

Panasonic

Combination Camera Operating Instructions

Model No. WV-CS850
WV-CS854

ENGLISH

DEUTSCH

FRANÇAIS

ESPAÑOL



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

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.

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 standarder 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 direktiven 73/23/EEC og 89/336/EEC.

For U.K.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

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 \perp 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**.

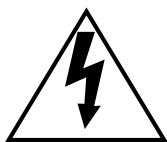
The wire which is coloured **brown** must be connected to the terminal in the plug which is marked with the letter **L** or coloured **red**.

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



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.

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

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PREFACE

Panasonic presents highly advanced CCTV technology that meets the demands of new and ever-changing applications.

This high-performance combination colour camera is utilized as a video surveillance device. The camera incorporates the Super-Dynamic II Digital Signal Processor, pan-tilt mechanism, 22 zoom lens and RS485 communications in a compact enclosure. A newly developed 1/4-inch

CCD is employed for use under extremely low lighting conditions : 0.06 lx for monochrome and 1 lx for colour. It also assures clear display of pictures in which bright and dark objects coexist without mutual interference thanks to the Super-D II DSP. Setup menus allow the camera to fulfill surveillance tasks by such means as Motion Detector, Digital Flip, Patrol Learn and Privacy Zones.

FEATURES

- High quality picture of 737 x 575 pixels.
- Minimum illumination of 1 lux for C/L, 0.06 lux for B/W.
- Super Dynamic II extends the dynamic range up to 46 dB.
- Digital Flip allows a 180 degree tilting to trace passing objects right under the camera.
- Privacy zone settings veil unwanted zones so as not to be displayed on the monitor.
- Protocol adaptability to Panasonic's conventional and new generation protocols and AD's.
- Auto Black/White mode enables the camera to switch between C/L and B/W in response to input lights.
- A run of manual operations is memorized in PATROL LEARN for repetitive use in future.
- Built-in digital motion detector and alarm outputs.
- 64 preset positions.
- 360° panning with 300°/s rotations.
- Sync selection available from among Internal, Line Lock or VD2.

* AD is a registered trademark of American Dynamics.

PRECAUTIONS

1. Do not attempt to disassemble the camera.

To prevent electric shock, do not remove screws or covers.

There are no user serviceable parts inside. Ask a qualified service person for servicing.

2. Handle the camera with care.

Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.

3. Do not expose the camera to rain or moisture, or try to operate it in wet areas.

This product is designed for indoor use or locations where it is protected from rain and moisture.

Turn the power off immediately and ask a qualified service person for servicing. Moisture can damage the camera and also create the danger of electric shock.

4. Do not use strong or abrasive detergents when cleaning the camera body.

Use a dry cloth to clean the camera when dirty.

In case the dirt is hard to remove, use a mild detergent and wipe gently. Care should be taken not to scratch the dome when wiping it.

5. Never face the camera towards the sun.

Do not 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. Otherwise, blooming or smear may be caused.

6. Do not install this camera upside down

This camera is designed for mounting on the ceiling or wall. Using this camera installed upside down, for example, mounted on the floor, may cause malfunction.

7. If "OVER HEAT" sign appears on the monitor screen

The temperature inside the camera exceeds the normal level because of a malfunction of the cooling fan etc. Turn the power off immediately and refer servicing to qualified service personal.

8. Do not operate the camera beyond the specified temperature, humidity or power source ratings.

Use the camera under conditions where temperature is between -10°C - $+50^{\circ}\text{C}$ (14°F - 122°F), and humidity is below 90 %. The input power source is AC 24V.

9. Do not install the camera near the air outlet of an air conditioner.

The lens may become cloudy due to condensation if the camera is used under the following conditions.

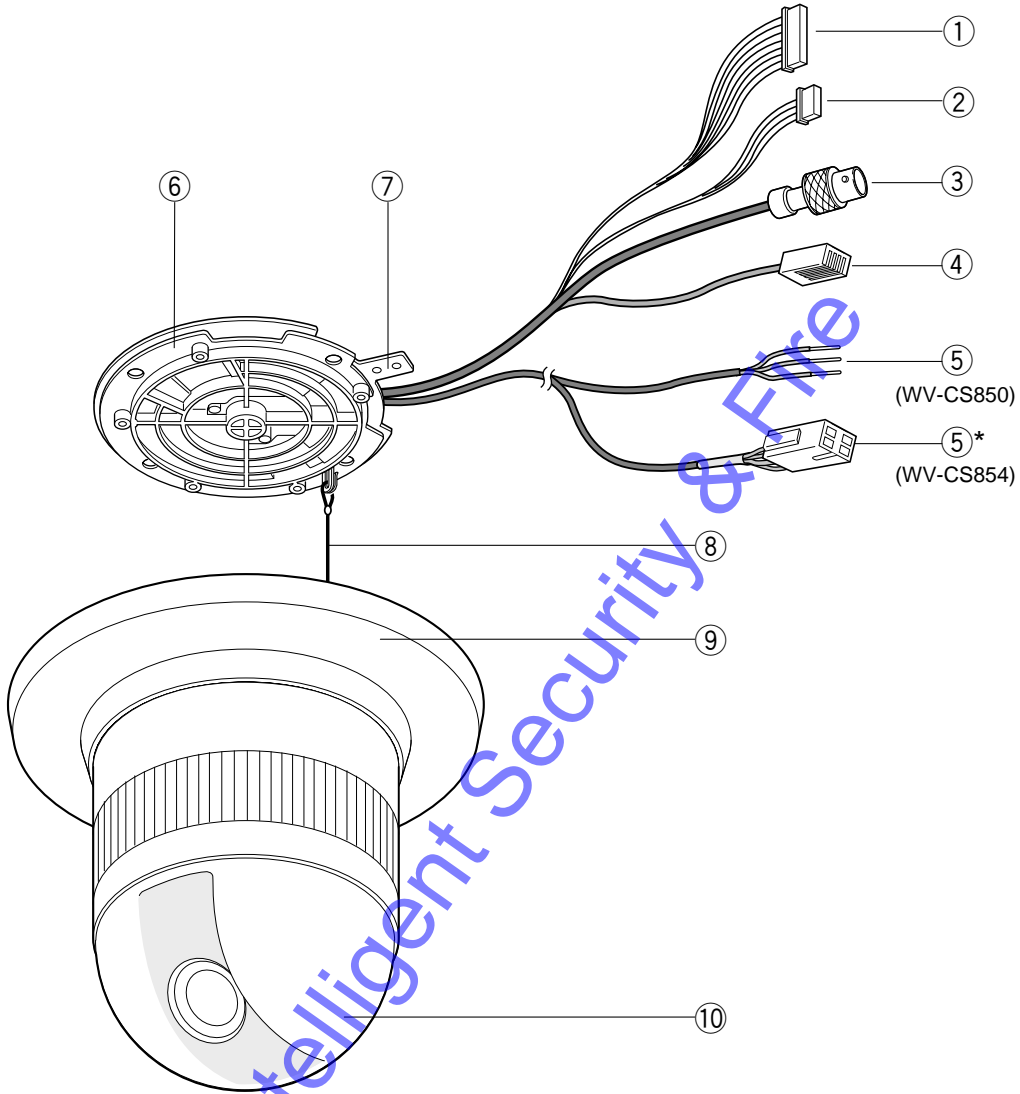
- Rapid temperature fluctuations by switching the air conditioner on and off.
- Rapid temperature fluctuations due to frequent door opening and closing.
- Use in an environment where eyeglasses become foggy.
- Use in a room filled with cigarette smoke or dust.

If the lens becomes cloudy due to condensation, remove the dome cover and wipe all moist surfaces with a soft cloth.

10. Consumables

Parts having contacts such as the lens-drive motors, cooling fan motor and slip-rings built inside the camera are subject to wear with time. About replacement and maintenance of such parts, please ask the nearest service centre.

CONSTRUCTION



① Alarm Input Connector

② Alarm Output Connector

③ Video Output Connector

④ Data Port

⑤ Power Cable for WV-CS850

⑤* Power Cable for WV-CS854

⑥ Camera Mounting Base

⑦ Panning Start Point

⑧ Fall Prevention Wire

⑨ Decoration Cover

⑩ Dome Cover

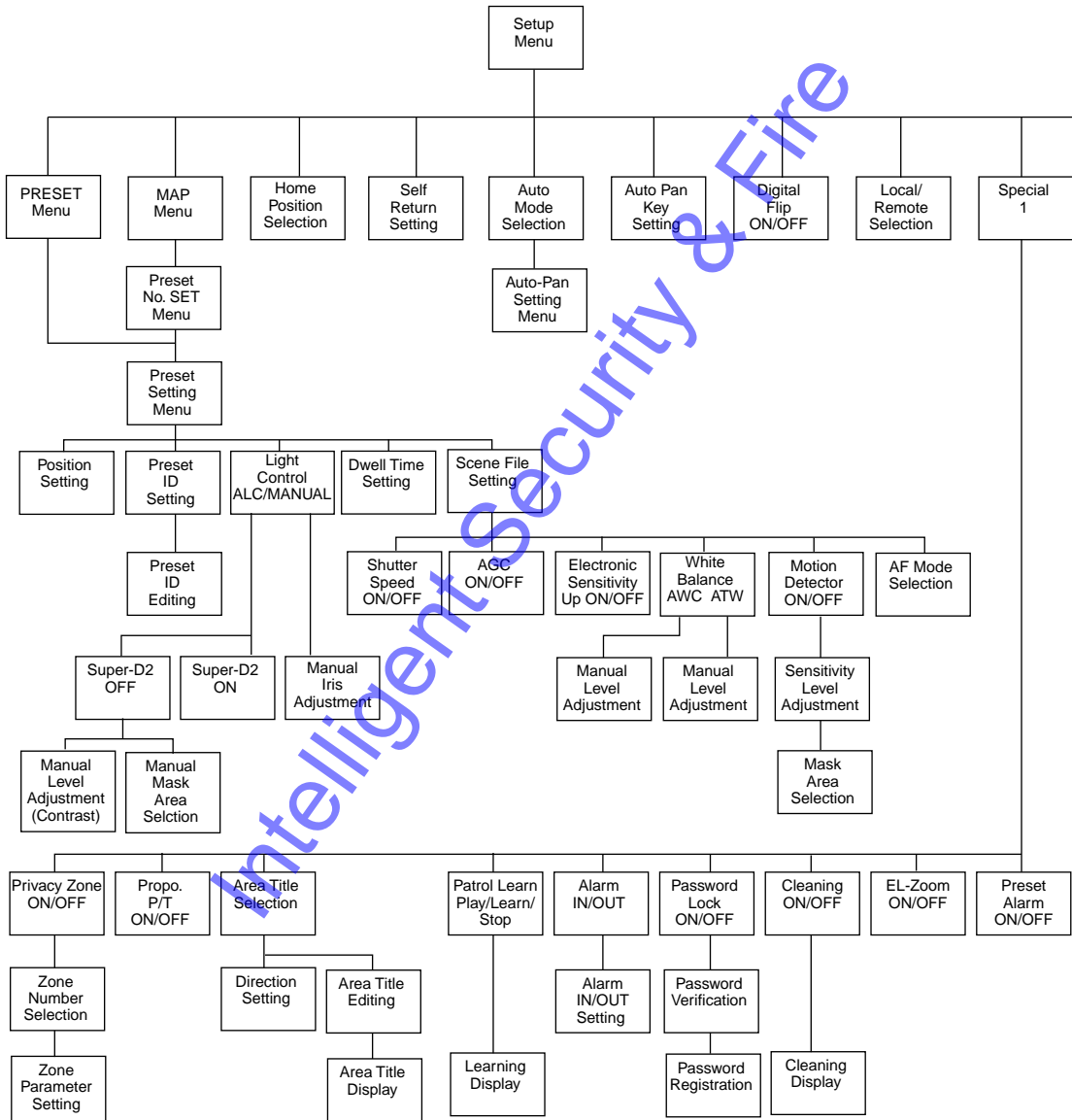
SETUP

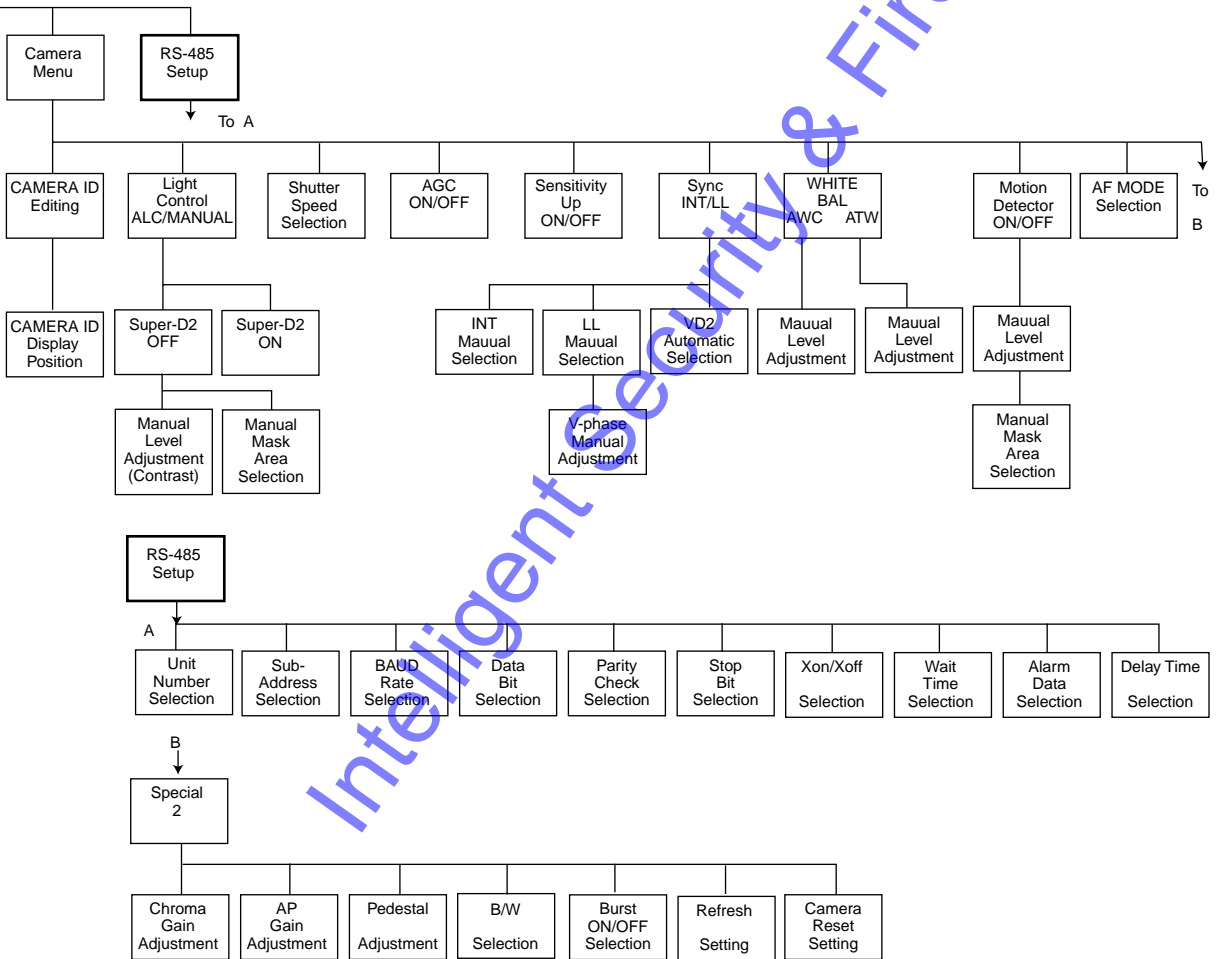
■ Setup Menu

Setup menus are shown in the diagram below. Various kinds of setup are available to have the camera fulfill your requirements. Menus are built in a hierarchical structure from the Setup menu at the top down to Manual Mask Area Selection at the bottom.

These menus are described in the following pages for reference prior to setup.

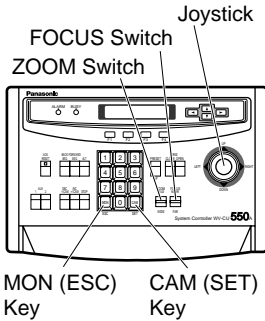
Switches, keys and the joystick are used for setup operations.



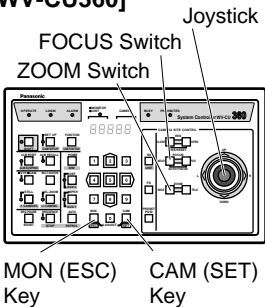


The keys (switches) to use for setup are as shown in the table below. The joystick on the connected controller may also be used for setup. The table also shows the functions versus the operations of the individual controllers. For further details, see the manual for the controller to be used. The switches and controls are abbreviated as SW and CTRL in the table.

