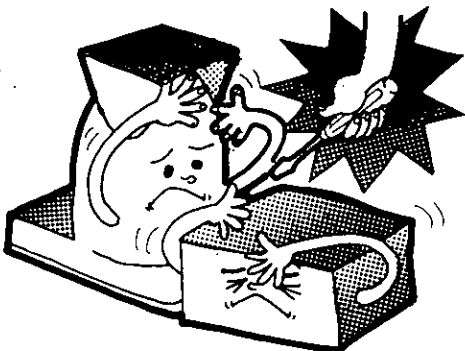
Remote Control Unit (WV-7330)

The WV-7330 controls the on/off power for a low voltage camera (24V AC), one Pan/Tilt Head (WV-7230) and a motorized zoom lens ($\pm 6V$ DC). Zooming, focusing and iris of the zoom lens are controlled by three 3-position, center-return switches. Panning and tilting of the Pan/Tilt Head are controlled by a joystick control.

The Remote Control Unit can be mounted in an optional 19" rackmount frame.

PRECAUTIONS

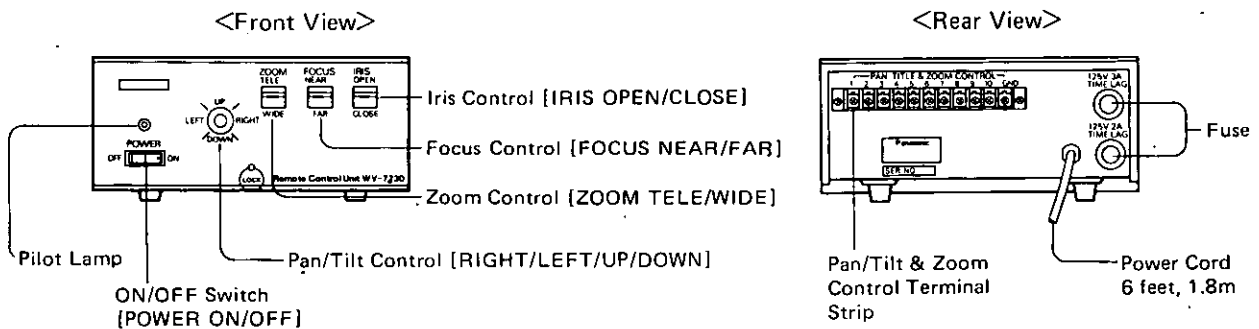
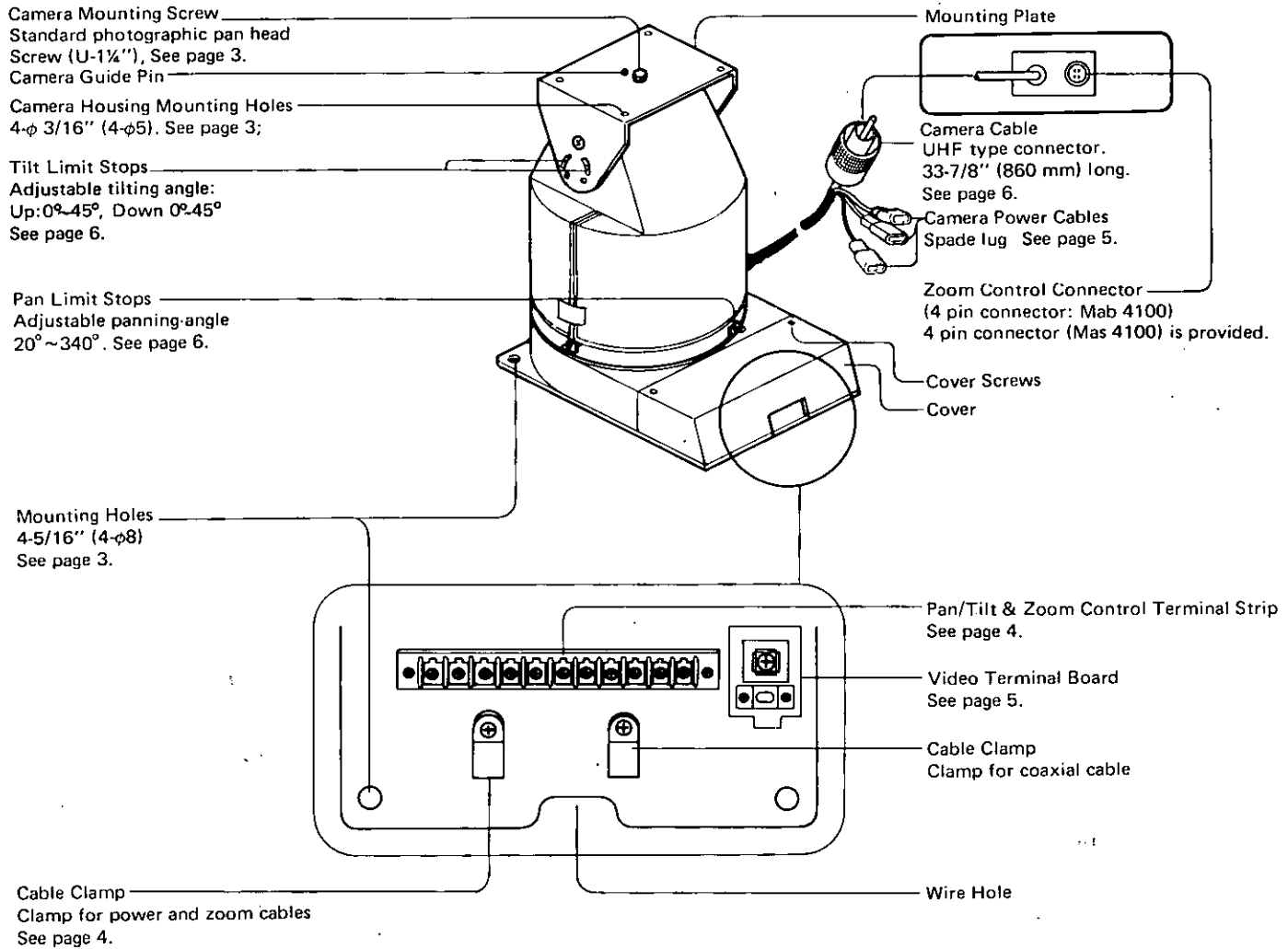
1. Do not attempt to disassemble this unit. There are no user serviceable parts inside. Refer servicing to qualified service personnel.
2. Use this unit within its rating.
 - (a) Designed for indoor use.
Ambient temperature: 14°F~122°F (-10°C~+50°C)
 - (b) Avoid using this unit when humidity is above 90%.



