

Operating Instructions

Combination Camera
WV-CS400



Panasonic

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

ENGLISH VERSION

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directives EEC/73/23 and EEC/89/336.

Noi dichiariamo sotto nostra esclusiva responsabilità che il prodotto a cui si riferisce la presente dichiarazione risulta conforme ai seguenti standard o altri documenti normativi conformi alle disposizioni delle direttive CEE/73/23 e CEE/89/336.

For Australia

THIS APPARATUS MUST BE EARTHED.

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

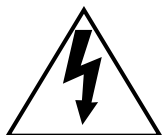


CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK), NO
USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE
PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The serial number of this product may be found on the bottom 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. _____

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende normen of andere normatieve documenten, overeenkomstig de bepalingen van Richtlijnen 73/23/EEC en 89/336/EEC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med den følgende standard eller andre normative dokumenter i følge bestemmelserne i direktivene 73/23/EEC og 89/336/EEC.

Vi deklarerar härmed vårt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med standarddokument, eller andra normativa dokument som framställs i Direktiv 73/23/EEC och 89/336/EEC.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavia standardeja tai muita ohjeellisia asiakirjoja, jotka noudattavat direktiivien 73/23/EEC ja 89/336/EEC. säädöksiä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende normer eller andre normgivende dokumenter som følger bestemmelsene i direktivene 73/23/EEC og 89/336/EEC.



For U.K.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 13 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amp and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.


WARNING: This apparatus must be earthed.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code.

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

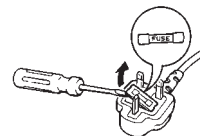
The wire which is coloured **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol  or coloured **green** or **green-and-yellow**.

The wire which is coloured blue must be connected to the terminal in the plug which is marked with the letter N or coloured **black**.

The wire which is coloured **brown** must be connected to the terminal in the plug which is marked with the letter L or coloured **red**.

How to replace the fuse

Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Intelligent Security & Fire

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Intelligent Security & Fire

The model numbers listed in this Operating Instructions have no suffixed attached to it.

PREFACE

Panasonic presents highly advanced CCVE technology to meet the demand of new and ever-changing applications. The WV-CS400 is unitized colour video surveillance device which features 1/3" CCD Digital Signal Processing (DSP) high performance camera, pan/tilt mechanism, 10 times zoom lens and receiver in its compact enclosure.

The camera portion incorporates 1/3" high sensitive CCD and provides 480-line horizontal resolution and 48 dB of S/N ratio. Also WV-CS400 feature advanced digital signal processing circuit which enables a surveillance of the next age.

Pan & tilt portion is especially designed to meet your specific needs.

WV-CS400 features 360 degree endless panning. A unitized surveillance devices, Panasonic WV-CS400 give you the edge of high technology of advanced video surveillance.

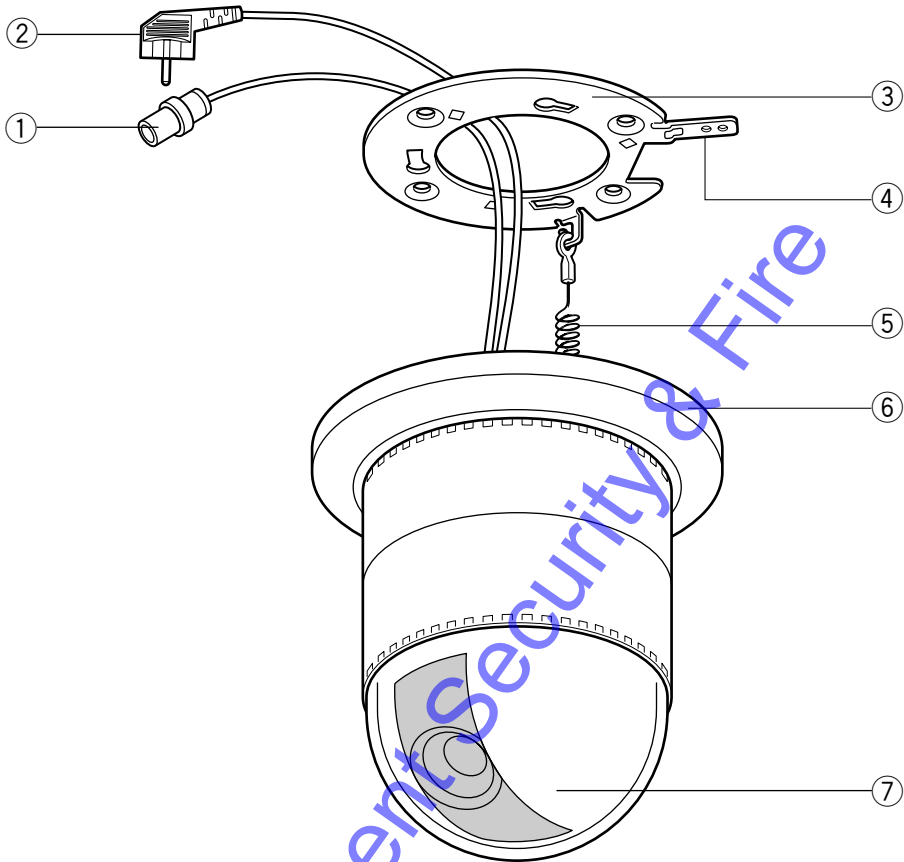
FEATURES

1. Maximum 24 degree/sec. speed for automatic and manual panning.
2. 360 degree endless panning.
3. The following functions are built in.
 - (1) Auto Light Control (ALC)/Manual Override Iris
 - (2) Character Generator
 - (3) Back Light Compensation (Auto: Factory preset, Manual: Manual photometric measuring area set)
 - (4) Auto/Manual White Balance Function
 - (5) Electronic Shutter Function
4. Signal-to-noise ratio of 48 dB
5. Minimum illumination of 3 lx
6. 480 lines of horizontal resolution
7. High quality picture:
 - (a) 2H type vertical enhancer for greater picture sharpness
 - (b) Chroma averaging circuit for better colour signal to noise ratio
 - (c) Minimum of aliasing on fine objects
 - (d) Expanded dynamic range by use of knee circuit
 - (e) Highlight aperture correction for greater picture detail of bright object
8. Back Light Compensation for use against unusual lighting conditions.

PRECAUTIONS

- Do not attempt to disassemble this unit. There are no user serviceable parts inside. Refer servicing to qualified service personnel.
- This unit is designed for indoor use. So mount this any other place which allows to avoid the rain or moisture.
- Be sure to mount on flat ceiling.
- Do not drop the metallic parts through slots. This action could permanently damage this unit. Do turn the power off immediately and refer servicing to qualified service personnel.
- Wipe the enclosure regularly by using a soft and dry cloth, or a cloth moistened with a solution of water and normal kitchen detergent. Do not use chemicals for cleaning the enclosure as it may damage the surface.
- Every necessary procedures with regard to install this product should be made by qualified service personnel or system installers.
- Use this unit in an environment where the temperatures is within -10°C - $+50^{\circ}\text{C}$ (14°F - 122°F), and the relative humidity within 90%.
- Never aim the camera at bright objects. Whether the camera is in use or not, never aim it at the sun, or other extremely bright objects as this could cause blooming.
- Do not mount this unit except the ceiling mount. The standing mount makes the picture upside down, and the movement of the panning and tilting to reverse.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



