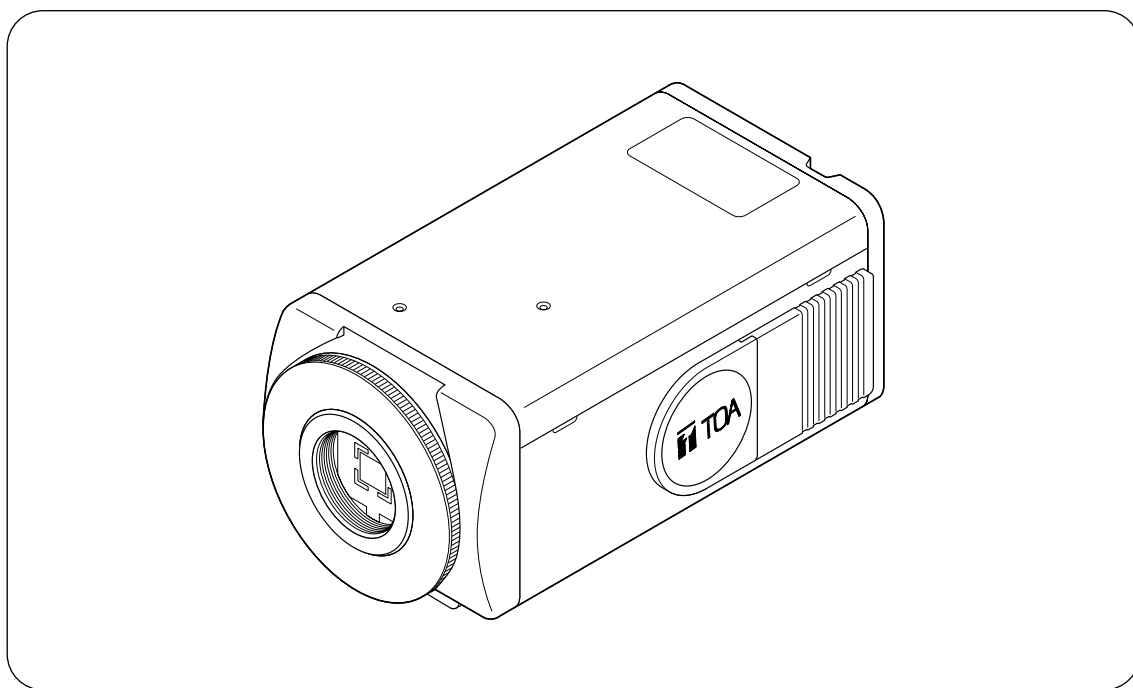




INSTRUCTION MANUAL

COLOR CAMERA

C-CC351A NTSC
C-CC351A PAL
C-CC354A NTSC
C-CC354A PAL



Please follow the instructions in this manual to obtain the optimum results from this unit.
We also recommend that you keep this manual handy for future reference.

TOA Corporation

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1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.



Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.



Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.



When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.
- Install the unit only in a location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Since the color camera is designed for in-door use, do not install it outdoors. If installed outdoors, the aging of parts causes the unit to fall off, resulting in personal injury. Also, when it gets wet with rain, there is a danger of electric shock.

When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest TOA dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
 - If you detect smoke or a strange smell coming from the unit.
 - If water or any metallic object gets into the unit.
 - If the unit falls, or the unit case breaks.
 - If it is malfunctioning (no image appears).

- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest TOA dealer.

- Do not insert nor drop metallic objects or flammable materials in the unit, as this may result in fire or electric shock.
- Be sure to inspect the unit periodically for safety use. Deterioration of the installed part may cause dropping of the unit, resulting in personal injury and/or property damage. Contact your TOA dealer as to the periodical inspection.



When Installing the Unit

- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.
- Leave the installation of the unit to your TOA dealer because the installation requires expert experience and skills. If the unit falls, this could cause personal injuries.
- Do not hang things from the unit as this may cause the unit to drop, resulting in personal injuries.

2. GENERAL DESCRIPTION

The C-CC351A NTSC is a 1/3 type, NTSC, 120 VAC, high-resolution color camera.

The C-CC351A PAL is a 1/3 type, PAL, 230 VAC, high-resolution color camera.

The C-CC354A NTSC is a 1/3 type, NTSC, 24 VAC or 12 VDC-operated, high-resolution color camera.

The C-CC354A PAL is a 1/3 type, PAL, 24 VAC or 12 VDC-operated, high-resolution color camera.

The 32X electronic sensitivity enhancer and wide dynamic circuitry combine to ensure clear surveillance in dark locations or in backlit conditions.

3. PRECAUTIONS

- Do not direct the camera toward the sun or other extremely bright objects.
- Do not give the camera a great shocks or vibration, as this will damage the camera.
- It is recommended that the camera be always used in locations where the ambient temperature ranges from -10°C to $+50^{\circ}\text{C}$ and humidity is less than 90%.
- To clean the camera, use a dry, soft cloth. Never use such volatile liquids as benzine and thinner because the camera may be discolored or deformed.
- To clean the camera lens, use an ear syringe or photographic lens tissue to blow or wipe away dust or dirt.
- Installing the camera cables in close proximity to fluorescent lamps or other electrical appliances can downgrade the picture quality. In such cases, change the wiring.
- If there is a strong electric or magnetic field near the camera, such as television transmission antennas, motors or transformers, this may distort or roll the monitor picture. In such cases, run the entire wiring route through metal conduit tubing.
- When operating on 12 VDC, use an external power supply unit with the following ratings:
 - AC adapter or normal power supply unit (with no safety device): Over 12 VDC, 0.5 A
 - Power supply unit with safety device: Over 12 VDC, 2.0 A

C-CC354A NTSC complies with Part 15 of the FCC Rules.