3. Select a flat location which can support the entire weight (panning head, camera, camera housing).
4. The input power source must be 120V±10% (108~132V) AC 60Hz for WV-7330, 24±10% (19~26.4V) AC 60Hz for WV-7230. (Supplied by the WV-7330).
5. Use only a low voltage camera (24V AC) such as the Model WV-1004/1054/1104/1154. External sync cannot be supplied with this installation.



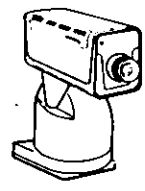
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



PRECAUTIONS ON INSTALLATION

- The standard indoor pan/tilt head Model WV-7230 is designed for indoor use. Avoid mounting it outdoors under the eaves or any other place where rain or moisture could be problem.
- If pan/tilt head is mounted upside down, as shown below the image on monitor TV will also be upside down. Therefore, refer to Qualified Service Personnel to perform the necessary internal-adjustment of TV camera.

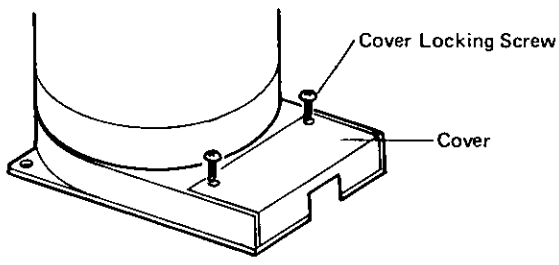
[Upside down installation]