(1) Video Output Connector

(2) Power Cable

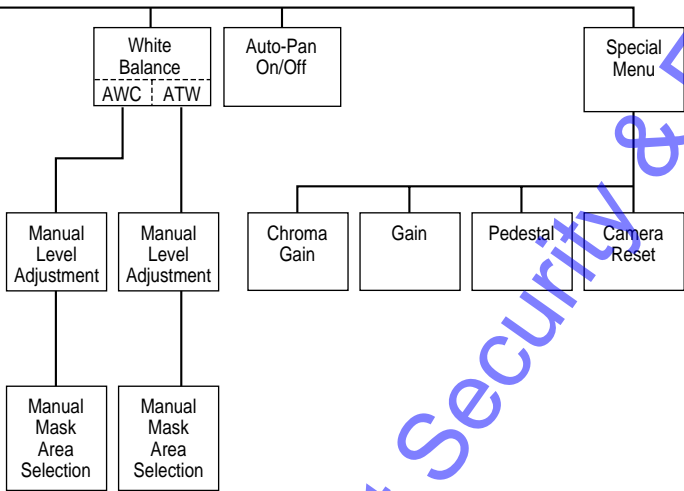
(3) Camera Mounting Angle

(4) Pan/Tilt Starting Point

(5) Fall Prevention Wire

(6) Decoration Cover

(7) Dome Cover



Intelligent Security & Fire

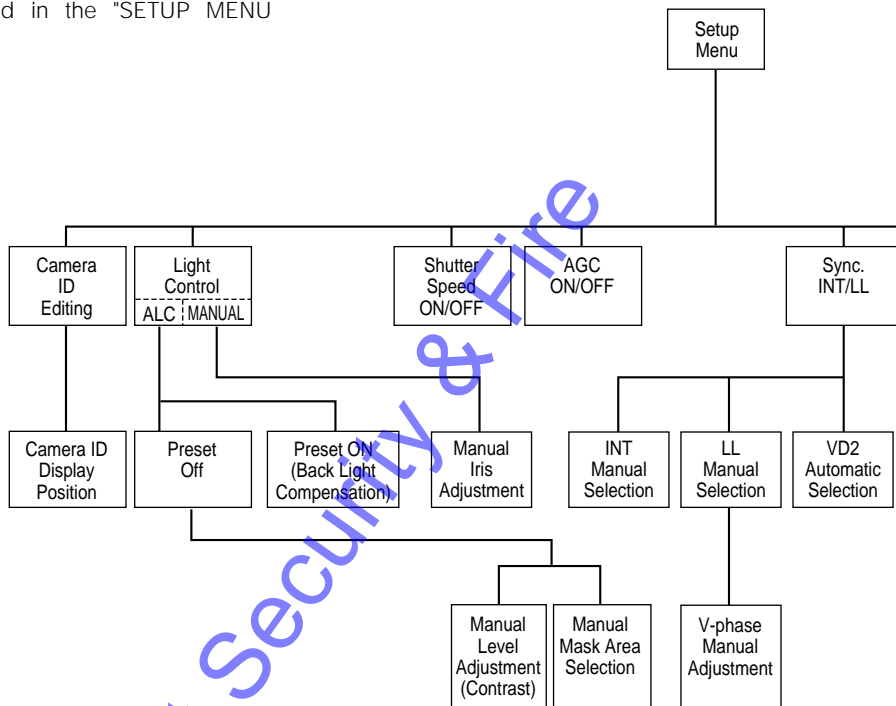
SETUP PROCEDURE

■ Setup Menu

This camera utilizes a user setup menu that is displayed on-screen.

This setup menu contains various sub menus with a Tree-Type structure as shown below.

This menu is described in the "SETUP MENU DESCRIPTION".

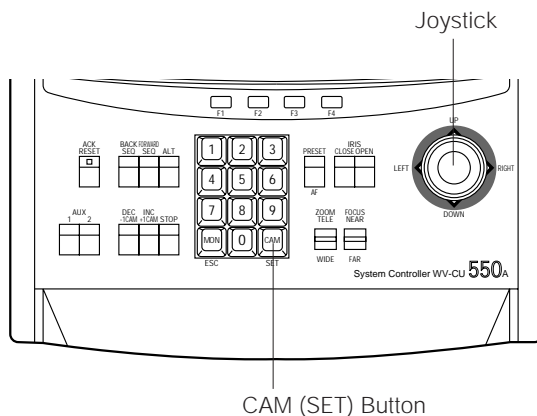


The above menus should be set with the following switches.

• In Case of WV-CU550A

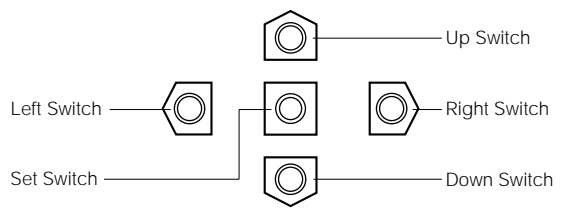
Joystick: Used to move the Cursor Upward/Downward/Right/Left and select the mode. Also used to adjust the level.

CAM (SET) Button: The mode is set by this switch. Also, the menus can be changed by this switch.



• In Case of WV-RM70

- Up Switch: Moves the cursor upwards.
- Down Switch: Moves the cursor downwards.
- Right Switch: Moves the cursor right. The mode is also selected by this switch and adjustment of certain levels can be made by this switch.
- Left Switch: Moves the cursor left. The mode is also selected by this switch and adjustment of certain levels can be made by this switch.
- Set Switch: The mode is set by this switch. Also, the menus can be changed by this switch.



■ Setup Menu Description

● Camera

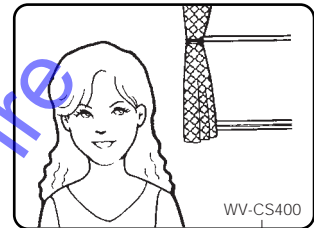
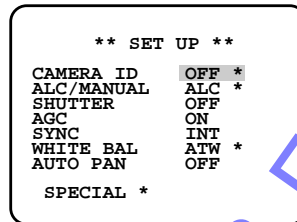
(1) Camera Identification (CAMERA ID)

Up to 16 alpha/numeric characters for camera identification can be displayed near the bottom of the picture.

The ID display ON or OFF mode is selected by the primary setup menu and the editing of displayed characters is performed in the associated sub menu.

Note:

Refer to the Camera Identification Setting for more details.



Camera ID

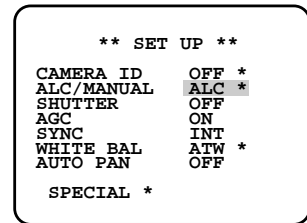
(2) Light Control (ALC/MANUAL)

The lens iris can be controlled automatically or manually.

• Back Light Compensation (BACK LIGHT COMP)

With conventional cameras, strong background lighting, such as a spotlight, interferes with the clarity of important scene objects, making them appear dark. This camera is equipped with a back light compensation function to overcome this problem.

Setup Menu Tree, both the ALC light control modes can select either Preset ON or Preset OFF for Back Light Compensation.

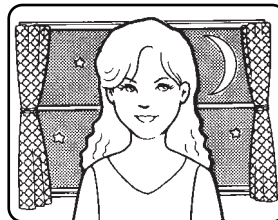


• Factory Setup Mode (PRESET ON)

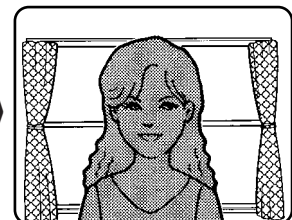
In normal use the important object in a scene is placed in the centre of the monitor's screen. In the factory setup mode, more photometric weight is given to the centre of the screen (where the important object is located) than is given to the edge of the picture (where a bright back light would most likely be located). In this mode, even though the backlight may vary, the object at the centre of the screen can still be clearly seen.

<Conventional Camera>

Night



Day

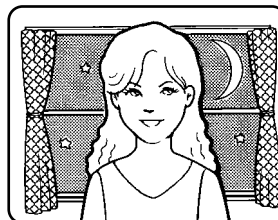


Note:

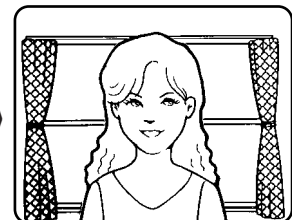
Refer to the Light Control Setting on page 12 for detailed procedures.

<WV-CS400 Preset ON>

Night



Day



• **Field Setup Mode (PRESET OFF)**

This mode is effective in conditions where the important object in the scene is not located centrally in the picture and when a bright light source is located near the centre of the screen.

A conventional camera cannot cope with these situations.