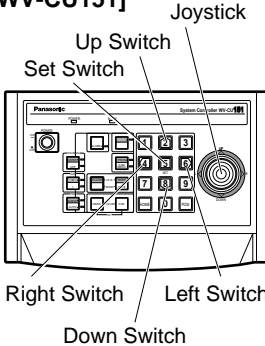
[WV-CU550A]



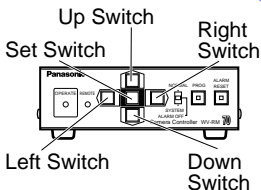
[WV-CU360]



[WV-CU151]



[WV-RM70]



Function/Controller	WV-CU550A	WV-CU360	WV-CU151	WV-RM70
Open CAM SETUP	See page 14	CAM SETUP key (for 2 seconds)	CAM MENU SW (for 2 seconds)	See page 14
Close CAM SETUP	F4 key	CAM SETUP key (for 2 seconds)	CAM MENU SW (for 2 seconds)	PROG SW
Move the cursor	Joystick (←, ↑, ↓, →)	Joystick (←, ↑, ↓, →)	Direction SW (←, ↑, ↓, →)	Direction SW (←, ↑, ↓, →)
Select a parameter	Joystick (←, →)	Joystick (←, →)	Direction SW (←, →)	Direction SW (←, →)
Adjust the level	Joystick (←, →)	Joystick (←, →)	Direction SW (←, →)	Direction SW (←, →)
Move the camera direction	Joystick (←, ↑, ↓, →)	Joystick (←, ↑, ↓, →)	Joystick (←, ↑, ↓, →)	Direction SW (←, ↑, ↓, →)
Zoom & Focus	ZOOM CTRL & FOCUS CTRL	ZOOM CTRL & FOCUS CTRL	ZOOM SW & FOCUS SW	Direction SW (←, ↑, ↓, →)
Enter the setting	CAM (SET) key	CAM (SET) key	SET SW	SET SW
Open a submenu	CAM (SET) key	CAM (SET) key	SET SW	SET SW
Enter CAM ID & PRESET ID display position	MON (ESC) key	MON (ESC) key	SET SW (for 2 seconds)	SET SW (for 2 seconds)
Enter MASK setting	MON (ESC) key	MON (ESC) key	SET SW (for 2 seconds)	SET SW (for 2 seconds)
All Reset	F3 key	4+5+6 key	4+5+6 key	R+SET+L SW
Open Special 2	F2 key	4+6 key	4 +6 key	R +L SW

Notes:

- A changed parameter is entered only when you move the cursor to another item or open a new menu. A changed parameter will not be entered if the setup menu is closed without taking either of the above steps.
- Setting procedures in the following pages are described on the assumption that the camera is used with WJ-SX850 Matrix Switcher and WV-CU550A System Controller.

■ Setup Menu Description

● PRESET

(1) Position (POSITION SET)

POSITION SET adjusts the camera picture by panning, tilting, zooming and focusing.
See page 15 for the setting.

(2) Preset Identification (PRESET ID)

A preset ID (identification of up to 16 alphanumeric characters) can be displayed on the screen.
See page 16 for the setting.

(3) Light Control (ALC/MANUAL)

ALC/MANUAL refers to the mode of the incoming light level control.
See page 18 for the setting.

(4) Dwell Time (DWELL TIME)

DWELL TIME is the duration that the picture of each camera position is displayed. You can select a preset duration from the menu.
See page 19 for the setting.

(5) Scene File (SCENE FILE)

SCENE FILE stores up to 10 files. Each file has a set of detailed parameters for Shutter Speed, AGC, Electronic Sensitivity Enhancement, White Balance, Motion Detector and AF mode. The scene files can be recalled later to reproduce the parameter settings under the same conditions as stored in the files.
See page 19 for the setting.

● Home Position (HOME POSITION)

HOME POSITION is the camera's basic position. It returns to this position automatically, when a specific time has elapsed after a manual operation. This setting works only when AUTO MODE is OFF.
See page 20 for the setting.

● Self Return (SELF RETURN)

SELF RETURN is the time-out parameter for returning to the home position. The camera returns to AUTO MODE if it is set to ON when a specific time has elapsed after a manual operation.
See page 20 for the setting.

● AUTO MODE

AUTO MODE is for setting the movement of the camera. You can select one from the three automatic operation modes and one manual operation mode as follows:

OFF mode: No automatic operation. The camera can be operated only manually.

SEQ mode: The camera operates in the sequence of preset positions in numerical order.

SORT mode: The camera operates in the sequence of preset positions counterclockwise from Pan/Tilt Starting Point.

AUTO PAN mode: The camera automatically turns within the preset panning range.

See page 21 for the setting.

● AUTO PAN KEY

This setting assigns SEQ, SORT, AUTO PAN or PATROL (PLAY) to the AUTO key on the controller. After this setting, the AUTO key performs as assigned.

Note: AUTO PAN LED on the controller does not light if other than AUTO PAN is assigned.

● DIGITAL FLIP ON/OFF

Tilt range is limited within 0° to 90° if OFF is selected. If ON is selected it widens the range up to 180° with the digital flip that reverses horizontal and vertical scanning when the camera is tilted through the 90° point (Downright position if the camera is installed on a ceiling). Tilt range narrows from 180° to 90° if PAN LIMIT is set to ON.

● LOCAL/REMOTE

This setting determines whether the camera continues or stops the ongoing auto operation when the System Controller is turned off.

LOCAL: The camera continues operating in auto mode when the controller is turned OFF.

REMOTE: The camera stops operating in auto mode approx. 1 minute after the controller is turned off.

See page 23 for the setting.

● SPECIAL 1

(1) Privacy Zone ON/OFF (PRIVACY ZONE)

This setting is to mask unwanted zones, hiding them from display on the monitor. When (DIS) follows ON or OFF, set PASSWORD LOCK to OFF if you wish to change this setting. Up to 8 zones can be registered. Submenus are provided for zone number selection and for parameter setting. See page 23 for details.

(2) Proportional Pan-Tilt Speed ON/OFF (PROPO. P/T)

If ON is selected, the zoom ratio changes corresponding to pan-tilt speed. For example, pan-tilt speed slows down with zoom in. See page 24 for details.

(3) Area Title ON (NESW), ON (USER), OFF

Up to 8 area titles can be added to specific scenes by DIRECTION (NESW) or alphanumeric (USER) naming. The titles are displayed right under the camera title on the monitor when the camera turns positions to area titles. See page 25 for details.

(4) Patrol Learn

A set of manual operations is stored (LEARN), reproduced (PLAY) or turned inactive (OFF). Patrol operation stops if SEQ, SORT or AUTO PAN is set to AUTO MODE on the SETUP menu. See page 27 for details.

(5) Alarm IN/OUT (ALARM IN/OUT)

Alarm input and output are set on the submenu. Preset positions are assigned to ALARM IN 1 to 4. If inputs are supplied via the ALARM INPUT connector, the camera turns to respective positions. The camera then sends output signals via the ALARM OUT connector or the coaxial cable to the external devices. B/W may be chosen instead of a preset position if light is so insufficient that colour noise may disturb picture clarity. CNT-CLS (Contact Closure) 1,2 and COAX ALM OUT are for alarm output setting. See page 28 for details.

(6) Password Lock ON/OFF (PASSWORD LOCK ON/OFF)

This setting controls access to the PRIVACY ZONE to be free or limited. If PASSWORD LOCK ON is selected, the (DIS) follows the PRIVACY ZONE ON or OFF set on the SPECIAL1 menu.

(7) Cleaning ON/OFF

This is for refreshing the electric-mechanical contacts built in the camera. Use this function for maintenance when the camera has been directed to a specific spot or panned over a specific range for a long time.

(8) Electric Zoom ON/OFF

Up to ten-fold electrical zooming is available beside 22-fold optical zooming.

(9) Preset Alarm ON/OFF

Alarm signals are output in the following cases if ON is selected.

- Position move is completed in SEQ mode.
- Position move is completed in SORT mode.
- Position move is completed at HOME position in SELF RETURN mode.
- Position move is completed in command request.
- Position move is completed in ALARM IN.
- Position move to the start point is completed for AUTO PAN.
- Position move to the start point is completed for PATROL PLAY.

● **Camera**

(1) Camera Identification (CAMERA ID)

You can use the camera identification (CAMERA ID) to assign a name to the camera. The camera ID consists of up to 16 alphanumeric characters. You can select whether to have the camera ID displayed on the monitor screen or not. See page 32 for the setting.

(2) Light Control (ALC/MANUAL)

You can select the mode for adjusting the lens iris.

The modes are as follows:

ALC: The lens iris is automatically adjusted according to the brightness of the object.

You can select one of two modes (SUPER-D2 ON or SUPER-D2 OFF).

MANUAL: The lens iris is fixed at the value you have set regardless of the brightness of the object.

• **ALC Mode with SUPER-D2 ON**

Super Dynamic 2 Function (SUPER-D2)

The important object in a scene is usually placed in the centre of the monitor's screen. In SUPER-D2 mode, more photometric weight is given to the centre of the screen (where the important object is located) than to the edge of the picture (where a bright backlight would most likely be located).

You can use the SUPER-D2 function if you select ALC. It eliminates interference by strong background lighting which makes the camera picture dark, such as a spotlight.

See page 33 for the setting.

• **ALC Mode with SUPER-D2 OFF**

In this mode, the picture is divided into 48 areas. If there is a source of brightness that interferes with the clarity of the picture in these masks, corresponding areas mask the light to keep the clarity of the picture.

Generally, when a light from the background is too strong such as a spotlight, all objects except the main object in the picture are displayed darker because the lens iris is adjusted with respect to strong brightness. This model ignores strong brightness by masking the source of the strong brightness, thereby main object is displayed clearly.

Note: The result of field setup of the mask area and level adjustment is fed back (effected) to the lens iris control in ALC mode.

(3) Shutter Speed (SHUTTER)

You can select the shutter speed from 1/50 (OFF), 1/120, 1/250, 1/500, 1/1 000, 1/2 000, 1/4 000, and 1/10 000 seconds.

See page 35 for the setting.

(4) Gain Control (AGC)

You can set the gain (brightness level portion of an image) to automatic adjustment (Automatic Gain Control ON) or fixed (Automatic Gain Control OFF).

See page 35 for the setting.

(5) Electronic Sensitivity Enhancement (SENS UP)

The electronic sensitivity enhancement (SENS UP) function varies the shutter speed to raise the sensitivity in low light conditions when OFF is selected for ALC.

You can select the shutter speed for SENS UP from the preset values as follows:

1/25 seconds (x2), 1/12.5 seconds (x4), 1/8.3 seconds (x6), 1/5 seconds (x10), 1/3.1 seconds (x16), or 1/1.6 seconds (x32). See page 35 for the setting.

There are two modes for SENS UP as follows:

AUTO: If you select x32, for example, the sensitivity is raised automatically to x32 max.

FIX: If you select x32, for example, the sensitivity is raised to just x32.

Notes:

- Moving objects will appear blurred when shot during the electronic sensitivity enhancement mode since SENS UP is equivalent to setting the shutter speed to a slower speed in a still picture camera.
- The horizontal and vertical resolution will be lowered in this mode.
- If the video output level is adjusted too low (the iris opening is too small), the Electronic Sensitivity Enhancement (SENS UP)/AUTO mode will not function.

(6) Synchronization (SYNC)

You can select internal sync mode (INT) or line-lock sync (LL). Additionally, this model accepts the VD2 signal (multiplexed vertical drive signal with the composite video output signal) from a specified component. Whenever the VD2 signal is supplied to this camera, the camera automatically switches to the VD2 sync mode.

When you select line-lock sync (LL) you can set vertical phase adjustment.

See page 36 for the setting.

Important Notice:

The priority of sync modes is as follows:

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

Note: The priority of automatic sync mode is the same as shown above.

(7) White Balance (WHITE BAL)

You can select one of two modes for white balance adjustment as follows:

• ATW (Auto Tracing White Balance)

In this mode, the colour temperature is monitored continuously and thereby white balance is set automatically. The colour temperature range for the proper white balance is approximately 2 600 - 6 000K. Proper white balance may not be obtained under the following conditions:

1. The colour temperature is out of the 2 600 - 6 000K range.
2. When the scene contains mostly high colour temperature (bluish) objects, such as a blue sky.
3. When the scene is dim.

In these cases, select the AWC mode.

• AWC (Automatic White Balance)

In this mode, accurate white balance is obtained within a colour temperature range of approx. 2 300 - 10 000K.

See page 38 for the setting.

(8) Motion Detector (MOTION DET)

The Motion Detector detects the motion in the scene by monitoring changes in the brightness level. You can select the level of sensitivity for motion on the SET UP menu.

When the camera detects the motion it supplies the alarm signal to the external equipment and stops at its position for the preset DWELL time.

See page 39 for the setting.

(9) Auto Focus (AF MODE)

The camera adjusts the focus automatically to the best position by sensing sharpness in the centre area of the picture. S, M and L stand for the breadth of the sensing area: Small, Middle and Large. See page 40 for details.

MANUAL S, M, L: Auto-focus is activated when the AF key on the controller is pressed.

AUTO S, M, L: Auto-focus is activated after a manual operation: pan, tilt or zoom.

Note: If SENS UP is set to ON, AUTO (S/M/L) is disabled and MANUAL (S/M/L) is automatically selected.

(10) Special 2 Menu (SPECIAL 2)

This menu allows you to adjust the following items: chroma level, aperture level and pedestal level.

You can also reset your parameters to the values preset at the factory.

See page 41 for the setting.

● RS485 communication

Communication parameters

- Full/Half duplex (page 49)
- Transmission speed (2 400 - 19 200 bps) (page 43)
- Parity bit, Stop bit, Flow control (page 43)
- Retransmit time, Delay time, Alarm output (page 44)
- Camera units (96 units max.) (page 45)
- Termination ON/OFF (page 45)
- Reset parameters (page 45)

SETTING PROCEDURES

The following setting procedures are described on the assumption that this model is used in combination with the WJ-SX550A matrix switcher and WV-CU550A system controller. In case of using other controller than the WV-CU550A, refer to the table on page 8.

■ Menu Display

● Setup Menu Display

WV-CU550A

1. Select the number of the camera you want to set up and a monitor to display the SET UP MENU.
2. Display the D4 menu on the LCD by pressing the appropriate cursor buttons.
3. Press the F1 button.
The SET UP MENU appears on the monitor.
4. To close the SET UP MENU, press the F4 button.

D4 menu

```
Camera Set Up Menu
On                               Exit
```

F1 F2 F3 F4

```
Camera Set Up Menu
Res A.Res Exit
```

F1 F2 F3 F4

WV-CU360

Press the CAM SETUP key for 2 seconds or more to open the SETUP menu.

WV-CU151

Press the CAM MENU switch for 2 seconds or more to open the SETUP menu.

Setup menu

```
*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
```

WV-RM70

1. Turn the MODE SELECTION switch to the NORMAL or ALARM OFF position.
2. Press the PROG switch for 2 seconds or more to open the Program menu.
3. Move the cursor to Camera Set Up, then press the SET switch to open the SETUP menu.

● Submenu Display

The items marked ↵ can be selected/changed on the submenu.

- Move the cursor to an item with the ↵ mark and press the CAM (SET) key. The submenu is displayed.

Submenu
(for RS485 setup)

```
** RS485 SET UP **
UNIT NUMBER 1
SUB ADDRESS 1
BAUD RATE 19200
DATA BIT 8
PARITY CHECK NONE
STOP BIT 1
XON/XOFF NOT USE
WAIT TIME OFF
ALARM DATA AUTO2
DELAY TIME OFF
RET
```

■ Preset

● Preset Menu Display

1. Displaying the preset menu directly
 - (1) Move the cursor to PRESET 1 and move the joystick to the left or right to select the position number to be set.
 - (2) Press the CAM (SET) key.
The preset setting menu appears on the monitor screen.
2. Displaying the preset menu from the PRESET NUMBER SET menu
 - (1) Move the cursor to MAP↵ and press the CAM (SET) key.
The PRESET NUMBER SET menu appears on the monitor screen.
 - (2) Move the cursor to the position number to be set and press the CAM (SET) key.
The preset setting menu appears on the monitor screen. To display position number 33-64, move the cursor to "33-64" in the lower left of the screen and press the CAM (SET) key.

Notes:

- The * mark means the position number is preset.
- The character H means home position.
- On the second bottom line the preset ID is displayed respective to the selected number. "DOOR" after "ID:" is for preset position numbers 1 in the example shown above.
- Preset numbers 1 through 4 are linked to alarm inputs 1 through 4. If alarm input 1 comes in, the camera turns to preset position 1, or to other positions according to alarm input 2, 3 or 4.

● Position Setting

1. Move the cursor to POSITION SET on the preset setting menu and press the CAM (SET) key.
The position setting menu is displayed.
2. To set panning/tilting positions
 - (1) Move the cursor to PUSH SET next to PAN/TILT and press the CAM (SET) key. The PAN/TILT setting menu appears.
 - (2) Select panning/tilting positions by moving the joystick up and down, right and left, and press the CAM (SET) key.
The positions are set and the screen returns to the position setting menu.