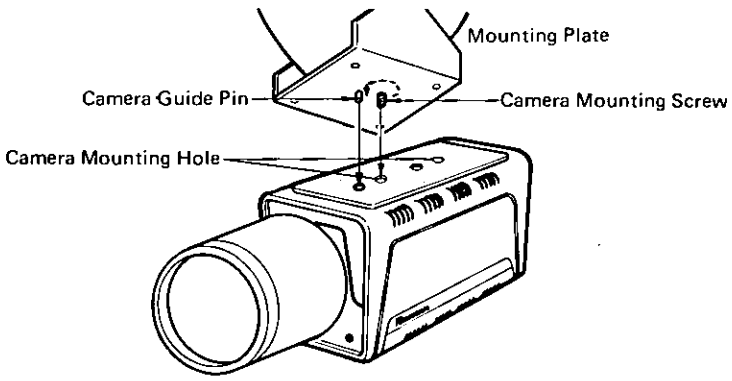
- A camera with various lenses and a camera housing (Model WV-7130) can be used. Select a location where the total weight is sufficiently support and firmly fix the units onto plywood, gypsum board, plaster board or concrete. Install the panning-head before mounting the camera on it.
- Mount on flat surface — flat ceiling or mounting bracket Model WV-7030-
- Avoid a location which is susceptible to vibration, such as close to a motor or ventilation fan.
- The Remote Control Unit can control only one Pan/Tilt Head (WV-7230).

INSTALLATION

1. Retighten the Cover Locking Screws and remove the Cover.

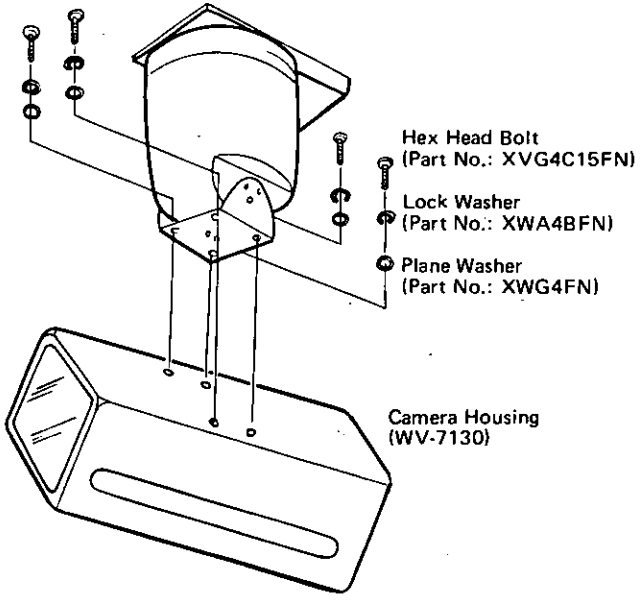
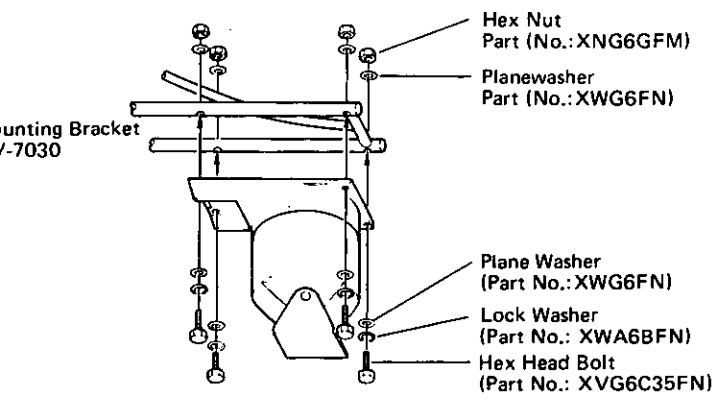


4. Mount the low voltage camera on the Mounting Plate



2. When mounting directly to a flat ceiling:
 - Make four holes for mounting the Pan/Tilt Head. (Screws are not provided.)
 - Holes in the head are 5/8" (8mm).
3. When using on-the-mounting bracket (WV-7030)
 - Use four hex head bolts, plane washers, lock-washers and hex nuts (provided with the WV-7030) as below.
 - After wiring, replace the cover.

5. Mounting a camera housing (WV-7130) on the Mounting Plate.
 - Use four hex head bolts (3/16", M4), plane washers and lockwashers (provided with the WV-7230) as bellow.



CONNECTIONS

A. Wiring of the Pan/Tilt Head to the Remote Control Unit

CAUTION:

- Make all connections with the power turned OFF.
- Avoid shorting the terminals, as this may blow a fuse.