However, by using the WV-CS400 in the preset "OFF" mode, it is possible to compensate for difficult lighting conditions. In this mode, the picture is divided into 48 zones or mask areas. It is possible to mask (or tell the camera to ignore) any bright light sources in those mask areas that might interfere with picture clarity.

For example, a strong spotlight in the background might cause the lens iris to close down

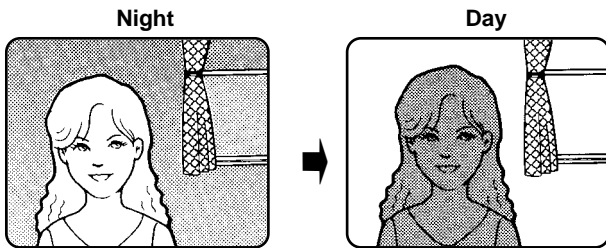
so much that all other objects in the scene appear dark. With the field setup mode for back light compensation, it is possible to mask out the spotlight and increase the rest of the scene's brightness as shown below.

In addition to the mask area setup, the overall video output level can be adjusted by using the level adjustment (LEVEL) while in the preset "OFF" mode for both the ALC and ELC modes.

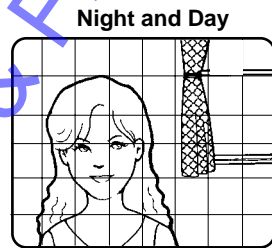
Note:

The end result of the field setup of the mask area and level adjustment is the generation of a feed back control signal to the lens iris when in the ALC mode or a exposure time control signal to the CCD image sensor when in the ELC mode.

<Conventional Camera>



<WV-CS400 Masked>

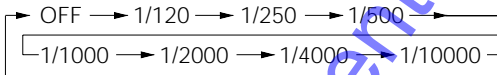


(3) Shutter Speed (SHUTTER)

The electronic shutter speed can be selected from 1/50 second (OFF) to 1/120 - 1/10000 second.

Note:

Refer to the Shutter Speed Setting on page 14 for detailed procedures.



** SET UP **	
CAMERA ID	OFF *
ALC/MANUAL	ALC *
SHUTTER	OFF *
AGC	ON
SYNC	INT
WHITE BAL	ATW *
AUTO PAN	OFF
SPECIAL *	

(4) Gain Control (AGC)

The gain control mode can be selected between automatic gain control (AGC ON) and manual gain control (AGC OFF) by this menu.

Note:

Refer to the Gain Control Setting on page 14 for detailed procedures.

** SET UP **	
CAMERA ID	OFF *
ALC/MANUAL	ALC *
SHUTTER	OFF
AGC	ON
SYNC	INT
WHITE BAL	ATW *
AUTO PAN	OFF
SPECIAL *	

(5) Synchronization (SYNC)

In the Setup Menu it is possible to select either the internal sync mode (INT) or the line-lock sync mode (LL).

Additionally, this camera accepts the VD2 signal, which is the vertical drive signal multiplexed with the composite video output signal from a component such as the WJ-MP404 Multiplex Unit. The VD2 signal allows for roll-free vertical interval switching in a sequential switcher. Whenever VD2 is supplied to this camera, the camera automatically switches into the VD2 sync mode.

In the submenus of the synchronization section of the Setup Menu, adjustments are possible for the vertical phase adjustment for the line-lick mode, horizontal phase adjustment for the composite sync mode, and horizontal and sub-carrier phase adjustments for the black burst mode.

** SET UP **	
CAMERA ID	OFF *
ALC/MANUAL	ALC *
SHUTTER	OFF
AGC	ON
SYNC	INT
WHITE BAL	ATW *
AUTO PAN	OFF
SPECIAL *	

(6) Synchronization (SYNC)

Important Notice:

The priority of sync mode is as follows.

1. Multiplexed Vertical Drive (VD2) (Highest)
2. Line-lock (LL)
3. Internal Sync (INT) (Lowest)

Note:

The automatic sync mode selection is made according to priority listed above. Refer to the Synchronization Setting on page 14 for detailed procedures.

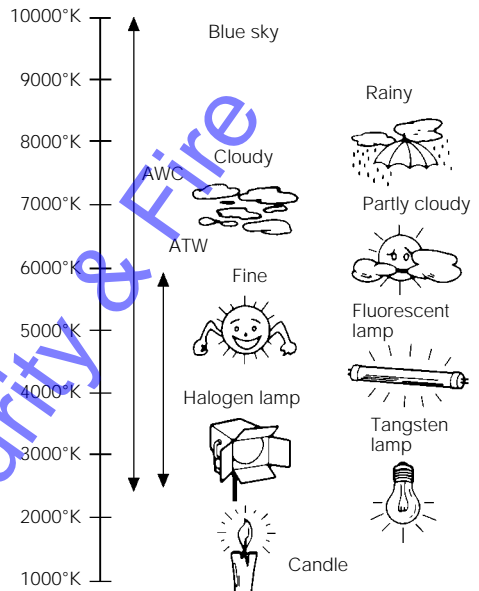
(7) White Balance (WHITE BAL)

A colour characteristic of illumination is called colour temperature and it is measured in units of Kelvin (°K).

The higher colour temperatures are considered bluish while the lower colour temperatures are more reddish.

A camera shooting a scene with high colour temperature illumination produces a bluish picture. Likewise, it will produce a reddish picture with lower colour temperature illumination. Therefore, in order for the camera to reproduce a scene accurately, it needs to be white balanced before shooting.

Selection of the white balance control mode, either auto-tracing white balance (ATW) or one-touch automatic white balance (AWC), can be made through the use of this menu.



• Auto-Tracing White Balance Mode (ATW)

In the ATW mode the colour temperature of the illuminant is continuously monitored and the white balance of the camera is automatically set.

The ATW mode has a range of operation from approximately 2600°K - 6000°K. Beyond this range, use the Automatic White Balance (AWC) mode.

The ATW mode might not produce optimum colour rendition under the following conditions.

1. When the scene consists mostly of strongly coloured objects or illumination such as a blue sky or during sunset.
2. When the scene is dimly lit.

In these cases, use the AWC mode.

• Automatic White Balance Control Mode (AWC)

In this mode, accurate white balance may be obtained within a range of operation from approximately 2300°K- 10000°K.

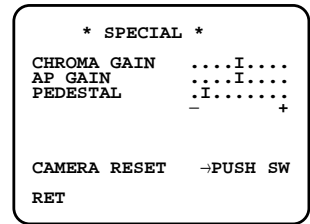
Note:

Refer to the White Balance Setting on page 16 for detailed procedures.

** SET UP **	
CAMERA ID	OFF *
ALC/MANUAL	ALC *
SHUTTER	OFF
AGC	ON
SYNC	INT
WHITE BAL	ATW *
AUTO PAN	OFF
SPECIAL *	

(8) Special Menu (SPECIAL)

Chroma level, aperture level, and pedestal level can be adjusted. Your settings can be released to return to the default settings. See page 18 for the setting method.

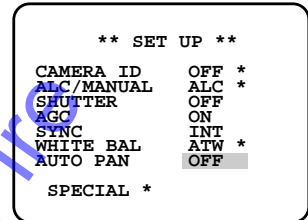


(9) Automatic Panning (AUTO PAN)

Select one of the two panning modes below.

OFF : Operates the panning manually

AUTO PAN : Operates the panning automatically with the preset panning range.



■ Setting Procedures

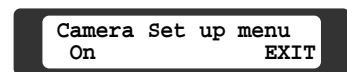
The following setting procedures are described on the assumption that the WV-CU550A is used. Refer to the Operating Instructions of WV-CU550A.

■ MENU DISPLAY

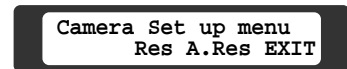
● Setup Menu Display

1. Select the numbers of a camera to set up and a monitor to display the setup menu.
2. Display the D4 menu using the cursor.
3. Press the F1 key.
The setup menu appears on the monitor.
4. To close the setup menu, press the F4 key.