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
  
```

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
  
```

PRESET NUMBER SET menu
(1-32)

```

** PRESET NUMBER SET **

1*  2   3   4
5   6   7   8
9   10  11  12
13  14  15  16
17  18  19  20
21  22  23  24
25  26  27  28
29  30  31  32
ID:DOOR
33-64 RET
  
```

PRESET NUMBER SET menu
(33-64)

```

** PRESET NUMBER SET **

33  34  35  36
37  38  39  40
41  42  43  44
45  46  47  48
49  50  51  52
53  54  55  56
57  58  59  60
61  62  63  64
ID:
1-32 RET
  
```

Preset setting menu

```

PRESET NO. 1*
POSITION SET ↵
PRESET ID ON ↵
ALC/MANUAL ALC ↵
STOP TIME 10S
SCENE FILE 1 ↵
PRESET SPEED .....|.....
                L      H
RET DEL
  
```

Position setting menu

```

** POSITION 1 **
PAN/TILT →PUSH SET
ZOOM/FOCUS →PUSH SET

PAN OFFSET SET ← -10.0 →
RET
FLOOR1
DOOR
  
```

PAN/TILT setting menu

```

** POSITION 1 **
PAN/TILT →PUSH SET
ZOOM/FOCUS →PUSH SET

U TILT D/L PAN R

RET
FLOOR1
DOOR
  
```

3. Pan Offset

If the camera is replaced with a new one, Pan Offset is used to adjust its positions to be the same as before.

Preset position data is uploaded by the controller that was once downloaded before the former camera was removed.

Caution: The preset data for conventional protocol (WV-CS650 for example) is incompatible with WV-CS854's. WV-CS854's preset data will be destroyed if you upload the conventional data. When this happened, prepare a WV-CS854 having the initial factory settings. Download the factory settings into the controller and then upload to the camera whose data is destroyed.

- (1) Display the PRESET NUMBER SET menu.
- (2) Select a position number for the picture to be most enlarged among the numbers by moving the joystick. Then press the CAM (SET) key. POSITION setting menu appears.
- (3) Move the cursor to PAN OFFSET SET and select the left or right arrow by moving the joystick.
- (4) Press the CAM (SET) key until the desired offset value in degree appears.
- (5) Move the cursor to other than PAN OFFSET, then press the MON (ESC) key.

Notes:

- Further adjustment of the other positions is unnecessary. This adjustment applies to all other positions.
- Make sure to move the cursor before pressing the key in step 5. Otherwise the settings will be ignored.
- Retry when the camera fails to upload or download the data.

4. To set the lens zoom and focus positions

- (1) Move the cursor to PUSH SET next to ZOOM/FOCUS and press the CAM (SET) key. The ZOOM/FOCUS setting menu appears.
- (2) Select a zoom position by moving the zoom control up and down, and a focus position by moving the focus control up and down, and then press the CAM (SET) key.

The positions are set and the screen returns to the position setting menu.

Note:

When the camera is used at a nearly horizontal angle, the focus may not be adjustable to a high level of accuracy.

5. Move the cursor to RET and press the CAM (SET) key to return to the preset setting menu.

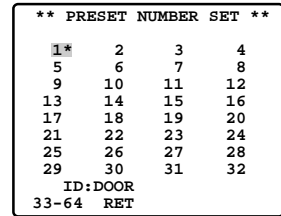
● Preset ID Setting

1. Move the cursor to PRESET ID on the preset setting menu and select ON or OFF by moving the joystick to the left or right.

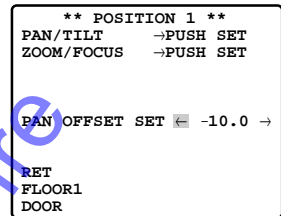
ON: Preset ID is displayed on the screen.

OFF: Preset ID is not displayed.

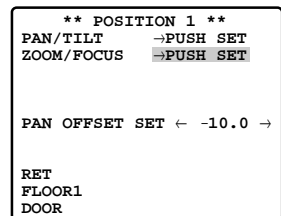
PRESET NUMBER SET menu (1-32)



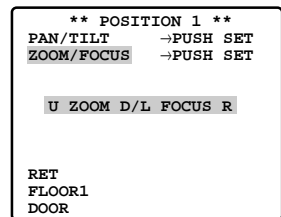
Position setting menu



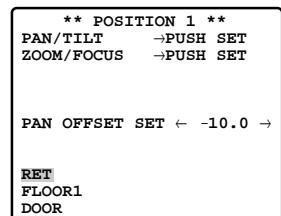
Position setting menu



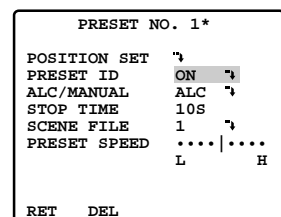
ZOOM/FOCUS setting menu



Position setting menu



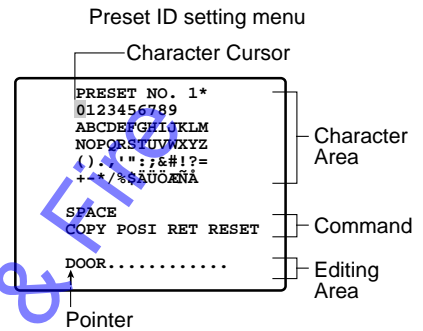
Preset setting menu



2. Press the CAM (SET) key to display the preset ID setting menu.

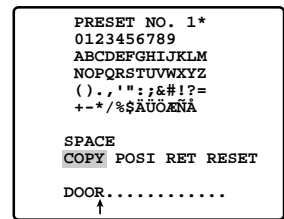
To enter a new PRESET ID

1. Move the cursor to the desired character using the joystick, and press the CAM (SET) key.
2. The selected character appears in the editing area. (The pointer in the editing area moves to the right automatically at this moment.) To enter a blank, select SPACE.
3. Repeat the above procedure until all characters are entered.



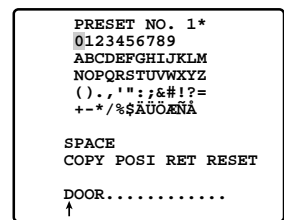
To copy a preset ID from another position

1. Move the cursor to COPY and press the CAM (SET) key. The preset ID in the immediately preceding position is shown. Each consecutive pressing of the CAM (SET) key displays the ID preceding the one currently displayed.
2. Display the most prospective ID.
3. Follow the step "To change an entered PRESET ID" if necessary.



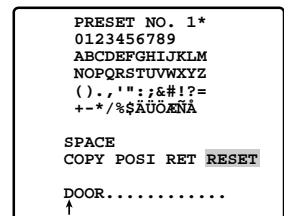
To change an entered PRESET ID

1. Move the pointer to the character to be edited in the editing area by using the joystick, and press the CAM (SET) key.
2. Select a new character by using the joystick.
3. Press the CAM (SET) key to determine the PRESET ID.



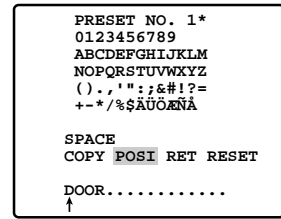
To delete an entered PRESET ID

Move the cursor to RESET and press the CAM (SET) key.



To set a display position for a PRESET ID

1. Move the cursor to POSI and press the CAM (SET) key. The display position set menu appears.
2. Using the joystick, move the ID to the desired position on the screen, then press the MON (ESC) key. The display position is set and the screen returns to the PRESET ID setting menu.

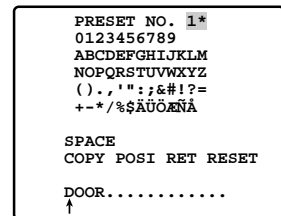


Display position set menu



To enter the next ID without returning to the preset setting menu

1. With the preset ID setting menu, move the cursor to the top line and select the desired position number by moving the joystick to the left or right.
2. Enter, copy, change or delete the ID as described above.



To return to the preset setting menu

Move the cursor to RET and press the CAM (SET) key.

● Light Control Setting

1. Move the cursor to ALC/MANUAL and select ALC or MANUAL by moving the joystick to the left or right.

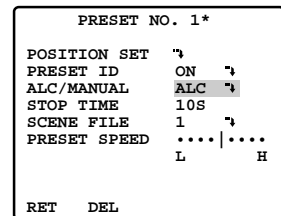
ALC: The lens iris is automatically adjusted to suit the brightness of the object.

MANUAL: The lens iris is fixed at the set value regardless of the brightness of the object.

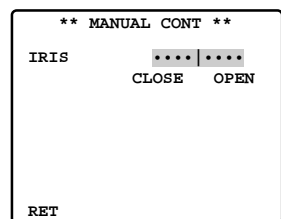
2. In case of ALC → Press the CAM (SET) key. The back light compensation menu appears in the display. See page 33 for the setting.

3. In case of MANUAL → Press the CAM (SET) key. The setting menu appears in the display. Set the lens iris level as desired by moving the joystick to the left or right.

Preset setting menu

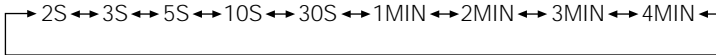


Manual setting menu



● Dwell Time Setting

- Move the cursor to DWELL TIME and set a dwell time by moving the joystick to the left or right. Dwell time changes as follows:



The letter S signifies second(s) and MIN minute(s).

● Scene File Setting

- To set a scene file number
Move the cursor to SCENE FILE and select a scene file number (1 to 10, or OFF) by moving the joystick to the left or right. No scene file is selected at OFF.
- To set scene file details
Move the cursor to a scene file number and press the CAM (SET) key. The setting menu appears.
See the pages below for the setting.
Shutter speed: Page 35
AGC: Page 35
Electronic sensitivity enhancement: Page 35
White balance: Page 37
Motion detector: Page 39
Auto focus: Page 40

● Preset Speed

- Move the cursor to PRESET SPEED and select a speed by moving the joystick to the left or right.

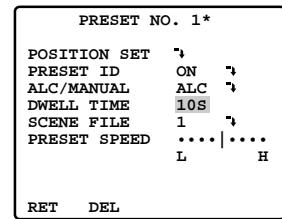
● To return to the PRESET NUMBER SET Menu

- Move the cursor to RET and press the CAM (SET) key. The PRESET NUMBER SET menu appears with the * mark on the right of the preset position number.

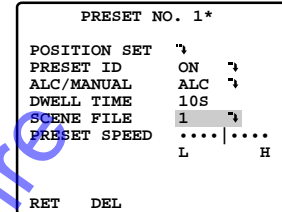
● To return to the setup menu

- Move the cursor to RET and press the CAM (SET) key.

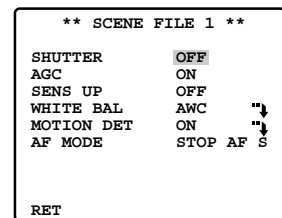
Preset setting menu



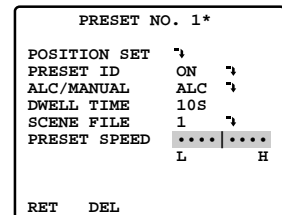
Preset setting menu



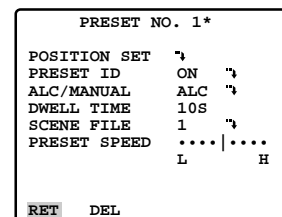
Scene file setting menu



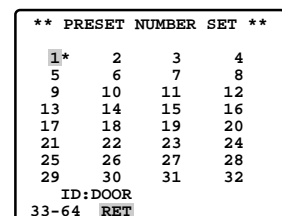
Preset setting menu



Preset setting menu



PRESET NUMBER SET menu



■ Deleting Preset Positions

1. Move the cursor to PRESET 1* and select the position number to be deleted by moving the joystick.

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

2. Press the CAM (SET) key to display the preset setting menu.

Preset setting menu

```

PRESET NO. 1*
POSITION SET ↵
PRESET ID ON ↵
ALC/MANUAL ALC ↵
DWELL TIME 10S
SCENE FILE 1 ↵
PRESET SPEED .....|.....
L H
RET DEL
    
```

3. Move the cursor to DEL and press the CAM (SET) key. This deletes the preset position and the PRESET NUMBER SET menu appears. The * mark on the right of the number disappears.

Note: Your selected preset number is canceled only in SEQ and SORT mode. The previously set parameters (for PAN, TILT positions, etc.) are not changed. If you wish to change these parameters, you must set them again.

PRESET NUMBER SET menu

```

** PRESET NUMBER SET **
1* 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
21 22 23 24
25 26 27 28
29 30 31 32
ID:DOOR
33-64 RET
    
```

■ Home Position Setting

1. To set a position number for the home position
Move the cursor to HOME POSITION and select the desired position number by moving the joystick to the left or right.
2. Select OFF if you are not using the home position function.

Note: This setting works only when AUTO MODE is set to OFF.

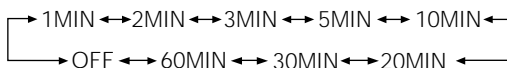
Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

■ Self Return Setting

- To set a time-out parameter for return to the home position
Move the cursor to SELF RETURN and select a return time by moving the joystick to the left or right. Return time changes as follows:



MIN signifies minute(s).

Note: The camera returns to the AUTO MODE if that is set to ON when a specific time has elapsed after a manual operation.

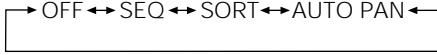
Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

■ Auto Mode Selection

- To set auto mode
Move the cursor to AUTO MODE and select a mode by moving the joystick to the left or right. Modes change as follows:



- When AUTO PAN is selected, set details as follows:
Move the cursor to AUTO PAN ↻ and press the CAM (SET) key to display the AUTO PAN setting menu.

- To set a panning start position and panning end position
Follow the steps below.
 - Move the cursor to POSITION SET and press the CAM (SET) key.
The cursor moves to START.

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

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

- To set a panning speed
Move the cursor to SPEED, and move the joystick to the left or right to set a panning speed.
The panning speed increases when the joystick is moved to the right, and decreases when it is moved to the left.

Caution: If the panning range is changed after the camera has not panned for a long time or has been panning in the same panning range, the picture may not be clear or noise may appear. If this is the case, pan the camera fully several times.
If this does not eliminate the problem, refer servicing to qualified service personnel.

- To set pan limit ON/OFF
Move the cursor to PAN LIMIT and select ON or OFF by moving the joystick to the left or right.

ON: Manual pan is limited from the start point to the end point specified by POSITION SET. Set endless turn to OFF before pan limit is set to ON.

OFF: Manual pan is not limited.

Note: When ON is set, manual pan moves the camera away from the other side of the start-end range.

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↻
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↻
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↻
CAMERA ↻
RS485 SET UP ↻
  
```

AUTO PAN setting menu

```

** AUTO PAN **
POSITION SET START
END
SPEED .....|.....
L H
PAN LIMIT OFF
ENDLESS OFF
STOP TIME 1S
RET
  
```

```

** AUTO PAN **
POSITION SET START
END
SPEED .....|.....
L H
PAN LIMIT OFF
ENDLESS OFF
STOP TIME 1S
RET
  
```

```

** AUTO PAN **
POSITION SET START
END
SPEED .....|.....
L H
PAN LIMIT OFF
ENDLESS OFF
STOP TIME 1S
RET
  
```

```

** AUTO PAN **
POSITION SET START
END
SPEED .....|.....
L H
PAN LIMIT OFF
ENDLESS OFF
STOP TIME 1S
RET
  
```

6. To set endless turn ON/OFF

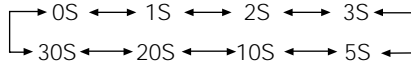
Move the cursor to ENDLESS, and move the joystick to the left or right to set endless turn ON or OFF.

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. Set pan limit to OFF before endless turn is set to ON.

OFF: The camera pans from the start position to the end position, then rotates backward to the start position. This movement is repeated over and over.

7. To set a dwell time

Move the cursor to DWELL TIME and select a dwell time by moving the joystick to the left or right. Dwell time changes as follows:



Notes:

- When the panning or tilting operation is controlled manually, the Auto mode function should be canceled. To activate Auto mode, select the desired AUTO MODE again or set a time for SELF RETURN in the SET UP menu to resume the AUTO MODE after the time set.
- When 0S is selected, the camera stops without dwelling and starts.
- Auto refreshing may be activated during PATROL PLAY or AUTO MODE to calibrate the lens position.