1. Wiring for Pan/Tilt Control ONLY

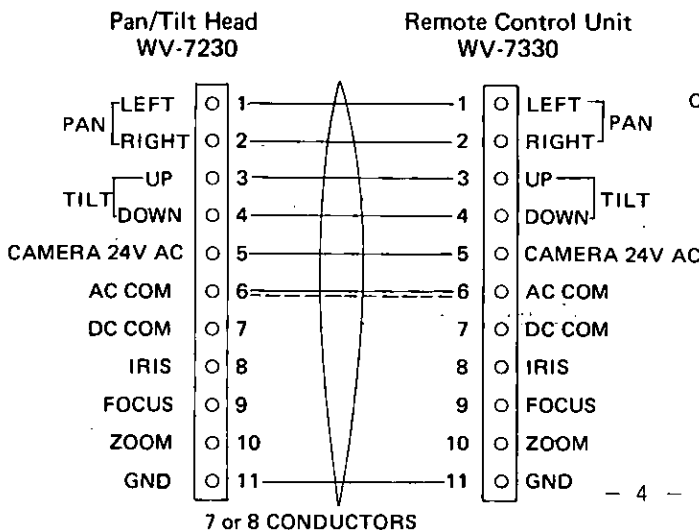
- This can be used if it is desired to pan or tilt the camera only. For instance, if the camera lens is not motorized for zoom, focus or iris, there is no need to connect the ZOOM, FOCUS and IRIS control. Select a multiconductor cable, 7 or 8 conductors.
- The below chart shows how various wire gauges affect the maximum cable length for 7 or 8 conductor cables.

| Copper Wire Gauge | | Maximum Length | |
|--------------------------------|------|----------------|-------------|
| | | 7-conductor | 8-conductor |
| #20 (0.52 mm ²) | [ft] | 180 | 360 |
| | [m] | 55 | 110 |
| #18 (0.83 mm ²) | [ft] | 310 | 620 |
| | [m] | 95 | 190 |
| #16 (1.31 mm ²) | [ft] | 440 | 885 |
| | [m] | 135 | 270 |
| #14 (2.08 mm ²) | [ft] | 735 | 1,475 |
| | [m] | 225 | 450 |

This chart shows the various cable lengths when rated voltage (120V AC) is supplied to the remote control unit and when the power consumption of the camera is 13 watts.

- The below chart shows the minimum cable lengths when the input power source (126V~132V) is supplied to the remote control unit.

| Copper Wire Gauge | | Minimum Length | |
|--------------------------------|------|-------------------|-------------------|
| | | 7 or 11 conductor | 8 or 12 conductor |
| #20 (0.52 mm ²) | [ft] | 165 | 230 |
| | [m] | 50 | 100 |
| #18 (0.83 mm ²) | [ft] | 260 | 520 |
| | [m] | 80 | 160 |
| #16 (1.31 mm ²) | [ft] | 395 | 790 |
| | [m] | 120 | 240 |
| #14 (2.08 mm ²) | [ft] | 655 | 1,310 |
| | [m] | 200 | 400 |

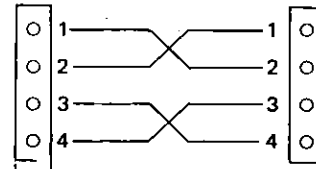


When using 8 conductor cable, the cable length may be increased. The extra wire (8) is used to double the AC COM connection, terminals #6, as shown by the dashed line.

Note:

If the installation is to be upside-down, the Pan Left-Right and Tilt Up-Down directions will be reversed. This must be considered when the wiring is done. In this case, simply reverse the leads as below:

Pan/Tilt Head WV-7230 **Remote Control Unit WV-7330**



2. Wiring for Pan/Tilt and Motorized Zoom, Focus, Iris Control

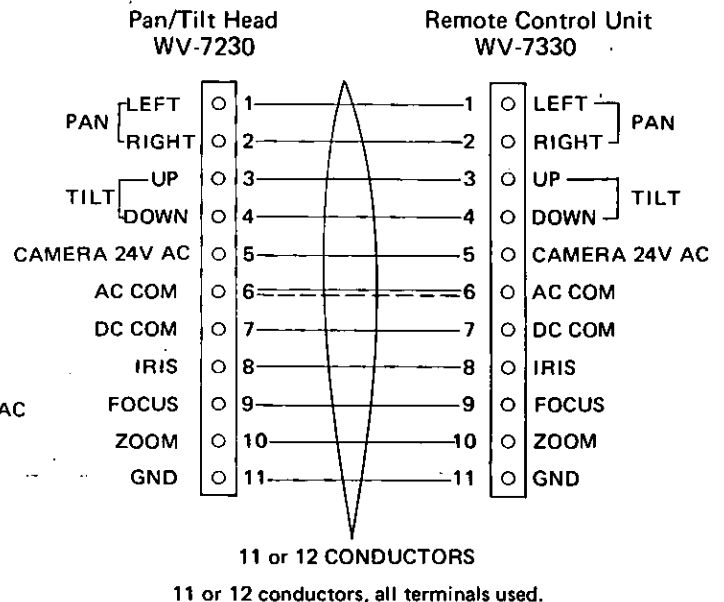
| | | Control Voltage | Control Current |
|-------|-------|-----------------|------------------|
| ZOOM | TELE | -6V DC | Less than 100 mA |
| | WIDE | +6V DC | |
| FOCUS | NEAR | -6V DC | |
| | FAR | +6V DC | |
| IRIS | OPEN | -6V DC | |
| | CLOSE | +6V DC | |

When using a camera with motorized zoom, focus and iris, these connections should be made.

Note:

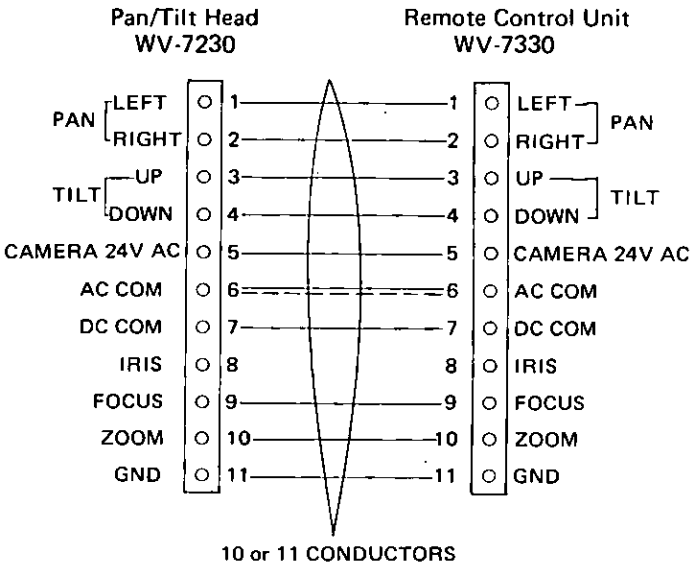
- Lens control cable should be approx. 34" to allow sufficient room for Pan/Tilt.
- When using a motorized zoom lens without auto-iris circuit with a newvicon camera, the Remote Control Unit should be WV-7430 and the Relay Box WV-7435 which included the auto-iris circuit.

(a) A Motorized Zoom Lens for Vidicon Camera Connect the Pan/Tilt Head to Remote Control Unit as shown:



(b) A Motorized Zoom Lens with Auto-Iris Circuit for Newvicon Camera

Camera lenses with auto iris do not need to be remote controlled for IRIS, the lens performs this automatically. Connect the Pan/Tilt Head to Remote Control Unit as shown:



Notice that the wire for Iris Control is not connected. (Terminal #8)

Note:

Terminal 8 may be used if the lens' auto iris is placed in the MANUAL Mode. (11 conductors used). Then Remote Iris OPEN/CLOSE can be performed.

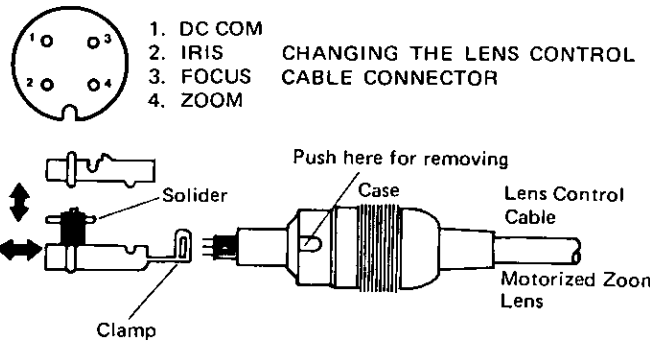
- Follow the blow chart for 11-conductor cable length.