D4 menu

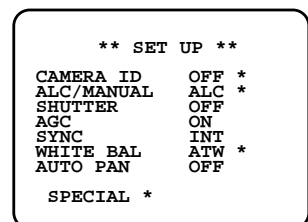


F1 F2 F3 F4



F1 F2 F3 F4

Setup menu



● Submenu Display

The items having * mark enable the editing of the submenu.

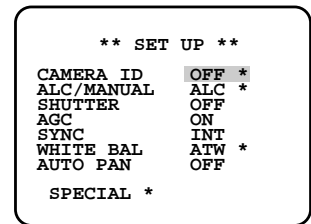
1. Move the cursor to an item having * mark and press the CAM (SET) button.
The submenu is displayed.

■ CAMERA SETTING

1. To display Camera Setting Menu

1. Move the cursor to CAMERA*, and press the CAM (SET) button. The camera setting menu is displayed.

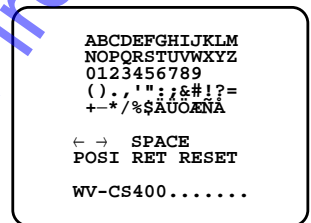
Setup menu



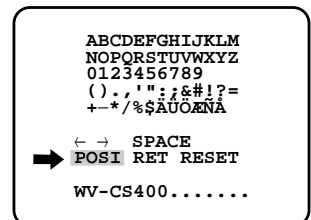
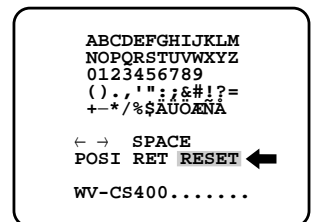
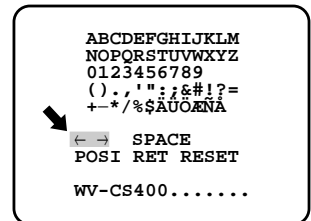
2. Camera Identification (CAMERA ID) Setting

- Move the cursor to the "CAMERA ID" mode position, and select either "ON" (Camera identification characters are displayed) or "OFF" mode by using the Joystick.
- When the camera identification character needs editing, perform the following steps by using the submenu of Camera Identification.
- Move the cursor to the "CAMERA ID" mode position and press the CAM (SET) Button to display the Character Editing menu.
- The character cursor on the letter "A" and the editing cursor on the left end of the editing area starts blinking.
- Move the character cursor to the desired letter by using the Joystick and then press the CAM (SET) Button. The selected letter is written to the editing cursor position. (The blinking Editing Cursor moves to right automatically at this moment.)
- Repeat the above procedure until all character editing is completed.
- When the position of the editing cursor is to be shifted in the editing area, move the character cursor to the "←" or "→" and press the CAM (SET) Button. This function is used to move the editing position or to correct an individual character.
- When a blank space is needed, move the character cursor to the "SPACE" position and press the CAM (SET) Button. The blank space is inserted into the cursor position in the editing area.
- When all characters in the editing area are to be erased, move the character cursor to the "RESET" position and press the CAM (SET) Button.
- After completing the editing of the Camera Identification characters, the display position of the Camera Identification characters on the monitor screen can be set as follows.
- Move the character cursor to the "POSI" position and press the CAM (SET) Button to display the ID position menu. The characters of the camera ID start blinking to identify the selection of the positioning menu.

Camera ID setting menu



Setup menu



- The display position of the camera ID on the monitor screen can be placed anywhere on the screen by using the Joystick.

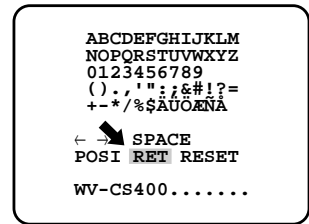
Notes:

- The positioning of the camera ID stops at the edges of the monitor screen.
- The camera ID moves faster when the Joystick is kept pressed for more than 0.5 seconds.

- After completing the positioning of the camera ID, press the CAM (SET) Button to return to the Character Editing menu.

- To return to the normal camera picture mode, move the character cursor to the "END" position and press the CAM (SET) Button.

- To return to the Setup menu for setting other items, move the character cursor to the "RET" position and press the CAM (SET) Button.



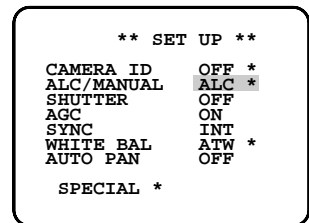
3. Light Control Setting (ALC/ELC)

- Display the Setup menu.
- If necessary, refer to Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the "ALC/MANUAL" mode position and select either the "ALC" or "MANUAL" mode by using the Joystick.

Note:

The back light compensation setting sub menu associated with this menu is described separately and should be setup after installing the camera at the site and observing the actual site picture.

Setup menu

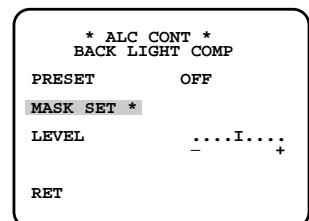
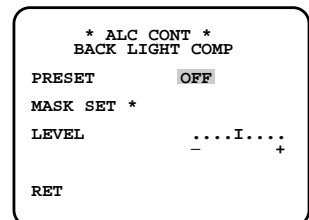


4. Back Light Compensation Setting (BACK LIGHT COMP)

(1) ALC Mode

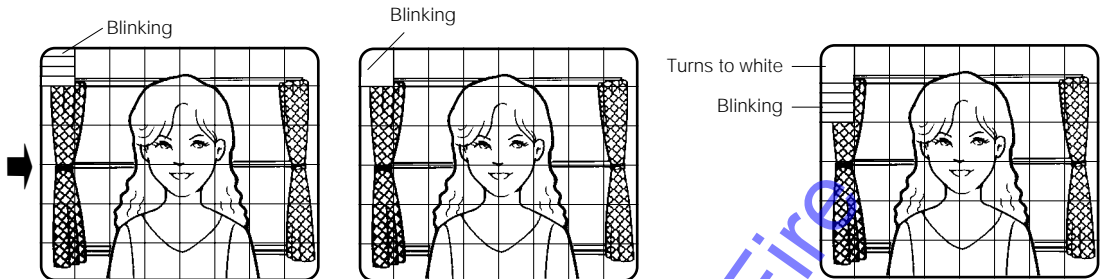
- Confirm that the ALC mode is selected as follows.
- Display the Setup menu.
- If necessary, refer to Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the "ALC/MANUAL" mode position and select the "ALC" mode by using the Joystick.

Backlight compensation menu



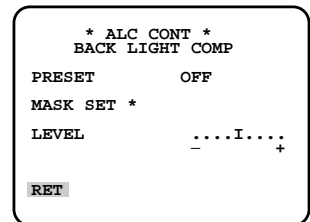
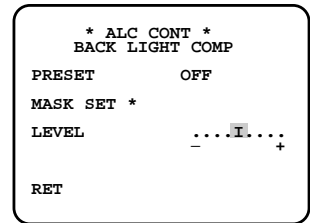
(1)-1 ALC Mode with Preset Mode (PRESET ON)

- Move the cursor to the "PRESET" mode position and select the "ON" mode by using the Joystick. The preset mode menu is displayed on the monitor screen as shown.
- Move the cursor to "RET" position by using the Joystick and press the CAM (SET) Button to return to the Set Up menu.