```

** AUTO PAN **
POSITION SET  START
                END
SPEED          .....|.....
                L      H
PAN LIMIT      OFF
ENDLESS        ON
STOP TIME      1S

RET
    
```

```

** AUTO PAN **
POSITION SET  START
                END
SPEED          .....|.....
                L      H
PAN LIMIT      OFF
ENDLESS        ON
STOP TIME      1S

RET
    
```

■ AUTO PAN KEY Setting

This is to assign one of following auto function to the AUTO key on the controller. Pressing the AUTO key activates the assigned function after this setting.

- Move the cursor to AUTO PAN KEY and select an auto function by moving the joystick to the left or right

SEQ: Assigns SEQUENCE function to the key.

SORT: Assigns SORT function to the key

PATROL: Assigns PATROL PLAY function to the key.

Note: AUTO PAN LED on the controller does not light if other than AUTO PAN is assigned.

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN  10MIN
AUTO MODE    AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP ON
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

■ DIGITAL FLIP ON/OFF

- Move the cursor to DIGITAL FLIP and select ON or OFF by moving the joystick to the left or right.

OFF: Tilt range is limited from 0° to 90°.

ON: Tilt angle widens up to 180° with the digital flip that reverses horizontal and vertical scanning when the camera is tilted through the 135° point (Downright position if the camera is installed on a ceiling).

Note: Tilt range narrows from 180° to 90° if PAN LIMIT is set to ON.

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN  10MIN
AUTO MODE    AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP ON
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

■ LOCAL/REMOTE Setting

- Move the cursor to LOCAL/REMOTE, and move the joystick to the left or right.

You can toggle between LOCAL and REMOTE.

Note: REMOTE does not work when the WV-RM70, WV-CU360 or WJ-FS616 is connected. Make sure LOCAL is selected in this case.

Setup menu

```

*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP ON
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

■ SPECIAL 1

● Privacy Zone ON/OFF (PRIVACY ZONE)

Up to 8 unwanted zones can be masked on the monitor screen.

- Move the cursor to **PRIVACY ZONE** and then select ON (ENB) or OFF (ENB) by moving the joystick to the left or right. Press the CAM (SET) key to display the ZONE NUMBER selection menu.

ON (ENB): Preset privacy zones are veiled on the monitor screen.

OFF (ENB): Veil function does not work.

Note: If (DIS) follows, instead of (ENB), after ON or OFF, step 2 onward are not applicable. Select OFF for PASSWORD LOCK to take the following steps.

- Select a zone number by moving the joystick to the left or right, then press the CAM (SET) key.
 - A zone number followed by * (asterisk) indicates that the zone has already been registered.
 - When a zone number having no * is selected, the picture is zoomed out fully.
 - When a registered zone number is selected, the camera moves to the preset position. Note that if you move any of PAN/TILT, ZOOM/FOCUS or ZONE SCALE in that position, the registered zone number having no * is canceled.
 - Zone frame appears in the centre of the screen if 3 or fewer mask areas exist in that picture and if the zone number is not registered yet.

- To register a new zone

3-1 Move the cursor to PUSH SET on the PAN/TILT line, then press the CAM (SET) key.

3-2 Move the joystick to adjust the pan and tilt position so that the desired position comes into the zone frame.

Note: Zone setting is not available while the zone frame disappears, for example the camera directs further downward from the 45° position.

Special1 menu

```

** SPECIAL1 **
PRIVACY ZONE ON (ENB) ↵
PROPO. P/T OFF
AREA TITLE ON (NESW) ↵
PATROL PLAY
ALARM IN/OUT ↵
PASSWORD LOCK OFF ↵
CLEANING ON
EL-ZOOM OFF
PRESET ALM OFF
RET
    
```

ZONE NUMBER setting menu

```

** ZONE NUMBER 1*/8 **
RET
    
```

ZONE setting menu

```

** ZONE NUMBER 1*/8 **
PAN/TILT →PUSH SET
ZOOM/FOCUS →PUSH SET
ZONE SCALE .....|.....
SET DEL L H
RET
    
```

ZONE setting menu

```

** ZONE NUMBER 3*/8 **
PAN/TILT →PUSH SET
ZOOM/FOCUS →PUSH SET
ZONE SCALE .....|.....
SET DEL L H
RET
    
```

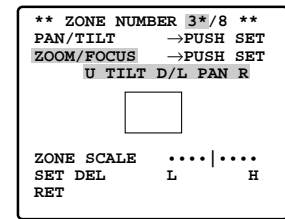
PAN/TILT setting menu

```

** ZONE NUMBER 3*/8 **
PAN/TILT →PUSH SET
ZOOM/FOCUS →PUSH SET
U TILT D/L PAN R
ZONE SCALE .....|.....
SET DEL L H
RET
    
```

3-3 Move the cursor to PUSH SET on the ZOOM/FOCUS, then press the CAM (SET) key.

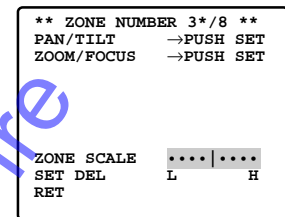
ZOOM/FOCUS setting menu



3-4 Adjust zoom and focus, then press the CAM (SET) key.

3-5 Move the cursor to ZONE SCALE, then adjust the scale by moving the joystick to the left or right. Press the CAM (SET) key after the adjustment.

ZONE SCALE setting menu



3-6

- To complete new settings and repeat another setting, move the cursor to SET and press the CAM (SET) key. The ZONE NUMBER Selection menu returns.
- To cancel new settings and return to SPECIAL1 MENU, move the cursor to DEL and press the CAM (SET) key. New settings are not registered.
- To complete new settings and return to SPECIAL 1 MENU, move the cursor to RET and press the CAM (SET) key.

● Proportional Pan/Tilt (PROPO. P/T)

- Move the cursor to PROPO. P/T and select either ON or OFF by moving the joystick to the left or right.

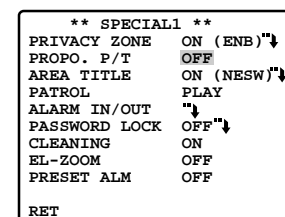
Default : ON

ON: Pan/tilt speed is in inverse proportion to the zoom ratio as follows.

Zoom ratio	Speed level
x1	8 (the fastest)
x2	5
x4	3
x8	1
x15 or more	0 (the slowest)

OFF: The speed is constant at the fastest level regardless of the zoom ratio.

Special 1 menu



● Area Title (AREA TITLE)

Up to 8 area titles can be added in specific positions.

1. Select ON (NESW), ON (USER) or OFF by moving the joystick to the left or right.

ON (NESW): An area title is displayed indicating the camera direction: North (N), North-East (NE), East (E), South-East (SE), South (S), South-West (SW), West (W) and North-West (NW).

ON (USER): A user customized area title is displayed with a maximum of 16 characters.

OFF: Area title is not displayed.

Default : ON (USER)

2. Press the CAM (SET) key. A submenu appears except when OFF is selected.

Settings for ON (NESW)

1. Move the cursor to PUSH SET on the PAN/TILT, then press the CAM (SET) key. PAN/TILT is highlighted and "U TILT D/L PAN R" appears.
2. Move the joystick to turn the camera north, then press the CAM (SET) key. The origin of the direction (North) is set.

Note: Area titles appear in reverse video until the origin is set.

3. Move the cursor to PUSH SET on the ZOOM/FOCUS line, then press the CAM (SET) key. ZOOM/FOCUS is highlighted and "U ZOOM D/L FOCUS R" appears.
4. Move the joystick to adjust the zoom or focus.
5. Move the cursor to POSI "↵", then press the CAM (SET) key. The display position of the area title appears on the monitor. If needed, change the display position by moving the joystick, then press the MON (ESC) key.
6. Move the cursor to RET, then press the CAM (SET) key. SPECIAL 1 menu reappears.

Special 1 menu

```

** SPECIAL1 **
PRIVACY ZONE   ON (DIS)
PROPO. P/T    OFF
AREA TITLE    ON (NESW)
PATROL        PLAY
ALARM IN/OUT  ""
PASSWORD LOCK ON
CLEANING      OFF
EL-ZOOM       ON
PRESET ALM    OFF
RET
    
```

AREA TITLE (NESW) setting menu

```

** DIRECTION (NESW) **
PAN/TILT      ->PUSH SET
ZOOM/FOCUS    ->PUSH SET
POSI ↵
+
N
RET DEL
    
```

PAN/TILT setting menu

```

** DIRECTION (NESW) **
PAN/TILT      ->PUSH SET
ZOOM/FOCUS    ->PUSH SET
POSI ↵
U TITL D/L PAN R
+
N
RET DEL
    
```

ZOOM/FOCUS setting menu

```

** DIRECTION (NESW) **
PAN/TILT      ->PUSH SET
ZOOM/FOCUS    ->PUSH SET
POSI ↵
U ZOOM D/L FOCUS R
RET DEL
    
```

Display Position setting menu

```

FLOOR 1
N
    
```

Setting [ON (USER)]

If ON (USER) is selected on the SPECIAL1 menu, the Area Title selection menu appears. The screen has the number column and title column above RET and RESET.

Note: The area numbers followed by an asterisk * have already preset.

1. To select a camera direction, move the cursor to the desired number, then press the CAM (SET) key. The direction menu of the selected number appears.
2. Adjust PAN/TILT, ZOOM/FOCUS and display position in the same way as AREA TITLE, DIRECTION (NESW). See page 25.
3. To add a user-customized title, move the cursor to the title of the desired number, then press the CAM (SET) key. AREA TITLE menu of the selected number appears.

Special 1 menu

```

** SPECIAL1 **
PRIVACY ZONE  ON (DIS)"
PROPO. P/T    OFF
AREA TITLE    ON (USER)"
PATROL        PLAY
ALARM IN/OUT  ""
PASSWORD LOCK ON"
CLEANING      OFF
EL-ZOOM       ON
PRESET ALM    OFF
RET
    
```

AREA TITLE (USER) selection menu

```

** AREA TITLE (USER) **
1*1 NORTH
2 NORTH-EAST"
3 EAST"
4 SOUTH-EAST"
5* SOUTH-WEST"
6 WEST"
7"
8"
RET RESET
    
```

AREA TITLE Editing

1. Move the cursor to the desired character in the character field using the joystick then press the CAM (SET) key.
2. The selected character appears in the editing field and the blinking cursor moves one position to the right.
3. Repeat steps 1 and 2 until one area title is completed.
4. Move the cursor to POSI "", then press the CAM (SET) key. The display position of the area title appears on the monitor. If needed, change the display position by moving the joystick, then press the MON (ESC) key.

DIRECTION (USER) setting menu

```

** DIRECTION (USER) 1 **
PAN/TILT    ->PUSH SET
ZOOM/FOCUS  ->PUSH SET

+
NORTH

RET DEL
    
```

To Quit Editing

- To return to the menu Area Title selection, move the cursor to RET, then press the CAM (SET) key.
- To cancel one area title, move the cursor to RESET, in the AREA TITLE menu, then press the CAM (SET) key.
- To return to the menu SPECIAL1, move the cursor to RET, then press the CAM (SET) key.
- To erase all the area titles, move the cursor to RESET, in the AREA TITLE selection menu, then press the CAM (SET) key.

AREA TITLE menu

```

AREA TITLE 1*
0123456789
ABCDEFGHIJKLM
NOPQRSTUVWXYZ
().,':;&#!? =
+-%/$@UO&NA

SPACE
____ POSI RET RESET

↑
    
```

Notes:

- An area title is displayed under the camera ID if both of them are set in the same position. If different, they are displayed in the area title position.
- An area title appears while the camera direction deviates within 45 degrees from the set position. If two or more area numbers share a common subject in a scene, the title of the largest number is displayed.

Display Position setting menu

```

FLOOR 1
NORTH
    
```

● Patrol (PATROL)

A routine of manual operations can be stored for up to 30 seconds and later reproduced repetitively.

PATROL

- For PATROL LEARN, set the following parameters for the starting position. These parameters are stored when PATROL LEARN mode begins.

- PAN/TILT/ZOOM/FOCUS settings
- IRIS setting
- SHUTTER setting
- AGC setting
- SENS UP setting
- WHITE BALANCE setting

After starting LEARN, the following manual operation are stored.

- PAN/TILT/ZOOM/FOCUS operation
- IRIS operation
- Preset position move

- Open the SET UP menu and move the cursor to SPECIAL1. Select LEARN, PLAY or STOP for PATROL by moving the joystick to the left or right.

LEARN: A series of manual operations is stored.

PLAY: Stored operations are reproduced.

STOP: LEARN or PLAY is not activated.

PATROL LEARN with a controller having PATROL key

- Press the PATROL key and the CAM (SET) key simultaneously to start PATROL LEARN. The setup menu changes to show "LEARNING" and the starting point parameters are stored.
- Operate manually. Operations data is stored.
- To stop, press the PATROL STOP key.

PATROL LEARN with a controller not having PATROL key

- Close the SET UP or SPECIAL1 menu to start PATROL LEARN. Starting point parameters are stored and "LEARNING" is displayed on the monitor.
- Operate manually.
- Open the SET UP menu to stop learning.

Notes:

- It is recommended that you set PAN LIMIT to ON for PATROL LEARN. Otherwise PAN LIMIT is invalid for playback.
- Restart from the beginning if the power has failed during PATROL LEARN.
- LEARN also stops 30 seconds after the start, or if the memory is full.
- Auto refreshing may be activated during PATROL PLAY or AUTO MODE to calibrate the lens position.

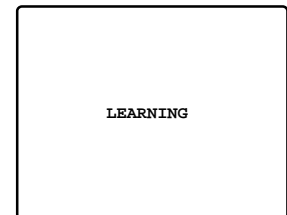
PATROL PLAY with a controller having PATROL key

- Press the PATROL key. The camera turns to the starting point and the operations stored in the memory are reproduced. Iris operation only is accepted during playback.
- Press the PATROL STOP key to stop playback or press any manual operation key (e.g., PAN/TILT/ZOOM/FOCUS) except the iris keys.

Special 1 menu

** SPECIAL1 **	
PRIVACY ZONE	ON(ENB) ↗
PROPO. P/T	OFF
AREA TITLE	ON
PATROL	PLAY
ALARM IN/OUT	↕
PASSWORD LOCK	OFF ↗
CLEANING	OFF
EL-ZOOM	ON
PRESET ALM	OFF
RET	

PATROL LEARN



PATROL PLAY with a controller not having PATROL key

1. Close the SET UP or SPECIAL1 menu. The camera turns to the starting point and the operations stored in the memory are reproduced. Iris operation only is accepted during playback.
2. Open the SET UP menu, or press any manual operation key (e.g , PAN/TILT/ ZOOM/FOCUS) except the iris keys to stop playback.

PATROL PLAY with AUTO PAN key

1. If the PATROL PLAY function is assigned to the AUTO PAN key, press the AUTO PAN key to turn the camera back to the starting point and to reproduce the operation data stored in the memory.
2. Press the PATROL STOP key or any manual operation key (e.g, PAN/TILT/ZOOM/FOCUS) except the iris keys to stop playback.

● Alarm IN/OUT (ALARM IN/OUT)

Move the cursor to ALARM IN/OUT, then press the CAM (SET) key.
ALARM I/O submenu appears.

ALARM IN 1-4

Alarm input signals are supplied from external devices through the ALARM IN connector to turn the camera to a preset position.
Switch B/W mode or OFF.

1. Move the cursor to ALARM IN 1 and select a preset position or OFF by moving the joystick, then press the CAM (SET) key.
2. Set ALARM IN 2, 3 and 4 in the same way as ALARM IN 1.

1 POSI: Preset position. If an alarm input is received, the camera turns to a preset position, then sends output signal. Position number correspond to alarm input numbers (1-1, 2-2, 2-3 and 4-4).

B/W: Available to ALARM INPUT 4 only. The camera changes its mode from colour to black and white if ALARM IN 4 is supplied.

OFF: The camera ignores alarm inputs.

Special 1 menu

** SPECIAL1 **	
PRIVACY ZONE	ON(DIS)
PROPO.P/T	OFF
AREA TITLE	ON(USER)
PATROL	PLAY
ALARM IN/OUT	1
PASSWORD LOCK	ON
CLEANING	OFF
EL-ZOOM	ON
PRESET ALM	OFF
RET	

ALARM I/O submenu

** ALARM IN/OUT **	
ALARM IN 1	1POSI
ALARM IN 2	2POSI
ALARM IN 3	OFF
ALARM IN 4	BW
CNT-CLS 1	ALARM
TIME OUT	100MS
CNT-CLS 2	AUX2
COAX ALM OUT	ON
RET	

CNT-CLS 1-2 (Output)

Two contact closure signals (Open collector type) are output through the ALARM OUT connector.

1. Move the cursor to CNT-CLS 1, then select OFF, ALARM or AUX 1 by moving the joystick to the left or right.
When ALARM is selected, TIME OUT appears. Select an appropriate duration from among 100 MS, 200 MS, 1000 MS (1 s), 2000 MS (2 s), 4000 MS (4 s) by moving the joystick to the left or right.

Note: The shorter the duration, the more frequent will be the detection output.

2. Move the cursor to CNT-CLS 2, then select OFF, B/W or AUX 2 by moving the joystick to the left or right.
OFF: Contact closure signals are inactive.
ALM: Available to CNT-CLS 1 only. Motion detection is output.
AUX 1(2): An alarm signal is output when the camera receives a command from the controller.
B/W: Available for CNT-CLS 2 only. ON (active) is output when the camera operates in black and white mode if ALARM IN 4 is set to B/W.

Note: We recommend that you have the connected external device ignore the shorter alarm outputs from the camera less than 90 ms.

COAXIAL ALARM OUT

Alarm output signals are supplied through the coaxial cable.