| Copper Wire Gauge | | Maximum Length | |
|--------------------------------|------|----------------|--------------|
| | | 11-conductor | 12-conductor |
| #20 (0.52 mm ²) | [ft] | 180 | 360 |
| | [m] | 55 | 110 |
| #18 (0.83 mm ²) | [ft] | 310 | 620 |
| | [m] | 95 | 190 |
| #16 (1.31 mm ²) | [ft] | 440 | 885 |
| | [m] | 135 | 270 |
| #14 (2.08 mm ²) | [ft] | 735 | 1,475 |
| | [m] | 225 | 450 |

Notice that the maximum useable cable length is increased when using 12-conductor cable. The extra conductor double connects on Pan/Tilt Head and Remote Control Unit terminal #6, as shown by the dashed line in the preceding diagram.

(c) Zoom Control Connector

The control connector of the motorized zoom lens should be a 4-pin connector, Hirschman type Mas 4100. If it is not, substitute the existing connector with the Mas 4100 supplied, according to the following diagram:



B. Video Terminal Board

- Wiring precautions:

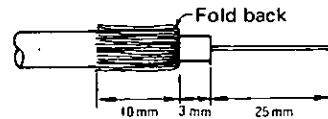
- Do not bend coaxial cable into a curve whose radius is smaller than 10 times diameter.
- Never staple the cable — not even with circular staples.
- Never crush or pinch the cable.

All these will change the impedance of the cable and could cause poor picture quality.

- Use 75Ω cable (RG-59, RG-59A/U, RG-59B/U, RG-59/U, RG-6/U, RG-11/U)

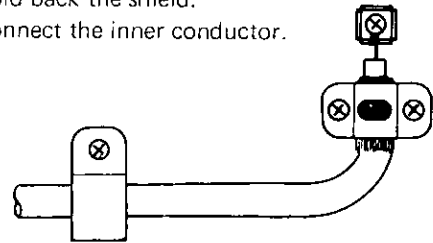
- Wiring:

- Prepare coaxial cable as shown as below.



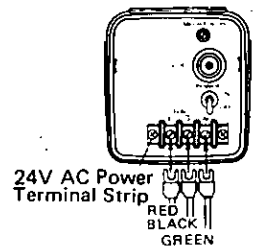
- Connect as follows.

- Clamp the coaxial cable with Cable Clamp.
- Fold back the shield.
- Connect the inner conductor.



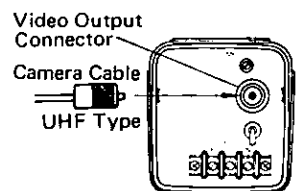
C. Camera Power Cable

Connect the spade lug connectors to the 24V AC Power Terminal Strip of the lowvoltage camera, according to the diagram.



D. Camera Cable

Connect the Camera Cable to the video output connector of the lowvoltage camera.

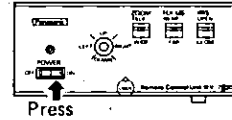


E. Power Cord

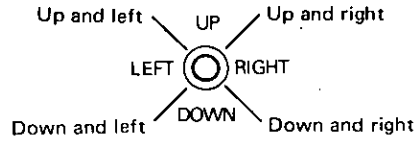
- Keep the power switched OFF during installation.
- Connect the Power Cord to a 60Hz grounded electrical outlet, 120V AC. (±10%).

OPERATION

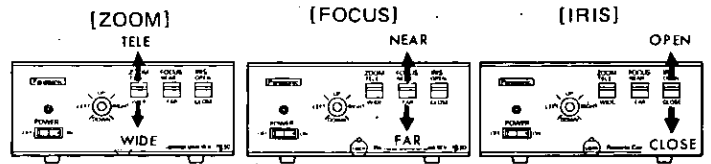
1. Press the ON/OFF Switch to ON:
The Pilot Lamp will light. The Remote Control Unit supplies power to the camera, Pan/Tilt Head and motorized zoom lens.



2. Pan or tilt the camera, operate the joystick Pan/Tilt Control for UP, DOWN, LEFT and RIGHT. To drive in two axes at once, move the joystick to the desired direction.