(1)-2 ALC Mode with Field Setup Mode (PRESET OFF)

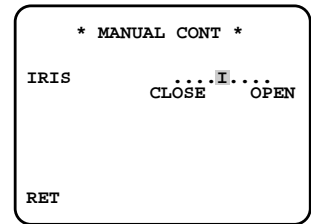
- Move the cursor to the "PRESET" mode position and select the "OFF" mode by using the Joystick.
- The field setup menu is displayed on the monitor screen as shown.
- Move the cursor to the "MASK SET" mode position and press the CAM (SET) Button. The 48 Mask Areas appears on the monitor screen. The left top area has a blinking cursor.
- To mask this area, press the CAM (SET) Button. The mask and the cursor start blinking alternately.
- To mask other areas, move the cursor to the desired area by using the Joystick. Then press the CAM (SET) Button to mask that area. The area turns to white.
- When the cursor is moved to an area that has already been masked, the mask and cursor start blinking alternately.
- Press the CAM (SET) Button if this masking for this area is to be canceled.
- Press the F2 Button of WV-CU550A when all masking areas are to be canceled.
- After masking is completed, press the CAM (SET) Button for more than 2 seconds. The 48 Mask Areas on the monitor screen disappear and the field setup menu is then displayed.
- If the video output level (picture contrast) is to be changed, move the cursor to the "LEVEL" mode position and control the Joystick to adjust the iris of the ALC lens. When the cursor is moved in the right (+) direction, the lens iris is opened wider, causing the video output level to rise.
If the cursor is moved in the left (-) direction the reverse takes place.
- Move the cursor to "RET" position by using the Joystick and press the CAM (SET) Button to return to the Set Up menu.



(2) MANUAL Mode

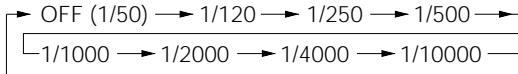
Move the cursor ALC/MANUAL position by using the Joystick and select the MANUAL by using the Joystick.
The MANUAL menu is displayed.
Control the level by using the Joystick.

Manual setting menu

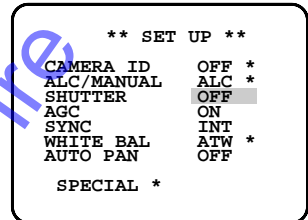


5. Shutter Speed Setting (SHUTTER)

- Display the Setup menu.
- If necessary, refer to Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the SHUTTER mode position and select the electronic shutter speed by using the Joystick.
The following electronic shutter speeds are available.



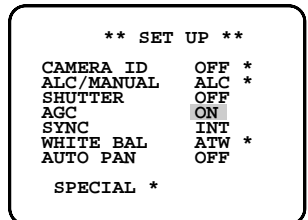
Camera setting menu



6. Gain Control Setting (AGC ON/OFF)

- Display the Setup menu.
- If necessary, refer to Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the AGC mode position and select either ON or OFF mode by using the Joystick.

Camera setting menu



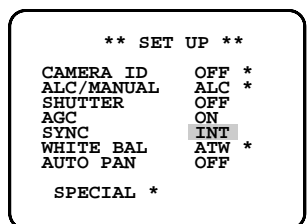
7. Synchronization Setting (SYNC)

- Display the Setup menu.
- If necessary, refer to the Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the SYNC mode position and select either the line-lock (LL) or internal (INT) mode by pressing the Joystick.

Important Notice:

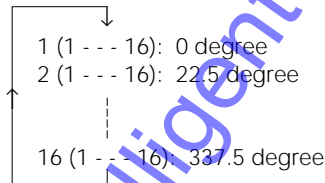
1. The priority for the sync modes are as follows.
 1. Multiplexed Vertical Drive (VD2) (Highest priority)
 2. Line-lock (LL)
 3. Internal Sync (INT) (Lowest priority)
2. When the internal sync mode is to be used, select the INT position.
3. Whenever the multiplexed vertical drive pulse (VD2) is supplied to the camera, the camera sync mode is automatically switched to the VD2 mode, regardless of the sync mode selection.

Camera setting menu



Line-lock Sync Mode (LL)

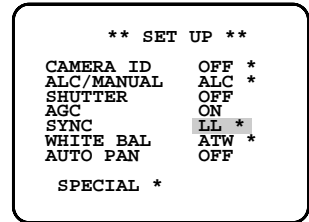
- Display the Setup menu.
- If necessary, refer to Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the "SYNC" mode position and select the line-lock "LL" mode by using the Joystick. This setup can be only made when the multiplexed vertical drive (VD2) pulse is not supplied to the camera.
- After confirming that the cursor is on the "LL" position, press the CAM (SET) Button on the rear panel. The following vertical phase adjustment menu is then displayed on the monitor.
- Move the cursor to the "COARSE" mode position by using the Joystick. The cursor starts blinking.
- Connect the video output signal of the camera to be adjusted and the referenced camera video output signal (for example, Camera 1) to the dual-trace oscilloscope.
- Set the dual-trace oscilloscope to the vertical rate and expand the vertical sync portion on the oscilloscope.
- Control the Joystick to match as closely as possible the vertical phases for both video output signals. (The coarse adjustment can be incremented for every 22.5 degrees (16 steps) by the Joystick.)



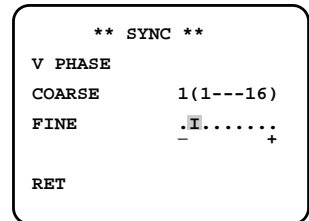
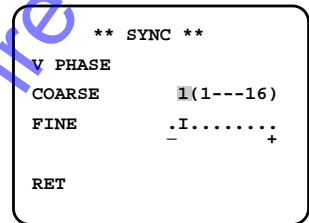
Note: After the 16 steps, the adjustment returns to the first step.

- Move the cursor to the "FINE" mode by using the Down Switch. The cursor starts blinking.
- Use the Joystick to match as closely as possible the vertical phases for both video output signals. (Fine adjustment can be made for up to 22.5 degrees by using the Joystick.)

Camera setting menu

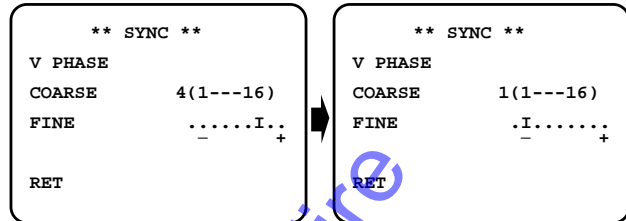


Camera setting menu



Notes:

1. When the cursor "I" reaches to the end of "+" position, the cursor "I" jumps to the "-" position. At the same time, the step number of the "COARSE" mode increases one step to enable a continuous adjustment. The reverse operation takes place when the cursor "I" reaches to the end of "-" position.
2. When the Joystick is kept placing to right or left for more than one second, the cursor "I" moves quickly.
3. When F2 Button of WV-CU550A is pressed, both the coarse and fine adjustment are reset to the factory setup position. (Factory setup position is zero-crossing of the AC line phase as shown below.)
4. If the AC line contains noise (spike noise etc.), the stability of the vertical phase of the camera video output signal may be disturbed.

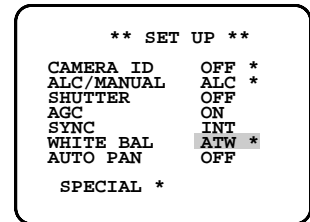


8. White Balance Setting (WHITE BAL)

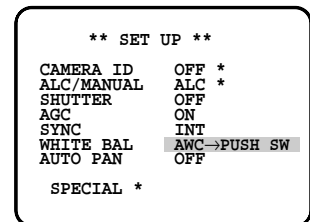
(1) Auto-Tracing White Balance Mode (ATW)

- Display the Setup menu.
- If necessary, refer to Setup Menu Display, for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the "WHITE BAL" mode position and select the "ATW" mode by using the Joystick.
- The white balance of the camera is automatically set.
- When manual adjustment of the white balance, press the CAM (SET) Button to display the following field setup menu on the monitor screen.
- In this menu, it is possible to mask areas. Move the cursor to the "MASK SET" mode position and press the CAM (SET) Button. 48 Mask Areas appear on the monitor screen.
- Refer to the Back Light Compensation section on page 12, for details about masking areas.
- After masking is completed, press the CAM (SET) Button for more than 2 seconds. The previous field setup menu is then displayed.
- Move the cursor to the "R" position.
Control the Joystick to obtain the optimum amount of Red gain. The cursor "I" moves to the left or right.
- Move the cursor to the "B" position.
Control the Joystick to obtain the optimum amount of Blue gain. The cursor "I" moves to the left or right.
- Move the cursor to the "RET" position by using the Joystick and press the CAM (SET) Button to return to the Set Up menu.