1. Move the cursor to COAX and select ON or OFF.
2. Press the CAM (SET) key.

ON: The camera sends an alarm output signal via the coaxial cable after it turns to a preset position.

OFF: The camera does not send the output signal.

Note: The camera ignores alarm inputs during manual operation.

● Password Lock (PASSWORD LOCK)

Caution: For security do not operate your VTR for recording while the password menus displayed on the monitor.

A 3-digit number is used for a password to limit access to the privacy zone settings.

1. Move the cursor to PASSWORD LOCK, then select ON or OFF by moving the joystick to the left or right.

Note: ON or OFF can be changed only after going through the password verification.

OFF: Access to the privacy zone settings is free. (ENB) follows after ON or OFF of PRIVACY ZONE on the SPECIAL1 menu.

ON: Access is limited by the verification menu. (DIS) follows ON or OFF of PRIVACY ZONE on the SPECIAL1 menu.

2. Press the CAM (SET) key.

PASSWORD VERIFICATION

3. The password verification menu appears.
 - 3-1 Select a numeral for the first digit by moving the joystick to the left or right, then press the CAM (SET) key. Though the entered password is not displayed, the up-arrow moves one character to the right.
 - 3-2 Repeat the above step for the 2nd and 3rd digits.
Default : 123.
 - 3-3 The cursor moves to OK after all the three digits are entered. Except for changing the password to a new one, press the CAM (SET) key.
If the correct password is entered, the screen returns to SPECIAL1. The ON or OFF set on the SPECIAL1 menu is as set in step 1.
If a wrong password is entered, the screen returns to the verification menu. Repeat steps 3-1 to 3-3 to verify the password.
 - 3-4 To cancel a password incomplete or of a wrong number, move the cursor to RESET or OK, and press the CAM (SET) key. The screen returns to the verification menu.
 - 3-5 To return to the menu to SPECIAL1 without verifying the password, move the cursor to RET, then press the CAM (SET) key.

Special 1 menu

** SPECIAL1 **	
PRIVACY ZONE	ON (ENB)↕
PROPO. P/T	OFF
AREA TITLE	ON (NESW)↕
PATROL	PLAY
ALARM IN/OUT	"↕"
PASSWORD LOCK	OFF↕
CLEANING	ON
EL-ZOOM	OFF
PRESET ALM	OFF
RET	

PASSWORD

** PASSWORD? **	
0	1 2 3 4 5 6 7 8 9
↑ . . .	
OK	RESET
NEW	PASSWORD ↕
RET	

NEW PASSWORD

- To change the password in step 3-3 above, move the cursor from OK to NEW PASSWORD then press the CAM (SET) key. NEW PASSWORD menu appears.

Notes:

- NEW PASSWORD menu is accessible only after the verification is complete.
- The following operations for NEW PASSWORD will not affect to ON/OFF changing of the PRIVACY ZONE on the SPECIAL1 menu.



The up-arrow sign appears indicating the first digit on the first line.

- Enter a new three-digit password in the same way as in steps 3-1 to 3-2.
- The cursor moves to OK after all the three digits is entered. Press the CAM (SET) key to move the cursor to the first digit on the second line.
- Enter the same password as you entered on the first line.
- The cursor moves to OK. Press the CAM (SET) key. If the new password is successfully entered the screen returns to SPECIAL1.
- Retry step 4-1 to 4-4. If the password does not agree with the entries on for the first and the second line, the screen returns to the initial of NEW PASSWORD? menu.
- To return to the menu SPECIAL1 without changing the password, move the cursor to RET, then press the CAM (SET) key.

● Cleaning ON/OFF (CLEANING ON/OFF)

CLEANING

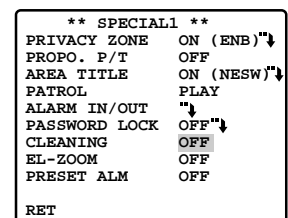
Electric mechanical contacts built inside are refreshed at regular intervals (about 7days) if this is set to ON. A dry contract adversely affects picture quality and motors operation.

- Move the cursor to CLEANING and select ON or OFF by moving the joystick to the left or right.

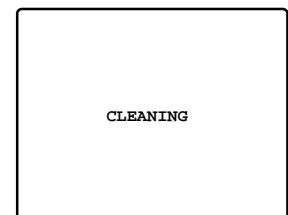
ON: The contacts are cleaned as programmed for about 1 minute. "CLEANING" disappears when it ends.

OFF: No contact cleaning.

Special 1 menu



CLEANING



● Electric Zoom ON/OFF (EL-ZOOM ON/OFF)

The electric zoom magnifies a scene tenfold. With a twenty-twofold optical zoom lens, the camera is capable of 220-fold zoom.

1. Move the cursor to EL-ZOOM and select ON or OFF by moving the joystick to the left or right, then press the CAM (SET) key.

ON: Tenfold electric zoom is available with the ZOOM switch on the controller.

OFF: Electric zoom is inactivated.

Notes:

- Picture quality of a scene magnified by EL-ZOOM may be inferior to that of a non-magnified one.
- EL-ZOOM function does not work with the preset position settings.

Special 1 menu

```

** SPECIAL1 **
PRIVACY ZONE  ON (ENB)"↓
PROPO. P/T    OFF
AREA TITLE    ON (NESW)"↓
PATROL        PLAY
ALARM IN/OUT  ""↓
PASSWORD LOCK OFF""↓
CLEANING      OFF↓
EL-ZOOM       ON
PRESET ALM    OFF
RET
    
```

● Preset Alarm ON/OFF (PRESET ALARM ON/OFF)

An alarm output is sent when the camera moves to the designated position respective to the mode.

1. Move the cursor to PRESET ALARM and select ON or OFF.

ON: Alarm signals are sent out in the following cases.

- Position move is completed in AUTO SEQ mode.
- Position move is completed in AUTO SORT mode.
- Position move to the HOME position is completed in SELF RETURN mode.
- Position move is completed for a position request command.
- Move to the designated position is completed for ALARM IN/OUT.
- Move to the start position is completed for AUTO PAN.
- Move to the start position is completed for PATROL PLAY.

OFF: Alarm signals are not output.

Special 1 menu

```

** SPECIAL1 **
PRIVACY ZONE  ON (ENB)"↓
PROPO. P/T    OFF
AREA TITLE    ON (NESW)"↓
PATROL        PLAY
ALARM IN/OUT  ""↓
PASSWORD LOCK OFF""↓
CLEANING      OFF↓
EL-ZOOM       ON
PRESET ALM    ON
RET
    
```

■ Camera Setting

1. To display the Camera Setting Menu

- Move the cursor to CAMERA ↵, and press the CAM (SET) key. The camera setting menu is displayed.

```

Setup menu
*** SET UP MENU ***
PRESET 1*
MAP ↵
HOME POSITION 15
SELF RETURN 10MIN
AUTO MODE AUTO PAN ↵
AUTO PAN KEY SEQ
DIGITAL FLIP OFF
LOCAL/REMOTE LOCAL
SPECIAL1 ↵
CAMERA ↵
RS485 SET UP ↵
    
```

Camera setting menu

```

** SET UP **
CAMERA ID OFF ↵
ALC/MANUAL ALC ↵
SHUTTER ---
AGC ON
SENS UP OFF
SYNC INT ↵
WHITE BAL ATW ↵
MOTION DET ON ↵
AF MODE MANUAL S
RET SPECIAL2 ↵
    
```

2. Camera Identification Setting (CAMERA ID)

1. Move the cursor to CAMERA ID, and select ON (to display the camera identification) or OFF by using the joystick.
2. Follow the steps below to edit the camera ID characters:
 - 2-1 Move the cursor to CAMERA ID and press the CAM (SET) key to display the character editing menu.
 - 2-2 Move the character cursor to the character you want to edit or change by using the joystick, and press the CAM (SET) key. The selected character appears in the editing area.
 - 2-3 Repeat the steps above until all characters are edited.
3. After editing the camera identification characters, follow the steps below to set the position of the CAMERA ID on the monitor screen.
 - 3-1 Move the cursor to POSI, and press the CAM (SET) key to display the ID position menu.
 - 3-2 Use the joystick to decide the position of the CAMERA ID on the monitor screen. Press the MON (ESC) key to fix the position, and return to the character editing menu.

```

** SET UP **
CAMERA ID OFF ↵
ALC/MANUAL ALC ↵
SHUTTER ---
AGC ON
SENS UP OFF
SYNC INT ↵
WHITE BAL ATW ↵
MOTION DET ON ↵
AF MODE MANUAL S
RET SPECIAL2 ↵
    
```

Character editing menu

```

CAMERA ID ---
0123456789
ABCDEFGHIJKLM
NOPQRSTUVWXYZ
( ) , ' " ; & # ! ? =
+ - * / % $ Å Ü Ö & Ñ Å
SPACE
--- POSI RET RESET
CAM1.....
↑
    
```

```

CAM1
    
```

Notes:

- When you want the pointer to move to a specific character in the editing area, select a new character, and press the CAM (SET) key. This function allows you to edit or correct a specific character.
- When you want a blank space in the CAMERA ID, move the character cursor to SPACE, and press the CAM (SET) key.
- When you want to erase all characters in the editing area, move the cursor to RESET and press the CAM (SET) key.

- The positioning of the CAMERA ID stops at the edges of the screen.
- The CAMERA ID moves faster when the joystick is kept pressed for more than 0.5 seconds.
- To return to SET UP for setting other items, move the cursor to RET, and press the CAM (SET) key.

```

CAMERA ID  —
0123456789
ABCDEFGHIJKLM
NOPQRSTUVWXYZ
( ) , ' " ; & # ! ? =
+ - * / % $ Å Ü Ö Æ Ñ Å

SPACE
— POSI RET RESET

CAM1.....
↑

```

```

CAMERA ID  —
0123456789
ABCDEFGHIJKLM
NOPQRSTUVWXYZ
( ) , ' " ; & # ! ? =
+ - * / % $ Å Ü Ö Æ Ñ Å

SPACE
— POSI RET RESET

CAM1.....
↑

```

3. Light Control Setting (ALC/MANUAL)

1. Display SET UP on the monitor screen.
If necessary, refer to Setup Menu Display on page 14 for details on displaying the SET UP on the monitor screen.
2. Move the cursor to ALC/MANUAL and select ALC or MANUAL by using the joystick. When you select ALC, set back light compensation.

Note:

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

3. When MANUAL is selected, quit the setup menu by pressing MON (ESC) key. Press OPEN or CLOSE key on the controller for iris adjustments.

Camera setting menu

```

** SET UP **
CAMERA ID  OFF ↵
ALC/MANUAL ALC ↵
SHUTTER    ---
AGC        ON
SENS UP    OFF
SYNC       INT
WHITE BAL  ATW ↵
MOTION DET ON ↵
AF MODE    MANUAL S

RET        SPECIAL2 ↵

```

(1) ALC Mode with SUPER-D2 ON

1. Press the CAM (SET) key after selecting ALC. The ALC CONT menu appears.
2. Move the cursor to the SUPER-D2 parameter and select ON.
3. If you want to adjust the video output level, move the cursor to the "I" position. Adjust to the desired level by using the joystick.
4. Move the cursor to RET and press the CAM (SET) key to return to the CAM SET UP menu. (To return to the camera picture, press the F4 button.)

Back light compensation menu

```

** ALC CONT **
BACK LIGHT COMP

SUPER-D2    OFF
MASK SET ↵

LEVEL      .... | ....
           -   +

RET

```

```

** ALC CONT **
BACK LIGHT COMP

SUPER-D2    ON

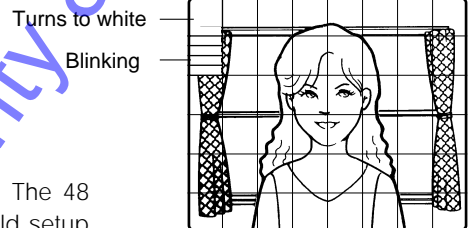
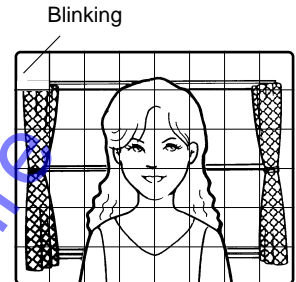
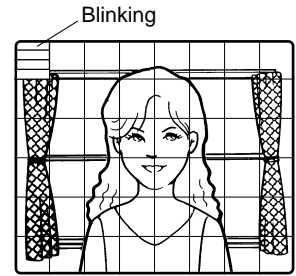
LEVEL      .... | ....
           -   +

RET

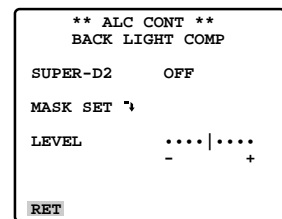
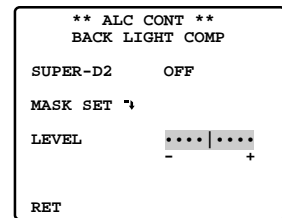
```

(2) ALC Mode with SUPER-D2 OFF

1. Move the cursor to the SUPER-D2 parameter and select OFF. (When you select MANUAL, SUPER-D2 is not available.) The item MASK SET appears on the menu.
2. Move the cursor to MASK SET and press the CAM (SET) key. The 48 mask areas appear on the monitor screen. The cursor is blinking in the top left corner of the screen.
3. To mask an area where back light is bright, move the cursor to that area then press the CAM (SET) key. The mask turns white. Repeat this procedure to mask the desired area.
4. To cancel a masked area, move the cursor to that area then press the CAM (SET) key. To cancel all masking area, press the F2 button of the WV-CU550A. (For the WV-RM70, press the left and right switches simultaneously.)



5. After masking is completed, press the MON (ESC) key. The 48 mask areas on the monitor screen disappear and the field setup menu appears.
6. If you want to change the video output level (picture contrast), move the "I" cursor for LEVEL and adjust the level.
7. Move the cursor to RET and press the CAM (SET) key to return to the CAM SET UP menu. (To return to the camera picture, press the F4 button.)



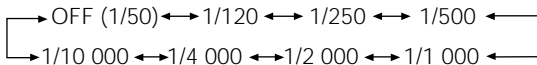
Intelligent Security & Fire

4. Shutter Speed Setting (SHUTTER)

Note: When ON is selected for SUPER-D2 on the ALC CONT menu, this item is not available.

To select electronic shutter speed, select OFF for SUPER-D2 in the menu.

1. Display SET UP on the monitor screen.
If necessary, refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.
2. Move the cursor to SHUTTER and select the electronic shutter speed by using the joystick.
The electronic shutter speed changes as follows by operating the joystick:



Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	OFF
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

5. Gain Control Setting (AGC ON/OFF)

1. Display SET UP on the monitor screen.
If necessary, refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.
2. Move the cursor to AGC and select ON or OFF by using the joystick.

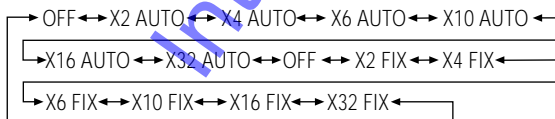
Note: A moving object may appear like an after image instead noise is reduced if AGC is set to ON.

Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	---
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

6. Electronic Sensitivity Enhancement Setting (SENS UP)

1. Display SET UP on the monitor screen.
If necessary, refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.
2. Move the cursor to SENS UP and select the desired electronic sensitivity enhancement mode by using the joystick.
The electronic sensitivity enhancement mode changes as follows by operating the joystick:



Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	---
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

Notes:

- When ON is selected for SUPER-D2 in the ALC CONT menu, FIX is not available for this item.
- When you select AUTO for SENS UP and ON for SUPER-D2, the SENS UP function has priority so that the SUPER-D2 function is not activated automatically.
- While the SENS UP function is selected, noise or spots may appear in the picture when the sensitivity of the camera is increased. This is a normal phenomenon.

7. Synchronization Setting (SYNC)

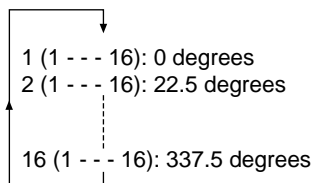
1. Display SET UP on the monitor screen.
If necessary, refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.
2. Move the cursor to SYNC and select line-lock (LL) or internal (INT) by using the joystick.

Important Notice:

1. The priority of SYNC modes is as follows;
 1. Multiplexed vertical drive (VD2) (highest priority)
 2. Line-lock (LL)
 3. Internal sync (INT) (lowest priority)
2. To use internal sync, select INT.
3. Whenever the vertical drive pulse (VD2) is supplied to the camera, the camera sync mode is automatically switched to the multiplexed vertical drive (VD2) regardless which sync mode is selected.