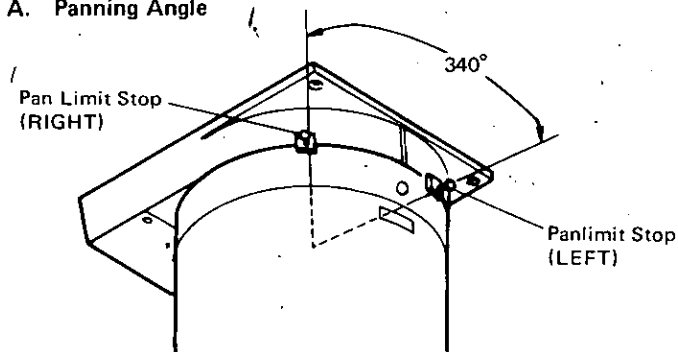
3. If the camera used a motorized zoom lens, remote operation of the lens' zoom, focus and iris is possible by moving the ZOOM, FOCUS and IRIS controls either up or down to get the best picture.



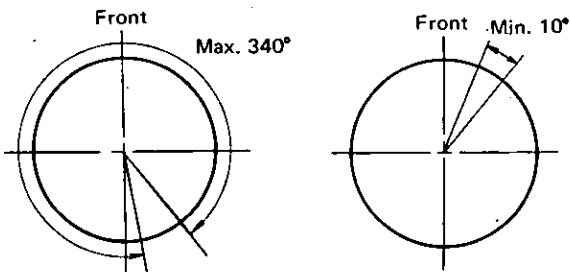
ADJUSTMENTS

After the cable is assembled and the unit is connected, plug the Remote Control Unit into a 120V AC source and proceed as follows.

A. Panning Angle

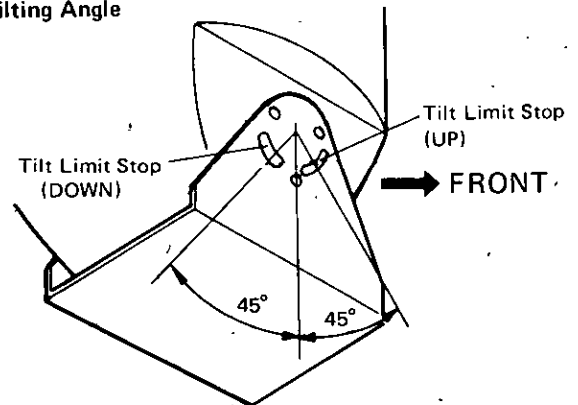


1. Loosen the Pan Limit Stops.
2. Press on the ON/OFF Switch ON to energize the unit, then rotate Pan/Tilt Head using the joystick Pan/Tilt Control until the desired right pan limit is reached.
3. Locate the right pan limit stop and move until it contacts limit switch inside the Pan/Tilt Head. Move stop additional slight amount until a "click" is heard indicating opening of limit switch. Lock the stop in place.
4. Rotate the Pan/Tilt Head to the desired left limit position. Adjust the left pan limit stop as was done for the right limit stop.

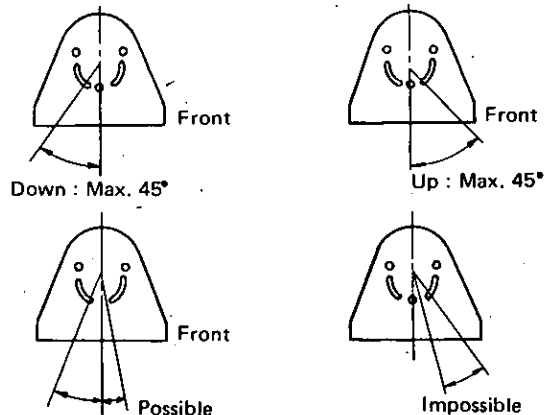


5. With both limit stops in place, pan to both stop positions and recheck for exact positioning of limit stops. Tighten both stops securely.