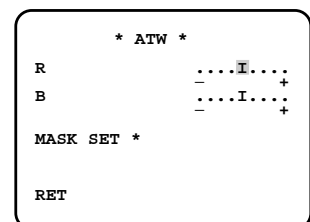
Camera setting menu



Camera setting menu



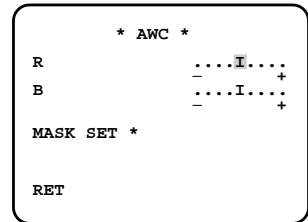
ATW fine adjustment menu



(2) Automatic White Balance Control Mode (AWC)

- Move the cursor to the "WHITE BAL" mode position and select the "AWC → PUSH SW" mode by using the Joystick.
- Press the CAM (SET) Button to activate the white balance setup. The "PUSH SW" display starts blinking to indicate that the white balance is being set.
- When the white balance setting is completed, the blinking "PUSH SW" stops blinking.
- When manual adjustment of the white balance is desired, press the Joystick to select "AWC" mode then press the CAM (SET) Button to display the following field setup menu on the monitor screen.
- In this menu, it is possible to mask areas. Move the cursor to the "MASK SET" mode position and press the CAM (SET) Button. 48 Mask Areas appear on the monitor screen.
- Refer to the Back Light Compensation on page 12, for details about masking areas.
- After masking is completed, press the CAM (SET) Button for more than 2 seconds. The previous field setup menu is then displayed.
- Move the cursor to the "R" position. Control the Joystick to obtain the optimum amount of Red gain. The cursor "I" moves to the left or right.
- Move the cursor to the "B" position. Control the Joystick to obtain the optimum amount of Blue gain. The cursor "I" moves to the left or right.
- Move the cursor to the "RET" position by using the Joystick and press the CAM (SET) Button to return to the Set Up menu.

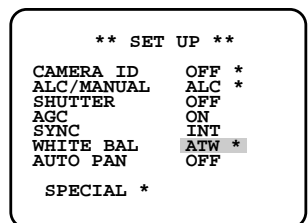
AWC fine adjustment menu



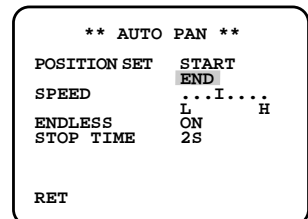
9. Auto-Pan Setting

- To set auto-pan
Move the cursor to AUTO PAN and select either On or Off mode by moving the joystick to left or right.
- When AUTO PAN is selected, set details as follows:
Select On mode and press the CAM (SET) button to display the AUTO PAN setting menu.

Setup menu



AUTO PAN setting menu



3. To set a panning start position and panning end position
Follow the steps below.

(1) Move the cursor to POSITION SET and press the CAM (SET) button.
The cursor moves to START.

```

** AUTO PAN **
POSITION SET  START
              END
SPEED         ...I...
              L   H
ENDLESS       ON
STOP TIME     2S

RET

```

(2) Move the joystick to left or right to select a panning start position and press the CAM (SET) button.
This determines the start position and the cursor moves to END.

(3) Move the joystick to left or right to select a panning end position and press the CAM (SET) button.
This determines the end position and the cursor moves to POSITION SET.

```

** AUTO PAN **
POSITION SET  START
              END
SPEED         ...I...
              L   H
ENDLESS       ON
STOP TIME     2S

RET

```

4. To set a speed

Move the cursor to SPEED, and move the joystick to left or right to set a panning speed as desired.
Panning speed increases when the joystick is moved leftward, or decreases when it is moved rightward.

```

** AUTO PAN **
POSITION      START
              END
SPEED         ...I...
              L   H
ENDLESS       ON
STOP TIME     2S

RET

```

5. To set endless turn ON/OFF

Move the cursor to ENDLESS, and move the joystick to left or right to set endless turn ON or OFF as follows:

ON: The camera pans from the start position to the end position, then keeps rotating in the same direction to return to the start position.

OFF: The camera pans from the start position to the end position, then rotates backward to the start position.
This reciprocating operation is repeated.

Note: When the panning, tilting, lens zoom or focus operation is controlled manually, the Auto mode function should be canceled. For activating the Auto mode, select the Auto mode again.

```

** AUTO PAN **
POSITION      START
              END
SPEED         ...I...
              L   H
ENDLESS       ON
STOP TIME     2S

RET

```

10. Special Menu

This menu lets the customer adjust and setup the video signal of the camera to meet the customer's requirement.

- Display the Setup menu.
- If necessary, refer to "Setup Menu Display" for details on displaying the Setup menu on the monitor screen.
- Move the cursor to the "SPECIAL" position and press F2 BUTTON OF WV-CU550A. The special menu is displayed as shown below.

Camera setting menu

```

** SET UP **
CAMERA ID     OFF *
ALC/MANUAL    ALC *
SHUTTER       OFF
AGC           ON
SYNC          INT
WHITE BAL     ATW *
AUTO PAN      OFF

SPECIAL *

```

(1) Chroma Level Setting (CHROMA GAIN)

- Move the cursor to the "CHROMA GAIN" mode position. The cursor "I" starts blinking.
- While observing the vectorscope or colour video monitor, adjust the chroma level by using the Joystick. The cursor "I" moves left or right.

Special menu

```
* SPECIAL *
CHROMA GAIN  ....I....
AP GAIN      ....I....
PEDESTAL     .I.....
CAMERA RESET - →PUSH SW
RET
```

(2) Aperture Level Setting (AP GAIN)

- Move the cursor to the "AP GAIN" mode position. The cursor "I" starts blinking.
- While observing the colour video monitor, adjust the aperture level by controlling the Joystick. The cursor "I" moves left (soft) or right (sharp).

```
* SPECIAL *
CHROMA GAIN  ....I....
AP GAIN      ....I....
PEDESTAL     .I.....
CAMERA RESET - →PUSH SW
RET
```

(3) Pedestal Level Setting (PEDESTAL)

- Move the cursor to the "PEDESTAL" mode position. The cursor "I" starts blinking.
- While observing the waveform monitor/oscilloscope or colour video monitor, adjust the pedestal level (black level) by moving the Joystick. The cursor "I" moves left (low, dark) or right (high, bright).

```
* SPECIAL *
CHROMA GAIN  ....I....
AP GAIN      ....I....
PEDESTAL     .I.....
CAMERA RESET - →PUSH SW
RET
```

(4) Camera Resetting

Move the cursor to the "CAMERA RESET" position by using the Joystick and press the F3 Button.
This camera is reset to the factory preset condition.
(In case of WV-RM70, keep pressing the Right, Left and Set Switches simultaneously more than 2 sec.)

```
* SPECIAL *
CHROMA GAIN  ....I....
AP GAIN      ....I....
PEDESTAL     .I.....
CAMERA RESET - →PUSH SW
RET
```

(5) To close the SPECIAL menu

Move the cursor to the "RET" position by using the Joystick and press the Joystick.
The setup menu is displayed.

```
* SPECIAL *
CHROMA GAIN  ....I....
AP GAIN      ....I....
PEDESTAL     .I.....
CAMERA RESET - →PUSH SW
RET
```

Notes:

■ How to reset to factory setup

Any of the above settings plus the ALC/ELC level control and phase adjustments, can be reset to the factory setup by placing the cursor over the desired mode and then simultaneously pressing both the Joystick for more than 2 seconds.