Line-lock Sync Mode (LL)

1. Display SET UP on the monitor screen.
(Refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.)
2. Move the cursor to SYNC and select LL by using the joystick. LL sync mode is not available when the multiplexed vertical drive (VD2) pulse is supplied.
3. After selecting LL, press the CAM (SET) key.
The SYNC menu appears on the monitor screen.
4. Supply the video output signal of the camera to be adjusted and the reference camera video output signal (for example, Camera 1) to a dual-trace oscilloscope.
5. Set the dual-trace oscilloscope to the vertical rate and expand the vertical sync portion on the oscilloscope.
6. Move the cursor to COARSE by using the joystick.
7. Use the joystick to match the vertical phases for both video output signals as closely as possible. (COARSE adjustment can be incremented in steps of 22.5 degrees (16 steps) with the joystick.)



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

Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	---
AGC	ON
SENS UP	OFF
SYNC	INT ↵
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

Camera setting menu

** SET UP **	
CAMERA ID	ON ↵
ALC/MANUAL	ALC ↵
SHUTTER	---
AGC	ON
SENS UP	OFF
SYNC	LL ↵
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

SYNC menu

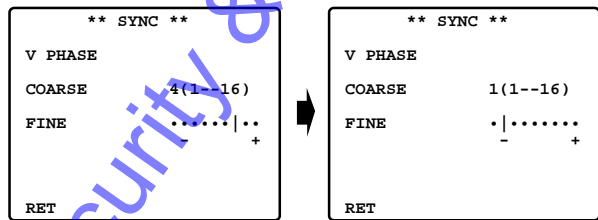
** SYNC **	
V PHASE	
COARSE	1(1--16)
FINE	- | ..... +
RET	

** SYNC **	
V PHASE	
COARSE	1(1--16)
FINE	- | ..... +
RET	

8. Move the cursor to FINE by using the joystick.
9. Use the joystick to match the vertical phase for both video output signals as closely as possible.

Notes:

- When the “|” cursor reaches the “+” end, it jumps back to “-”. At the same time, COARSE is incremented by one step to enable a continuous adjustment. The reverse takes place when the “|” cursor reaches the “-” end.
- When the joystick is kept to the right or left for more than one second, the “|” cursor moves quickly.
- To reset COARSE and FINE to the values preset at the factory, press the F2 button of the WV-CU550A. (For the WV-RM70, press the Left switch and Right switch simultaneously.) COARSE is preset at the factory to zero-crossing of the AC line phase.
- If the AC line contains noise (spike noise, etc.), the stability of the vertical phase of the camera video output signal may be disturbed.

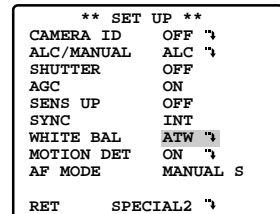


8. White Balance Setting (WHITE BAL)

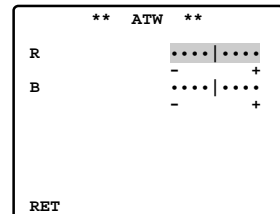
(1) Auto-Tracing White Balance Mode (ATW)

1. Display SET UP on the monitor screen.
(Refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.)
2. Move the cursor to WHITE BAL and select ATW by using the joystick. The white balance of the camera is automatically set.
3. For fine adjustment of the ATW, press the CAM (SET) key to display the ATW fine adjustment menu on the monitor screen.
4. Move the cursor to “R.”
Use the joystick to obtain the optimum amount of red gain. The “|” cursor moves to the left or right.
5. Move the cursor to “B.”
Use the joystick to obtain the optimum amount of blue gain. The “|” cursor moves to the left or right.
6. Move the cursor to RET by using the joystick and press the CAM (SET) key to return to SET UP.

Camera setting menu



ATW fine adjustment menu



(2) Automatic White Balance Control Mode (AWC)

1. Display SET UP on the monitor screen.
(Refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.)
2. Move the cursor to WHITE BAL and select AWC → PUSH SW by using the joystick.
3. Press the CAM (SET) key to start the white balance set up. "PUSH SW" appears in inversed video to indicate that the white balance is being set.
4. "PUSH SW" returns to normal when balance setting is completed.
5. For fine adjustment of the AWC, move the cursor to select AWC and press the CAM (SET) key to display the AWC fine adjustment menu on the monitor screen.
6. Move the cursor to "R."
Use the joystick to obtain the optimum amount of red gain. The "I" cursor moves to the left or right.
7. Move the cursor to "B."
Use the joystick to obtain the optimum amount of blue gain. The "I" cursor moves to the left or right.
8. Move the cursor to RET by using the joystick and press the CAM (SET) key to return to SET UP.

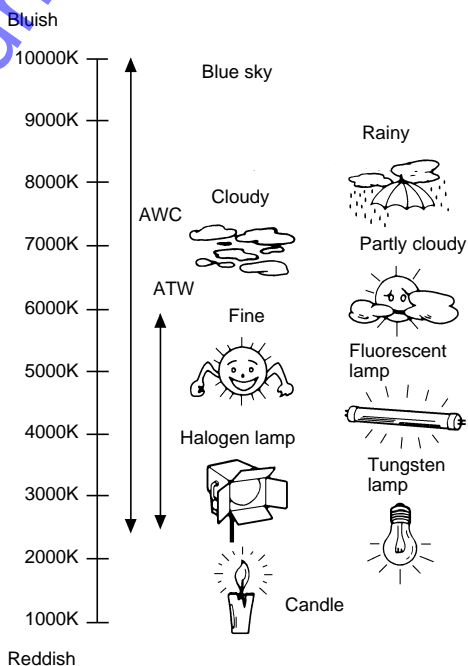
Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	---
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW→PUSH SW
MOTION DET	OFF
AF MODE	MANUAL S
RET	SPECIAL2 ↵

AWC fine adjustment menu

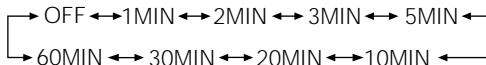
** AWC **	
R	.....|.....
	-+
B	.....|.....
	-+
RET	

Intelligent Security & Fire



9. Motion Detector Setting (MOTION DET)

1. Display SET UP on the monitor screen.
(Refer to Setup Menu Display on page 14 for details on displaying the SET UP menu on the monitor screen.)
2. Move the cursor to MOTION DET and select ON or OFF by using the joystick. Then press the CAM (SET) key when you select ON.
3. When you select ON, the motion detect setup menu appears. You can mask the areas in this menu.
4. Move the cursor to MASK SET and press the CAM (SET) key. 48 mask areas appear on the monitor screen. Refer to the Light Control Setting section on page 33 for masking operations.
5. After masking areas, press the MON (ESC) key. The motion detect setup menu appear on the monitor screen.
6. Move the cursor to ALARM and select ON or OFF by using the joystick.
 - ON:** The alarm signal is supplied while the DISPLAY MODE is active.
 - OFF:** The alarm signal is not supplied while the DISPLAY MODE is active.
7. Move the cursor to DISPLAY MODE. Press the CAM (SET) key to see the present setting. The areas that detect the motions start blinking.
8. Move the cursor to LEVEL by using the joystick. Use the joystick to obtain the optimum detection level. The "I" cursor moves to the left or right.
 - Note:** Repeat the above procedures until you obtain the desired adjustment.
9. Move the cursor to RECOVER TIME by using the joystick. You can select the recover time for from the following values:



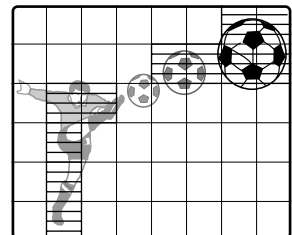
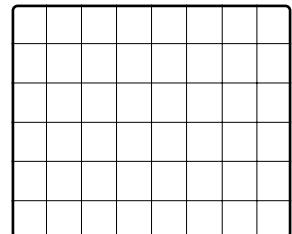
10. Move the cursor to RET and press the CAM (SET) key to return to SET UP.

Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	OFF
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

Motion detect menu

** MOTION DETECT **	
LEVEL	.....|.....
DISPLAY MODE	- +
ALARM	OFF
MASK SET	
RECOVER TIME	1MIN
RET	



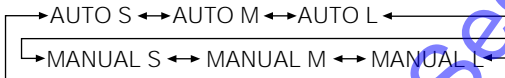
Important Notices:

- The object of motion detection should meet the following conditions.
 - 1) It should be larger than 1/48 of the size of the picture screen.
 - 2) The contrast ratio (at max. detection level) between the object and the background picture on the screen should be more than 5 %.
 - 3) The time it takes the object to move from one end of the screen to the other should be more than 0.1 seconds.
- Also under the following conditions, mask or adjust the detection level to prevent malfunction.
 - 1) When leaves or curtains etc, are swayed by the wind.
 - 2) When a noisy picture exists such as under low light condition.
 - 3) When the object is subjected to illumination by lighting equipment that constantly turns on and off.
- The alarm signal will take about 0.2 second to reach the alarm terminal of the VTR, after the camera detects the object.

Because the alarm signal is multiplexed on the video signal it may be mistakenly interpreted by other video equipment as a time code signal. Therefore, when this camera is not used in a Panasonic Intelligent CCTV System, select OFF to prevent the above from occurring.

10. Auto Focus Setting (AF MODE)

1. Move the cursor to AF MODE, then select a mode from among the following by moving the joystick to the left or right. S, M and L stand for Small, Middle and Large areas in the centre of a scene that are used for sensing sharpness in auto-focusing.



MANUAL S, M, L: Brings the camera into focus when the AF key on the controller is pressed.

AUTO S, M, L: Brings the camera into focus after manual pan, tilt or zoom. These may be selected in the same way as selecting MANUAL by pressing the AF key on the controller.

2. To confirm auto-focus operation, press CAM (SET) key while the cursor is at AF MODE.

Notes:

- When the electronic sensitivity enhancement (SENS UP) is active, this function is automatically set to MANUAL.
- The auto focus lens may not function properly in AUTO under the following conditions.
 1. Dirt or water on window glass.
The auto focus may focus on the dirt or water.
 2. Low lighting/illumination or zone marker is blinking.
 3. Bright objects or high intensity objects.
 4. Single colour with un figured object such as white wall or fine felt.
 5. No centre objects, sloping objects.
 6. Far and near objects on the screen.

Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	OFF
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	MANUAL S
RET	SPECIAL2 ↵

11. Special 2 Menu (SPECIAL2)

This menu lets you adjust and set up the picture quality to meet your requirements.

- Display SET UP on the monitor screen.
(Refer to Setup Menu Display on page 14 for details on displaying the SET UP on the monitor screen.)
- Move the cursor to SPECIAL2 and press the F2 button of the WV-CU550A. The special menu appears on the monitor screen.
(For the WV-RM70, keep pressing the Right and Left switches simultaneously for more than 2 seconds.)

Camera setting menu

** SET UP **	
CAMERA ID	OFF ↵
ALC/MANUAL	ALC ↵
SHUTTER	---
AGC	ON
SENS UP	OFF
SYNC	INT
WHITE BAL	ATW ↵
MOTION DET	ON ↵
AF MODE	NORMAL M
RET	SPECIAL2

(1) Chroma Level Setting (CHROMA GAIN)

1. Move the cursor to CHROMA GAIN. The "I" cursor appears in inversed video.
2. While observing the vectorscope or colour video monitor, adjust the chroma level by using the joystick. The "I" cursor moves to the left or right.
To reset to the factory setup, press the F2 button of the WV-CU550A.
(For the WV-RM70, keep pressing the Right and Left switches simultaneously for more than 2 seconds.)

Special 2 menu

** SPECIAL2 **	
CHROMA GAIN	.....
AP GAIN	.....
PEDESTAL	.....
BW	- AUTO +
BURST(BW)	ON
REFRESH	→PUSH SW
CAMERA RESET	→PUSH SW
RET	

(2) Aperture Level Setting (AP GAIN)

1. Move the cursor to AP GAIN. The "I" cursor appears in inversed video.
2. While observing the video monitor, adjust the aperture level with the joystick. The "I" cursor moves to the left (soft) or right (sharp).
To reset to the factory setup, press the F2 button of the WV-CU550A.
(For the WV-RM70, keep pressing the Right and Left switches simultaneously for more than 2 seconds.)

** SPECIAL2 **	
CHROMA GAIN	.....
AP GAIN	.....
PEDESTAL	.....
BW	- AUTO +
BURST(BW)	ON
REFRESH	→PUSH SW
CAMERA RESET	→PUSH SW
RET	

(3) Pedestal Level Setting (PEDESTAL)

1. Move the cursor to PEDESTAL. The "I" cursor appears in inversed video.
2. While observing the waveform monitor/oscilloscope or video monitor, adjust the pedestal level (black level) by moving the joystick. The "I" cursor moves to the left (low, dark) or right (high, bright).
To reset to the factory setup, press the F2 button of the WV-CU550A.
(For the WV-RM70, keep pressing the Right and Left switches simultaneously for more than 2 seconds.)

** SPECIAL2 **	
CHROMA GAIN	.....
AP GAIN	.....
PEDESTAL	.....
BW	- AUTO +
BURST(BW)	ON
REFRESH	→PUSH SW
CAMERA RESET	→PUSH SW
RET	

** SPECIAL2 **	
CHROMA GAIN	.....
AP GAIN	.....
PEDESTAL	.....
BW	- AUTO +
BURST(BW)	ON
REFRESH	→PUSH SW
CAMERA RESET	→PUSH SW
RET	

(4) BW

Move the cursor to BW and select AUTO, ON or OFF by moving the joystick to the left or right. Default : OFF.

AUTO: The camera selects black and white mode if the picture is dark, or colour mode if the picture is bright enough.

Note: It takes 1 minute to make the selected mode effective after stopping pan/tilt, zoom or focus.

ON: Black and white mode is selected.

OFF: Colour mode is selected.

Note: Mode selection is disabled if ALARM IN 4 is set to B/W on the Special 1 menu.

(5) BURST(BW)

Move the cursor to BURST(BW) and select ON or OFF by moving the joystick to the left or right. Default : ON.

ON: The burst signal is supplied along with the black and white composite video.

OFF: The burst signal is not output.

Note: We recommend that you usually select ON.

(6) To restore the camera default position

Move the cursor to REFRESH by using the joystick and press the F2 button of the WV-CU550A.

(For the WV-RM70, keep pressing the Right and Left switches simultaneously for more than 2 seconds.)

(7) Camera Resetting

Move the cursor to CAMERA RESET by using the joystick and press the F3 button of the WV-CU550A.

The camera is reset to the factory preset parameters.

(For the WV-RM70, keep pressing the Right, Left and Set switches simultaneously for more than 2 seconds.)

(8) To close the SPECIAL2 menu

Move the cursor to RET and press the CAM (SET) key.

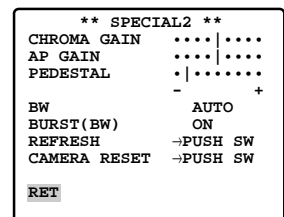
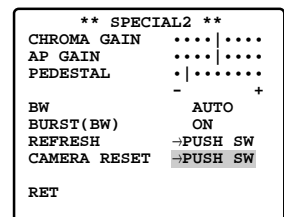
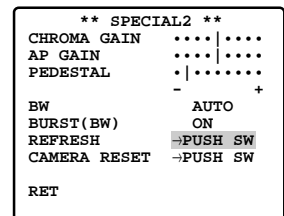
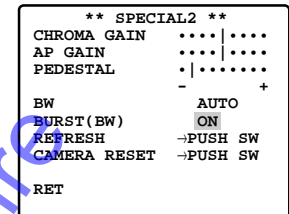
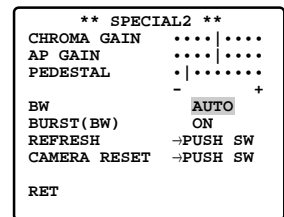
The setup menu appears on the monitor screen.

Note:

■ How to reset to the factory preset parameters

Any of the above settings plus the ALC/MANUAL level control and phase adjustments can be reset to the factory preset parameters by placing the cursor over the desired mode and then press the F2 button of the WV-CU550A.

(For the WV-RM70, keep pressing the Right and Left switches simultaneously for more than 2 seconds.)



■ RS485 Set Up

● Initial camera communication parameters

In an RS485 chain the matrix switcher, PC, controllers and cameras should be set to the same protocol and parameters for communication. Confirm the system protocol and parameters prior to setting the communication parameters for the camera.

The initial communication parameters for WV-CS850 and WV-CS854 are shown on the RS485 setup menu below. Other than the on-screen-setup parameters, the 4-bit DIP switch may be used to select 2-line (Half Duplex) or 4-line (Full Duplex) communication.

● Changing the camera communication parameters

You can remote control this camera by using a specified extension unit such as a computer with a modem.

1. Display the SET UP MENU. Move the cursor to RS485 SET UP and press the CAM (SET) key. RS485 SET UP menu appears on the monitor.
2. Move the cursor to the item and select the parameter by moving the joystick to the left or right.

RS485 Setup menu

** RS485 SET UP **	
UNIT NUMBER	1
SUB ADDRESS	1
BAUD RATE	19200
DATA BIT	8
PARITY CHECK	NONE
STOP BIT	1
XON/XOFF	NOT USE
WAIT TIME	OFF
ALARM DATA	AUTO2
DELAY TIME	OFF
RET	

UNIT NUMBER

Displays the unit number set by the DIP switch. If the switch is set to 1-32 or 1-96, select a number by moving the joystick to the left or right. In an RS485 chain each unit must have a unique number.