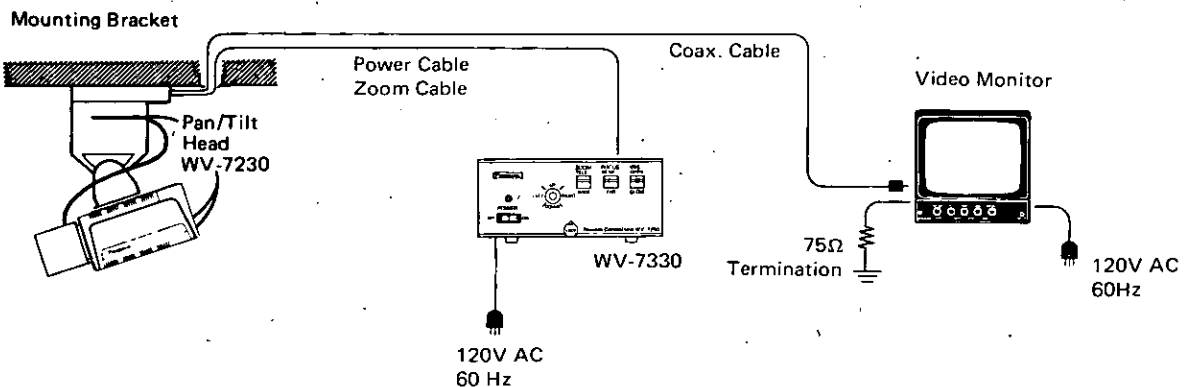
B. Tilting Angle



1. Loosen the recessed two Tilt Limit Stops and rotate Pan/Tilt Control until desired upward limit is reached.
2. Move the upward limit stop toward the bottom of the slot until a "click" can be heard. Tighten screw.
3. Adjust the downward limit stop the same way.
4. Lock the limit stops securely in place after checking for exact positioning.



TYPICAL SYSTEM CONNECTIOS



SPECIFICATIONS

• Pan/Tilt Head (WV-7230)

| | | | |
|---------------------|---|-------------------------------|---|
| Remote control unit | WV-7330 (Optional) | Tilting speed | * Approx. 4°/sec. |
| Mountable housing | WV-7130 (Optional) | Tilting angle | Up: Approx. 45°, Down: Approx. 45° |
| Bracket | WV-7030 (Optional) | Load weight | Less than 17½ lbs. (8 kg) * |
| Power source | 24V AC from remote control unit WV-7330 | Ambient operating temperature | 14°F ~ 122°F (-10°C ~ +50°C) |
| Power consumption | Approx. 30 W max. | Ambient operating humidity | Less than 90% |
| Panning | Remote controlled by WV-7330 | Dimensions (inch; Approx.) | 6-7/16" (W) x 10" (H) x 8-1/8" (D) (163(W) x 254(H) x 226(D) mm) |
| Panning speed | Approx. 7°/sec. | Weight | Approx. 12-1/4 lbs. (5.6 kg) |
| Panning angle | 20° ~ 340° (adjustable) | | |
| Tilting | Remote controlled by WV-7330 | | |

• Remote Control Unit (WV-7330)

| | | | |
|-------------------|--|-------------------------------|--|
| Pan/Tilt Head | WV-7230 x 1 (Optional) | Power Output | AC 24V, DC ±6V |
| Power source | 120V AC, 60Hz | Ambient operating temperature | 14°F ~ 122°F (-10°C ~ +50°C) |
| Power consumption | Approx. 37W max. (Including WV-7230, Panasonic 24V AC camera and motorized zoom lens.) | Ambient operating humidity | Less than 90% |
| Controls | Camera power, panning, tilting, zoom, focus, iris | Dimensions (inch; Approx.) | 8-3/8" (W) x 3-13/16" (H) x 6-11/16" (D) (210(W) x 95(H) x 170(D) mm) |
| Panning | Joystick: RIGHT/LEFT | Weight | Approx. 5-3/4 lbs. (2.6 kg) |
| Tilting | Joystick: UP/DOWN | | |

STANDARD ACCESSORIES

• Pan/Tilt Head

- Mounting screws for camera housing
[Part No.: XVG4C15FN] 6 pcs.
- Planewasher
[Part No.: XWG4FN] 6 pcs.

- Lockwasher
[Part No.: XWA4BFN] 6 pcs.
- 4-pin connector for Zoom Lens
[Part No.: YWMAS4100] 1 pc.

• Remote Control Unit

- Fuse (2 Amp. 125V AC: Slow Blow)
[Part No.: YWST6-2A] 1 pc.

- Fuse (3 Amp. 125V AC: Slow Blow)
[Part No.: YWST6-3A] 1 pc.

OPTIONAL ACCESSORIES

- Rack Mount Frame (WJ-A01, WJ-B02)

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