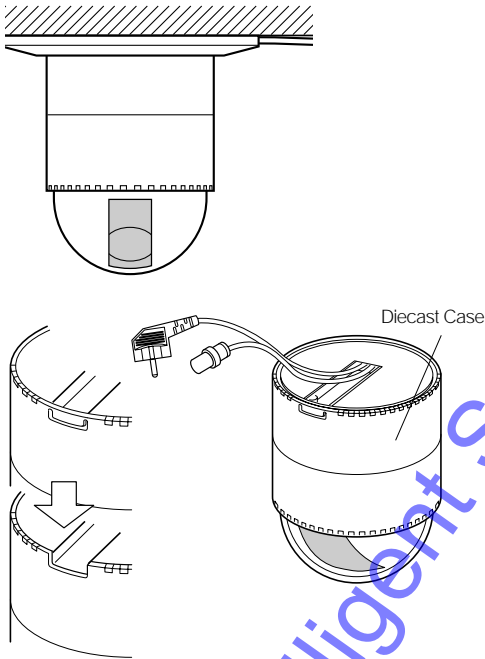
INSTALLATION

Precautions :

1. The following all installations should be made by qualified service personnel or system installers and should confirm to all local codes.
2. Be sure to use the ceiling board having the enough strength to support this camera.
3. Do use the optional Ceiling Mount Bracket WV-Q105, WV-Q106 or WV-Q107 and the Wall Mount Bracket WV-Q108 in accordance with your necessary.

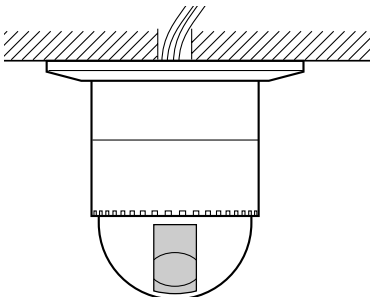
a. The cable come from the side

Cut the diecast case and decoration cover as shown in the following.

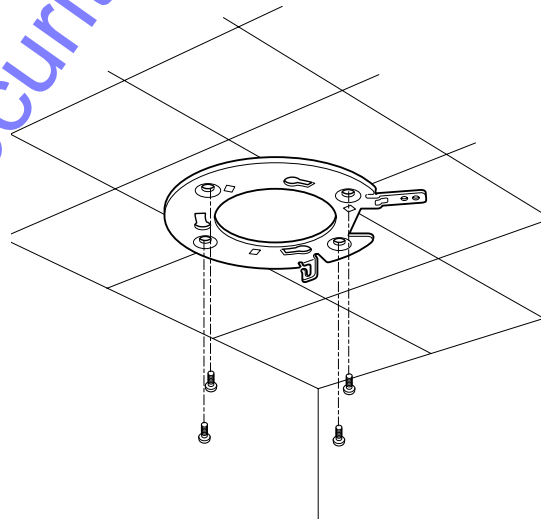
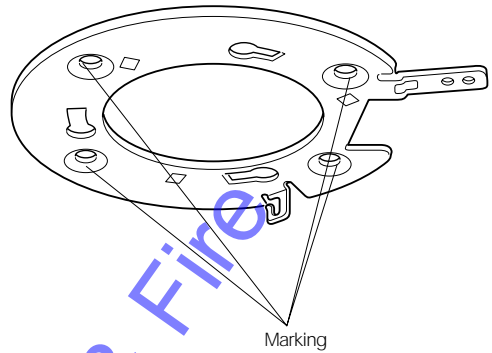


Note: Be sure to protect the video and power cables. Otherwise, the cutting surface will give the damage to the cables.

b. The cables go through into the ceiling nothing to do.



1. Remove the Mounting Screw (M3) from the Camera Mounting Angle (provided).
2. Mark the mounting holes into the ceiling by using the removed Camera Mounting Angle as a template.

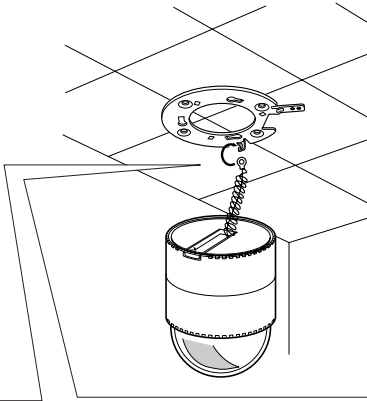


3. Fix the Camera Mounting Angle onto the ceiling by using four camera mounting angle fixing screws (not provided).

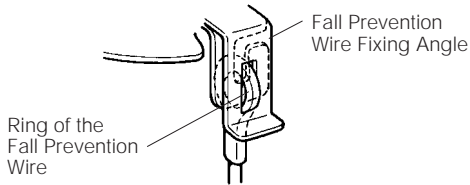
Caution:

Install to support the load of 4 times the total weight.

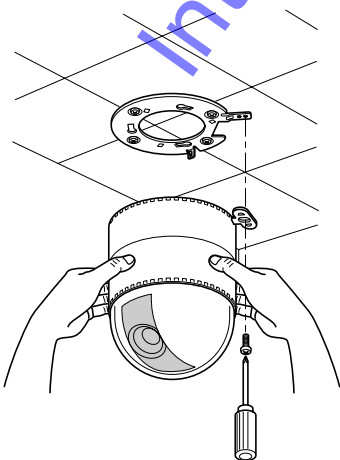
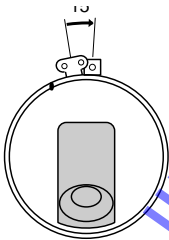
4. Hang the Fall Prevention Wire to the Camera Mounting Angle.



Be sure to match the wire with the Fall Prevention Wire Fixing Angle as shown below.



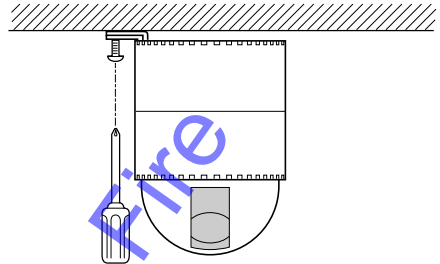
5. Insert the camera into the Camera Mounting Angle and rotate the camera clockwise.



6. Tighten the Mounting Screw (provided).

Notes :

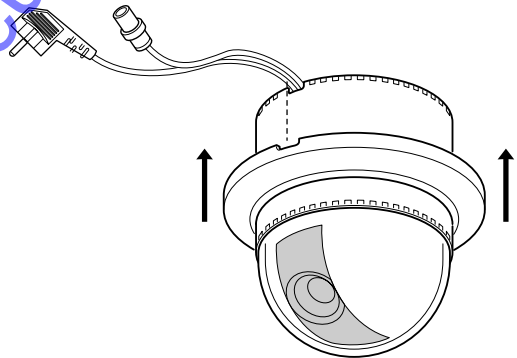
1. Tighten the Camera Fixing Screw with the screwdriver.
2. Do not mount the camera and Camera Mounting Angle completely as shown in the following.
3. When removing the camera from the Camera Mounting Angle, loosen and press up the Camera Fixing Screw (M3) by using the screwdriver.



7. Fix the Decoration Cover to the Camera Mounting Angle.

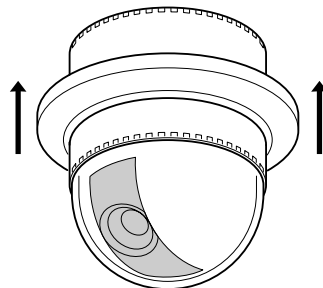
a. In case of coming the cable from the side.

Pass the cables into the pre-made hole (refer to item a in INSTALLATION) on the Decoration Cover.



b. In case of going the cable through into the ceiling.

Push up the Decoration Cover to the Camera Mounting Angle.