Default : 1. See INSTALLATION for DIP switch setting.

SUB ADDRESS

This is only applicable to Panasonic's NEW protocol, reserved for future use with connection to personal computers.

BAUD RATE

Specifies the transmission speed (2 400, 4 800, 9 600, 19 200 bit per second) for the RS485 communication. The factory setting is 19 200.

DATA BIT

Specifies the number of data bits (7 or 8 bits) for the RS485 communication. The factory setting is 8.

PARITY CHECK

Specifies the parity check mode (NONE, ODD, EVEN). The factory setting is NONE.

STOP BIT

Specifies the number of stop bits (1 or 2 bits). The factory setting is 1.

X ON/X OFF

Specifies whether to apply flow control or not (NOT USE, USE). The factory setting is NOT USE.

WAIT TIME

Specifies the time to wait until retransmitting after confirming that no data is received from the controller. (OFF: no transmission, 100, 200, 400, 1 000 ms).

ALARM DATA

Specifies alarm transmission mode depending on the protocol selected by the 8-bit DIP switch. Refer to INSTALLATION for protocol selection.

For Panasonic's conventional

POLLING: Transmits the alarm data in response to requests from the controller.

AUTO 1: Transmits the alarm data each time an alarm signal is received.

AUTO 2 (Default): Transmits alarm data every 5 seconds.

For Panasonic's NEW protocol (reserved for future use with connection to the personal computers)

OFF: Transmits alarm data in response to requests from the controller.

0S: Transmits alarm data each time an alarm signal is received.

1S: Transmits alarm data every 1 second.

5S: Transmits alarm data every 5 seconds.

DELAY TIME

Specifies the time to transmit the acknowledge request when communicating on a two-line connection. (OFF, 10, 20, 40, 100 ms) Default : OFF.

This menu appears only when a two-line communication is used. Make sure to 100 ms when connecting the camera with the WJ-FS616 Video Multiplexer in a 2-line communication system.

The settings become effective with the closing of the SET UP MENU.

Note: Set the same parameters for the cameras, controllers and personal computers in an RS485 chain.

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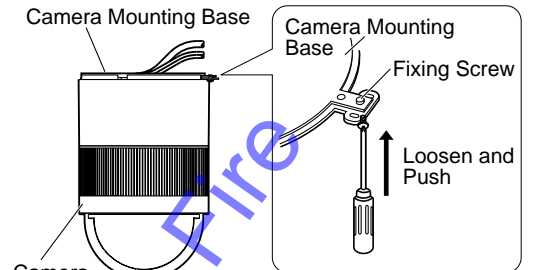
INSTALLATION

Precautions

- The following steps of installation and connection should be taken by qualified service personnel or system installers and should conform to all local codes.
- Make sure to switch the camera off before installation and connection.
- Do not install the camera near the air outlet of an air conditioner.

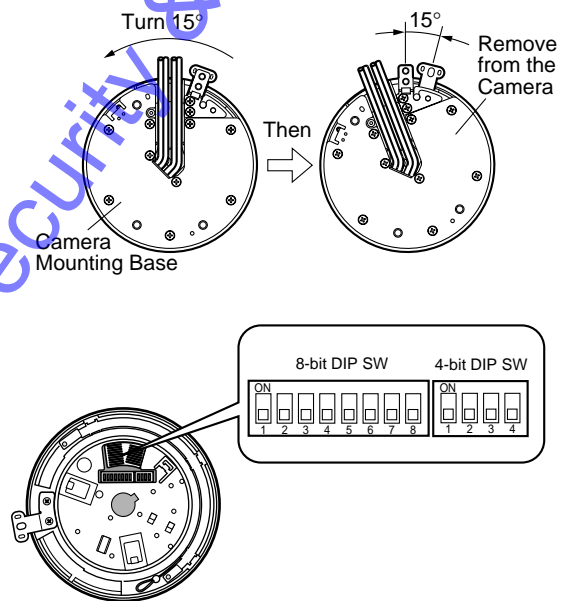
1. Disassembling the camera

- (1) Loosen the fixing screw to separate the camera mounting base and the camera. Push up the screwdriver once before removing the screw.
- (2) Turn the camera mounting base approximately 15 degrees counter clockwise and remove the base from the camera.



2. Setting the switches

There are two DIP switches on the camera: an 8-bit switch and a 4-bit switch. The 8-bit DIP switch is used in both ways to implement protocol selection and to specify the unit number. The 4-bit DIP switch selects termination ON/OFF and half/full duplex selection for RS485 communications. Switch settings are read in to the camera when the power is turned on. Make sure to turn it off, then turn it back on after changing the switch settings. Switch positions and functions are shown below.



RS485 Parameter Setup

The selected protocol, communication parameters, and set unit numbers are read into the camera when power is switched on.

1. Set the switch according to the function shown in the table.
2. Switch off the camera.
3. Switch on the camera to read in the changed switch settings.

Note: The changed communication parameters are displayed on the RS485 SETUP menu after the camera is switched on.

Switch Position	Protocol Selection
	Panasonic's conventional
	Panasonic's NEW generation

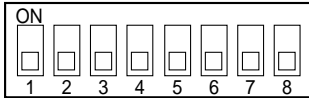
Switch Position	Parameter Selection			
	BAUD RATE	DATA BIT	PARITY CHECK	STOP BIT
	19 200	8	NONE	1
	9 600	8	NONE	1
	4 800	8	NONE	1

Unit number

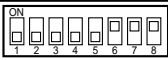
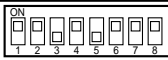
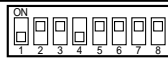
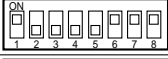
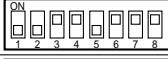
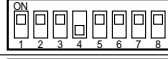
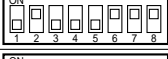
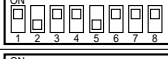
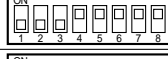
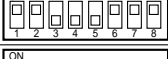
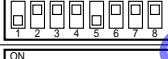
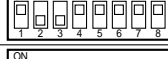








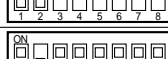








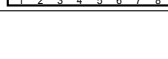


Switch 1, an 8-bit DIP switch, specifies unit number for three protocols: Panasonic's new and conventional protocol and AD protocol.

When the unit number 1-32* or 1-96* is selected, it is set on the RS485 SETUP menu.

8-bit DIP SW

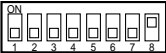


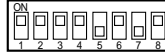



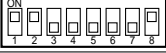


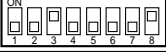




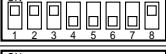
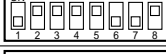
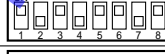
























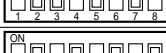







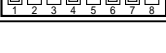


For Panasonic's NEW protocol

Switch Position	Unit Number	Switch Position	Unit Number	Switch Position	Unit Number
	1-32*		11		22
	1		12		23
	2		13		24
	3		14		25
	4		15		26
	5		16		27
	6		17		28
	7		18		29
	8		19		30
	9		20		31
	10		21		

AD is a registered trademark of American Dynamics.

For conventional Panasonic's protocol

Switch Position	Unit Number	Switch Position	Unit Number	Switch Position	Unit Number
	1-96*		23		46
	1		24		47
	2		25		48
	3		26		49
	4		27		50
	5		28		51
	6		29		52
	7		30		53
	8		31		54
	9		32		55
	10		33		56
	11		34		57
	12		35		58
	13		36		59
	14		37		60
	15		38		61
	16		39		62
	17		40		63
	18		41		64
	19		42		65
	20		43		66
	21		44		67
	22		45		68

(to be continued)

For conventional Panasonic's protocol

Switch Position	Unit Number	Switch Position	Unit Number	Switch Position	Unit Number
	69		78		87
	70		79		88
	71		80		89
	72		81		90
	73		82		91
	74		83		92
	75		84		93
	76		85		94
	77		86		95

For AD's protocol

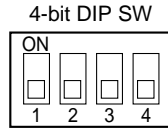
Switch Position	Unit Number	Switch Position	Unit Number	Switch Position	Unit Number
	1-32*		11		22
	1		12		23
	2		13		24
	3		14		25
	4		15		26
	5		16		27
	6		17		28
	7		18		29
	8		19		30
	9		20		31
	10		21		

Note: In case of using the cameras in combination with a controller and other peripherals of AD make, switch the cameras on after making sure that the controller and peripherals have already been turned on.

AD is a registered trademark of American Dynamics.

RS485 Setting

The 4-bit DIP switch is used for RS485 termination and protocol selection.



	BP 1	Function
Switch	ON	Termination ON
Position	OFF	Termination OFF *

	BP 2	BP 3	BP 4	Function
Switch	ON	ON	ON	Half Duplex (2 line)
Position	OFF	OFF	OFF	Full Duplex (4 line) *

Notes:

- Defaults are marked with *.
- BP stands for Bit Position.
- Daisy chain connection is not available for Full Duplex.

3. Assemble the camera

Reverse the disassembly procedure. Take care not to cut any cables.

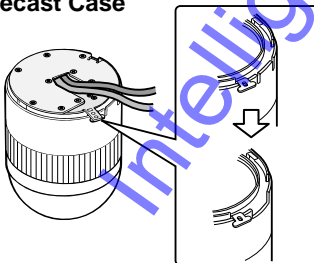
Precautions

Be sure to select a ceiling board strong enough to support 4 times the total weight of the camera.

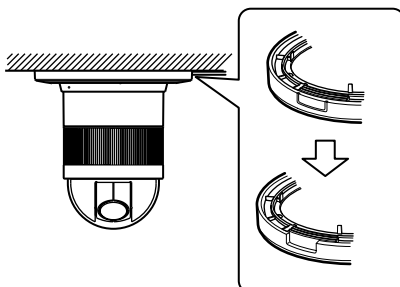
a. Sideway cable exit

Prepare a cutout in the diecast case and decoration cover as shown in the following figures.

Cutout in Diecast Case



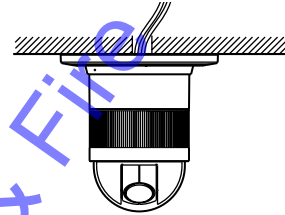
Cutout in Decoration Cover



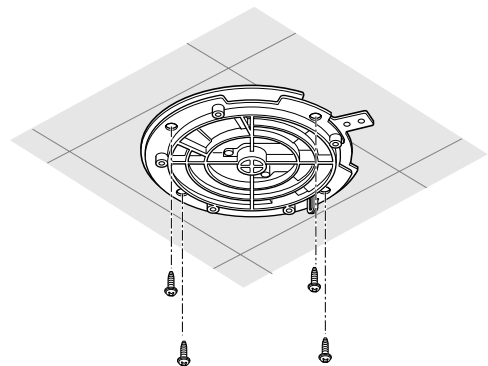
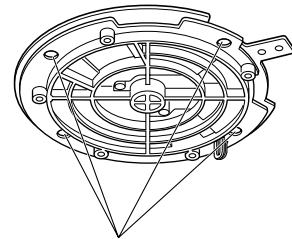
Note: Remove sharp edges to protect the cables.

b. Top cable exit

Prepare a hole in the ceiling board to run the cables.

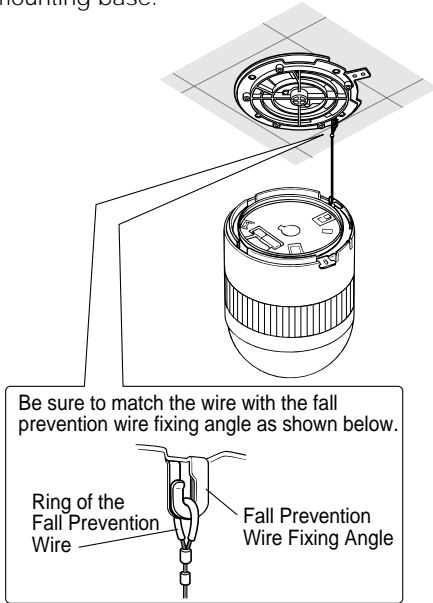


1. Mark the mounting holes on the ceiling, using the removed camera mounting base as a template.



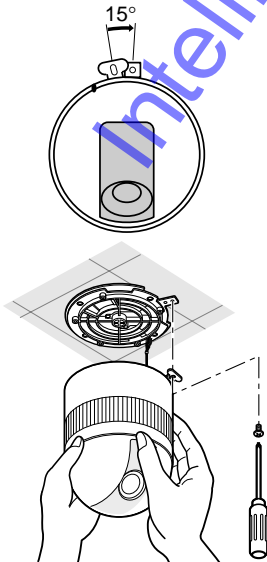
2. Fix the camera mounting base to the ceiling with four screws (not provided, M4).

- Hook the Fall prevention wire on the camera mounting base.



Cautions:

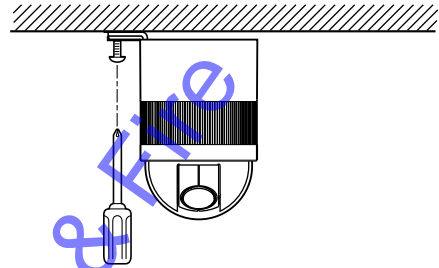
- Use the supplied dust protection sheet if the camera mounting base is liable to be exposed to a dusty atmosphere. Remove the cover from the dust protection sheet, then stick the sheet on the camera mounting base.
 - Remove the sheet before mounting the camera on the base.
 - While the camera is separated from the base, keep the camera in the supplied polyethylene sack.
- Mount the camera on the camera mounting base and rotate the camera clockwise.



- Tighten the fixing screw M3 (provided).

Notes :

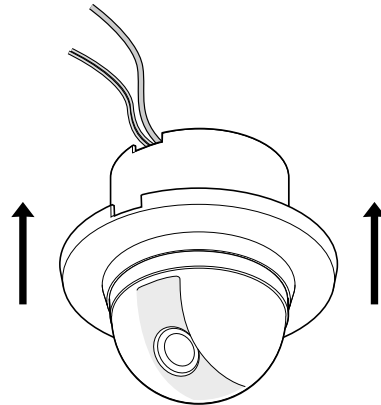
- Tighten the camera fixing screw with a screwdriver.
- Follow the instructions given here to ensure that the camera and camera mounting base are installed safely.
- When removing the camera from the camera mounting base, loosen and press up the camera fixing screw (M3) by using a screwdriver.



- Fix the decoration cover to the camera mounting base.

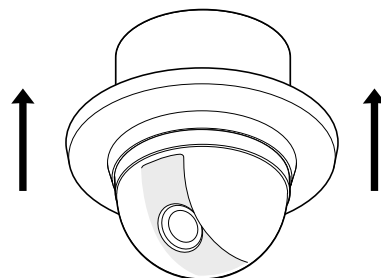
a. Sideway cable exit

Pass the cables through the cutout made in the diecast case and decoration cover .



b. Top cable exit

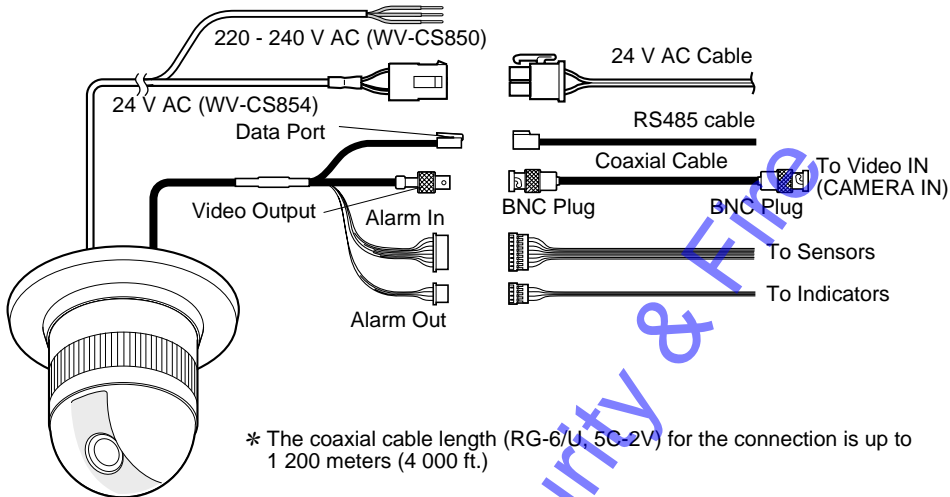
Push the decoration cover against the camera mounting base.



CONNECTIONS

Precautions

- The following connections should be made by qualified service personnel or system installers in accordance with all local codes.
- See the reverse side of the cover page for mains lead connection.



Note: When powered up, the unit performs a self-check (including one panning, tilting, zooming and focusing operation).

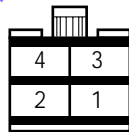
• 24 V AC Power supply connection

Recommended wire gauge sizes for 24V AC line.