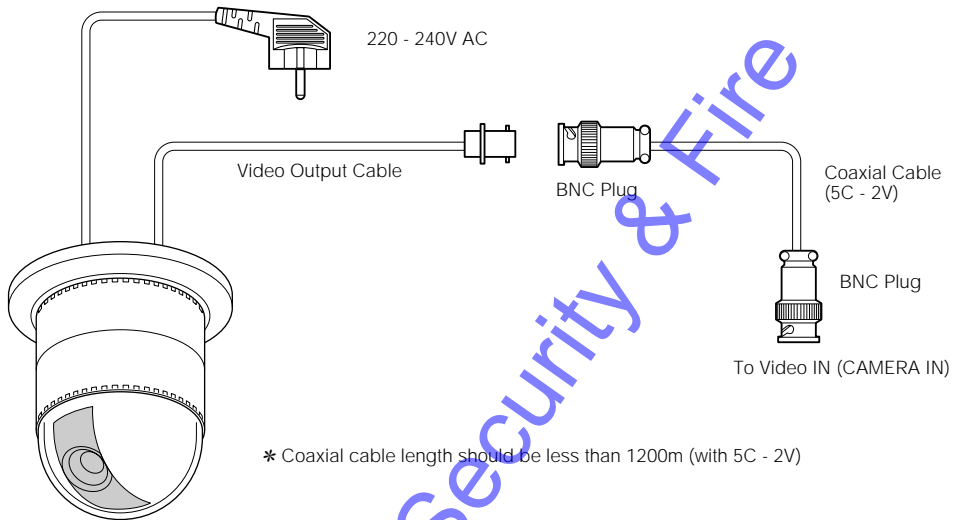


When using the optional bracket for the installation, refer to the Operating Instructions of WV-Q105, WV-Q106, WV-Q107 or WV-Q108 for detail.

CONNECTIONS

Precaution:

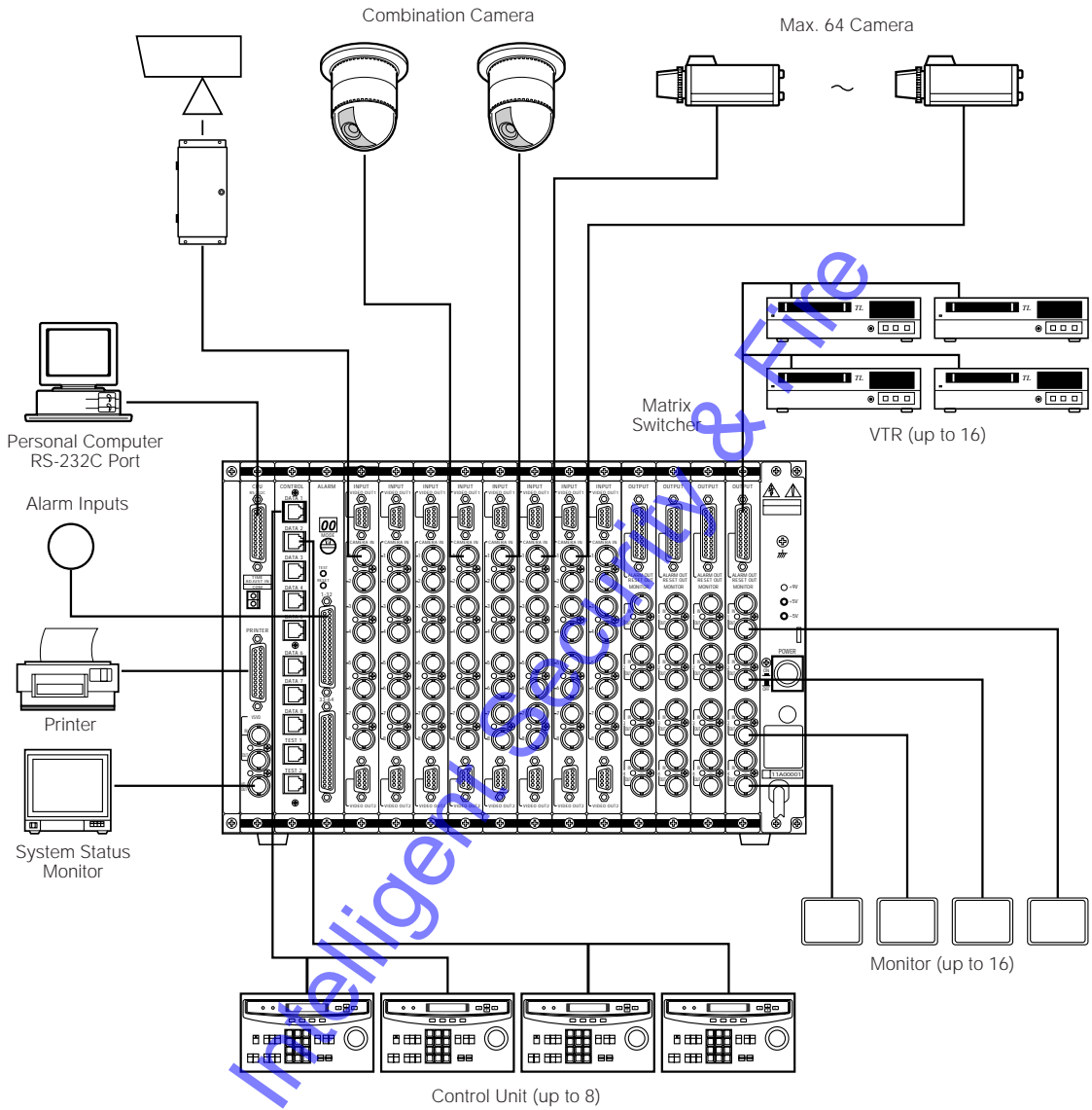
The following connections should be made by qualified service personnel or system installers.



Notes:

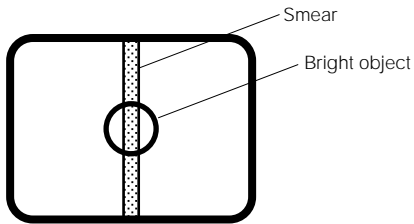
- The self-check operation (The zooming and focusing are operated once) is done after turning on the power.
- When the AUTO PAN ON mode has been selected, panning will start automatically.

SYSTEM CONNECTION



PREVENTION OF BLOOMING AND SMEAR

When the camera is aimed at a bright light, such as a spot light, or a surface that reflects bright light, smear or blooming may appear. Therefore, the camera should be operated carefully in the vicinity of extremely bright objects to avoid smear or blooming.



Intelligent Security & Fire

SPECIFICATIONS

Combination Camera

Power Source :	220 - 240V AC, 50Hz 12W
Ambient Operating Temperature :	-10°C - +50°C (14°F - 122°F)
Dimensions :	130 (D) x 195 (H) mm
Weight :	2 kg

Camera

Pick-up Device :	1/3" CCD with 752 (H) x 582 (V) pixels
Synchronization	Internal/Line-lock/VD2
Horizontal Scanning Frequency :	15.625 kHz
Vertical Scanning Frequency :	50 Hz
Video Output :	1.0 V[p-p] PAL composite/75 Ω
Horizontal Resolution :	More than 480 lines at centre
Vertical Resolution :	More than 400 lines at centre
Signal-to-noise :	48 dB (AGC OFF) at weight ON
Minimum Illumination :	3 lx
Zoom Speed :	Approx. 6 s (TELE/ WIDE) at Manual
Focus Speed :	Approx. 5 s (FAR/NEAR) at Manual
Iris :	Auto (Open / Close is possible)/MANUAL
Maximum Aperture Ratio :	1 : 1.2 (WIDE) - 1.9 (TELE)
Focal Length :	5 - 50 mm
Electronic Shutter :	1/50 (OFF), 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
Back Light Compensation :	Normal/Automatic/Preset mode
Zoom Ratio :	10 times
Focus Ratio :	F1.2 - 22

Pan / Tilt

Panning Ratio :	Endless
Panning Angle Setting :	Possible (at Auto-Pan mode)
Panning mode :	Manual/Auto Pan
Panning Speed :	Manual : Approx. 3°/s, 24°/s eight steps
Tilting Ratio :	0 - 90°
Tilting Speed :	Manual : Approx. 1.5°/s, 12°/s eight steps

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

ACCESSORIES

Camera Mounting Angle	1 pc.
Camera Fixing Screw	1 pc.
Decoration Cover	1 pc.

OPTIONAL ACCESSORIES

Dome Cover (smoked type)	WV-CS1S
Ceiling Mount Bracket	WV-Q105/WV-Q106/WV-Q107
Wall Mount Bracket	WV-Q108

Intelligent Security & Fire

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