Copper wire size (AWG)		#24 (0.22mm ²)	#22 (0.33mm ²)	#20 (0.52mm ²)	#18 (0.83mm ²)
Length of Cable (Approx.)	(m)	20	30	45	75
	(ft)	65	100	160	260

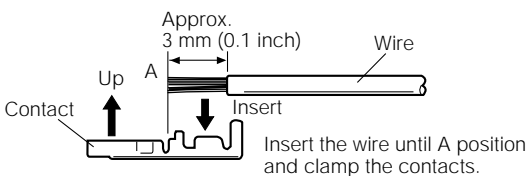
Accessory Connector Information

Pin No.	Power Source
1	24 V AC LIVE
2	24 V AC NEUTRAL
3	Ground
4	Not use

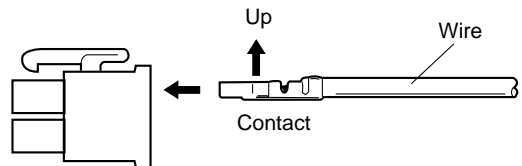


How to assemble the cable with the accessory connector

Strip back the cable jacket approx. 3 mm (0.1 inch) and separate the individual conductors.



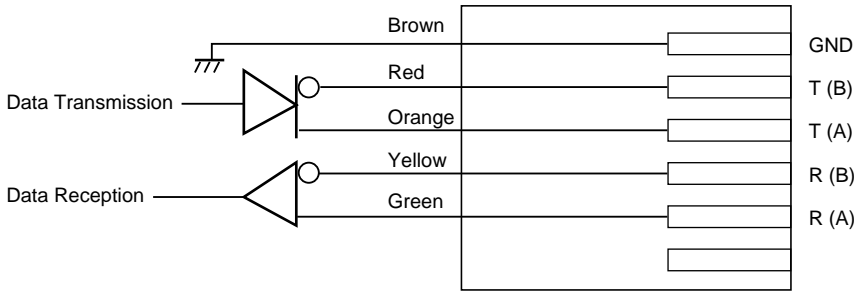
Prepare the individual conductors for clamping. Use MOLEX band tool part number 57027-5000 (for UL-Style Cable UL1015) or 57026-5000 (for UL-Style UL1007) for clamping the contacts. After clamping the contacts, push them into the proper holes in the accessory connector of this camera until they snap in place.



CAUTIONS

- Shrinking the cable-entry seal is a one-time procedure. Do not shrink the cable-entry seal until it has been ascertained that the unit is functioning.
- CONNECT THIS TO 24V AC CLASS 2 POWER SUPPLY ONLY.

• **RS485 connection**



Note:

Use the cable that is described below for RS485 site communication:

- Shielded, twisted pair cable
- Low impedance
- Wire gauge size is thicker than AWG #22 (0.33 mm²).

• **ALARM IN connections**

An 8-pin and a 4-pin harness are supplied with the camera as standard accessories. Connect external sensors to this connector. Input specifications are low-active, non-voltage contact (ON when active) or open collector (Low when active). The table below shows wire colours versus pin functions.

Alarm IN (8-pin)

Wire Colour	Function
Black	IN 1
Brown	GND
Red	IN 2
Orange	GND
Yellow	IN 3
Light Blue or Green	GND
Blue	IN 4
Purple	GND

• **ALARM OUT connections**

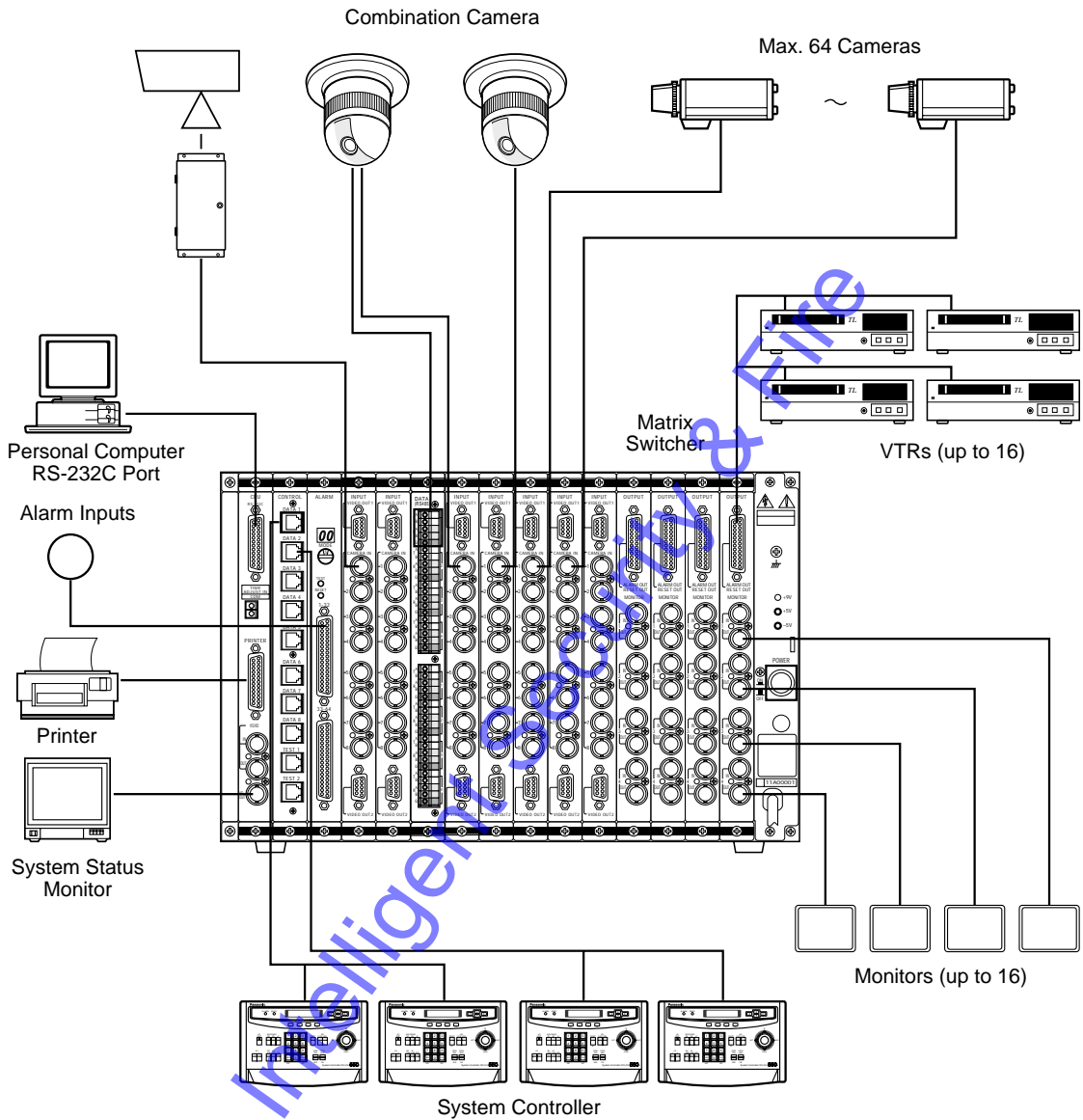
Connect an external device, for example, a buzzer or lamp, to this connector. Output specifications are low-active, open-collector and a drive capacity of 16 V DC 100 mA maximum. The table below shows wire colours versus pin functions.

Alarm OUT (4-pin)

Wire Colour	Function
Grey	OUT 1
White	GND
Pink	OUT 2
Yellow Green or Light Blue	GND

Note: Use a relay if the voltage or current of the connected device exceeds the ratings.

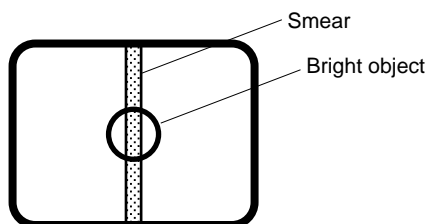
SYSTEM CONNECTIONS



Note: When any peripheral is turned off and turned on again, the camera is also turned off and turned back on.

PREVENTION OF BLOOMING AND SMEAR

When the camera is aimed at a bright light, such as a spotlight, 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.



SPECIFICATIONS

	WV-CS854	WV-CS850
Effective Pixels	737 (H) x 575 (V)	
Scanning Area	3.57 mm (H) x 2.67 mm (V), 1/4"	
Synchronization	Internal/Line-lock / Multiplexed Vertical Drive (VD2)	
Horizontal Scanning Frequency	15.625 kHz	
Vertical Scanning Frequency	50.00 Hz	
Video Output	1.0 V[p-p] PAL composite/75 Ω	
Horizontal Resolution	More than 480 lines at centre (C/L), 570 lines at centre (B/W)	
Vertical Resolution	More than 400 lines at centre	
Signal-to-noise Ratio	50 dB (AGC OFF, weight on)	
Dynamic Range	46 dB (SUPER-D2 ON)	
Minimum Illumination	1 lx (0.1 foot-candle) C/L, 0.06 lx (0.006 foot-candle) B/W at SENS UP x 2	
Zoom Speed	Approx. 7.5 s (TELE/WIDE) in Manual mode	
Focus Speed	Approx. 5 s (FAR/NEAR) in Manual mode	
Iris	Automatic (Open / Close is possible)/Manual	
Maximum Aperture Ratio	1 : 1.6 (WIDE) 3.0 (TELE)	
Focal Length	3.79 - 83.4 mm	
Angular Field of View	H	2.6° - 52.3°
	V	2.0° - 39.9°
Electronic Shutter	1/50 (OFF), 1/120, 1/250, 1/500, 1/1 000, 1/2 000, 1/4 000, 1/10 000 s	
SENS UP	MAX 32 times, AUTO/FIX	
SUPER-D2	Selectable ON/OFF (SETUP MENU)	
Zoom Ratio	x 22 + Digital Zoom x10	
Iris Range	F1.6 - 22, CLOSE	

Power Source	24 V AC, 50 Hz	220 - 240 V AC, 50 Hz
Power Consumption	14 W	18 W
Ambient Operating Temperature	-10°C - +50°C (14°F - 122°F)	
Dimensions	120 (D) x 191 (H) mm (4-3/4" (D) x 7-1/2" (H))	
Weight	Approx. 2 kg (4.4 lbs)	

AUTO FOCUS	MANUAL/AUTO
AUTO MODE	OFF/SEQ/SORT/AUTO PAN
AUTO PAN KEY	SEQ/SORT/AUTO PAN/PATROL PLAY
Digital Flip	ON/OFF
CAMERA ID	Preset ID, Camera ID, Area Title : Up to 16 characters
SUPER D2	ON/OFF
MOTION DET	ON/OFF
ALARM IN	4 Inputs (ALARM IN 1 - 4)
ALARM OUT	2 Outputs (ALARM/AUX1, B/W/AUX2)
B/W Mode	AUTO/ON/OFF
PRIVACY ZONE	ON/OFF, Up to 8 zones
Proportional PAN/TILT	ON/OFF
PATROL	LEARN/PLAY/STOP, Up to 30 seconds
Cleaning	ON/OFF

Panning Range	360° Endless
Panning Angle Setting	Possible (in Auto-Pan mode)
Panning mode	Manual/Sequential Position/Sort Position/Auto Pan
Panning Speed	Manual : Approx. 0.1°/s - 120°/s eight steps Sequence Position : Maximum approx. 300°/s
Tilting Range	0 - 90°
Tilting Mode	Manual/Sequential Position/Sort Position
Tilting Speed	Manual : Approx. 0.1°/s - 120°/s. eight steps Sequential Position : Maximum approx. 300°/s
Controls	Pan/Tilt, Lens, 64 Preset Positions, Home Position

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

ACCESSORIES

Decoration Cover	1 pc.
Alarm In Cable	1 pc.
Alarm Out Cable	1 pc.
Connector for 24 V AC (only for WV-CS854)	1 pc.

OPTIONAL ACCESSORIES

Dome Cover (Smoked type)	WV-CS2S
Dome Cover (Metal type)	WV-CS2M
Ceiling Mount Bracket	WV-Q105/WV-Q106/WV-Q107A
Wall Mount Bracket	WV-Q108A

APPENDIX

Shortcuts

Shortcut operations are available to controllers having the CAM FUNCTION key. Pressing numeric key(s) for one digit up to three digits then CAM FUNCTION key implements the respective functions as follows. The CAM FUNCTION key is abbreviated to [CAM FUNC] here.

Function	Key	Function	Key
Selecting a PRESET position From #1 to #64		EL-ZOOM	
#1	[1] + [CAM FUNC]	On	[9] + [8] + [CAM FUNC]
#10	[1] + [0] + [CAM FUNC]	Off	[9] + [9] + [CAM FUNC]
#64	[6] + [4] + [CAM FUNC]	RESTART	
AUTO PAN		Begin	[1] + [0] + [0] + [CAM FUNC]
ON	[6] + [5] + [CAM FUNC]	Memorize PRESET	From #1 to #64**
OFF	[6] + [6] + [CAM FUNC]	Position #1	[1] + [0] + [1] + [CAM FUNC]
Speed Up	[6] + [7] + [CAM FUNC]	Position #10	[1] + [1] + [0] + [CAM FUNC]
Speed Down	[6] + [8] + [CAM FUNC]	Position #64	[1] + [6] + [4] + [CAM FUNC]
Setting Start Point	[6] + [9] + [CAM FUNC]	PATROL	
Setting End Point	[7] + [0] + [CAM FUNC]	PLAY	[1] + [6] + [5] + [CAM FUNC]
Setting PAN Reverse	[7] + [4] + [CAM FUNC]	STOP	[1] + [6] + [6] + [CAM FUNC]
AUTO MODE		LEARN(Start)	[1] + [6] + [7] + [CAM FUNC]
MODE Off	[7] + [1] + [CAM FUNC]	IRIS	
SEQ On	[7] + [2] + [CAM FUNC]	Open	[1] + [6] + [9] + [CAM FUNC]
SORT On	[7] + [3] + [CAM FUNC]	Close	[1] + [7] + [0] + [CAM FUNC]
ENDLESS PAN		EL-SHUTTER	
On	[7] + [6] + [CAM FUNC]	On	[1] + [7] + [1] + [CAM FUNC]
Off	[7] + [7] + [CAM FUNC]	Off	[1] + [7] + [2] + [CAM FUNC]
DIGITAL FLIP		Speed Up	[1] + [7] + [3] + [CAM FUNC]
On	[7] + [8] + [CAM FUNC]	Speed Down	[1] + [7] + [4] + [CAM FUNC]
Off	[7] + [9] + [CAM FUNC]	AGC	
PROP. PAN/TILT		On	[1] + [7] + [5] + [CAM FUNC]
On	[8] + [0] + [CAM FUNC]	Off	[1] + [7] + [6] + [CAM FUNC]
Off	[8] + [1] + [CAM FUNC]	SENS UP	
SUPER-D2		On	[1] + [7] + [7] + [CAM FUNC]
On	[8] + [4] + [CAM FUNC]	Off	[1] + [7] + [8] + [CAM FUNC]
Off	[8] + [5] + [CAM FUNC]	Up	[1] + [7] + [9] + [CAM FUNC]
AUTO FOCUS		Down	[1] + [8] + [0] + [CAM FUNC]
STOP AF On*	[8] + [6] + [CAM FUNC]	SENS UP AUTO	
STOP AF Off*	[8] + [7] + [CAM FUNC]	On	[1] + [8] + [1] + [CAM FUNC]
AF On (Activate)	[8] + [8] + [CAM FUNC]	Off	[1] + [8] + [2] + [CAM FUNC]
HOME POSITION		Up	[1] + [8] + [3] + [CAM FUNC]
Move to HOME	[8] + [9] + [CAM FUNC]	Down	[1] + [8] + [4] + [CAM FUNC]
B/W or C/L		LL SYNC phase	
B/W On*	[9] + [0] + [CAM FUNC]	INC	[1] + [8] + [5] + [CAM FUNC]
B/W Off*	[9] + [1] + [CAM FUNC]	DEC	[1] + [8] + [6] + [CAM FUNC]
B/W AUTO*	[9] + [2] + [CAM FUNC]	PAN	
CAMERA ID		180° turn	[1] + [8] + [7] + [CAM FUNC]
On	[9] + [3] + [CAM FUNC]	CLEANING	
Off	[9] + [4] + [CAM FUNC]	On	[1] + [8] + [8] + [CAM FUNC]
AREA TITLE		Off	[1] + [8] + [9] + [CAM FUNC]
NESW On	[9] + [5] + [CAM FUNC]		
USER On	[9] + [6] + [CAM FUNC]		
TITLE Off	[9] + [7] + [CAM FUNC]		

Notes:

- Shortcut operations marked with * will change parameter settings only. Actual operation takes place when the conditions for the changed settings are met.
- As entering shortcuts marked with **, "NO REGS. : FLIP ON" may appear on the monitor. Re-enter the shortcut.
- Shortcuts may be ignored while PAN/TILT, ZOOM or FOCUS is in operation.
- PATROL LEARN saves only [1] through [6]+[4], [1]+[6]+[9] and [1]+[7]+[0] in the memory.
- PATROL PLAY stops when a shortcut other than [1]+[6]+[9] or [1]+[7]+[0] is entered.

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