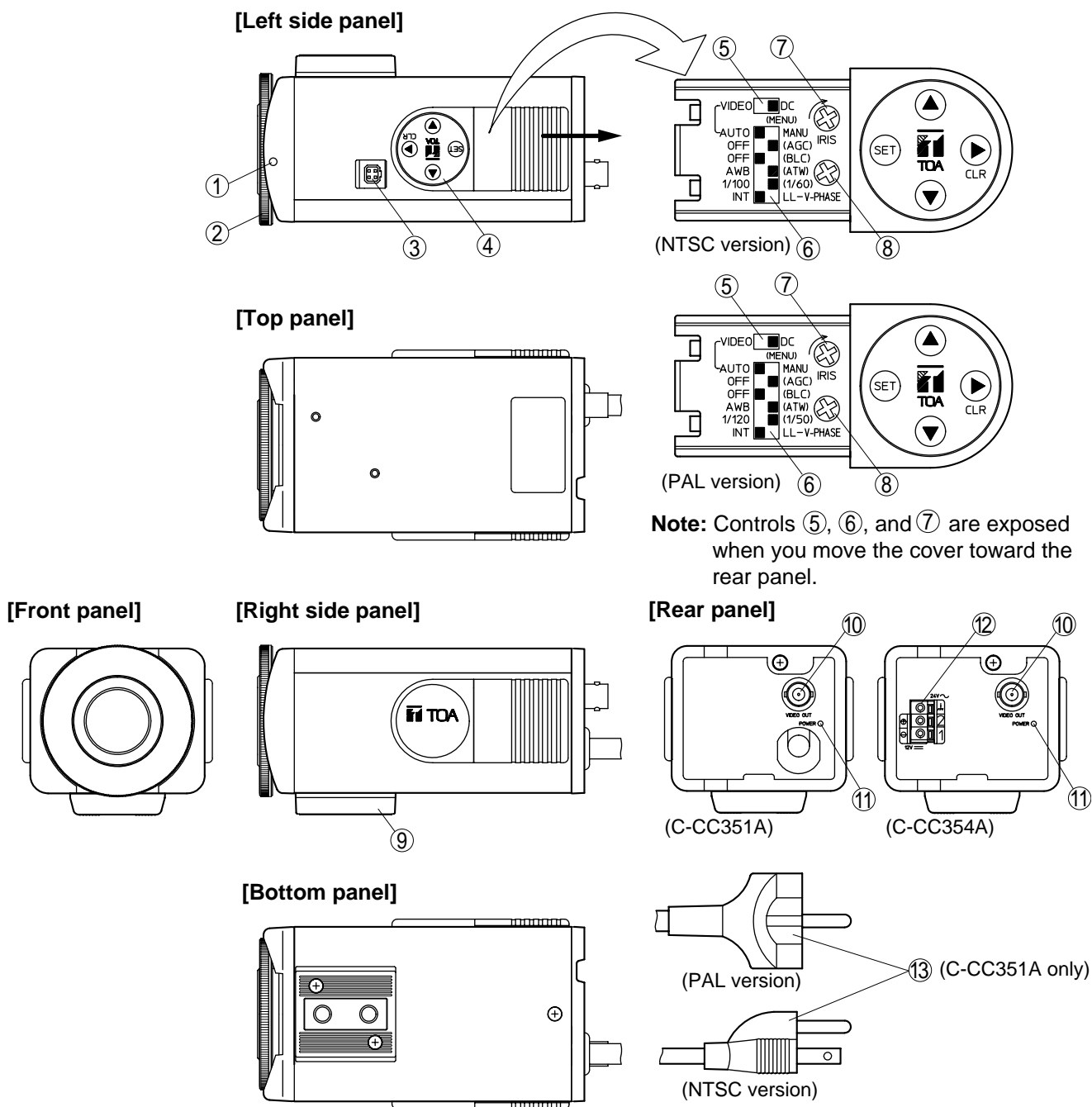
Note

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

Modifications

Any modifications made to this device that are not approved by TOA Corporation may void the authority granted to the user by the FCC to operate this equipment.

4. NOMENCLATURE



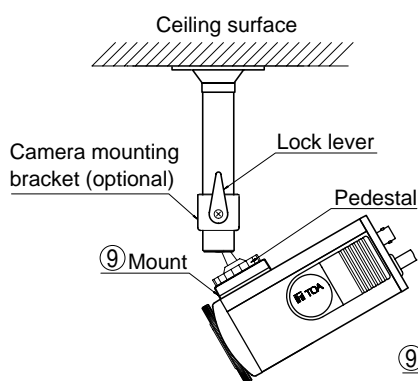
- (1) Back focal length adjustment ring fixing screw
- (2) Back focal length adjustment ring
- (3) Lens connector
- (4) Menu key
- (5) Lens selector switch
- (6) Mode switch
- (7) Iris control

- (8) Vertical phase control
- (9) Mount
- (10) Video output terminal (BNC)
- (11) Power indicator
- (12) Power input terminal (24 VAC, 12 VDC)
- (13) Power cord

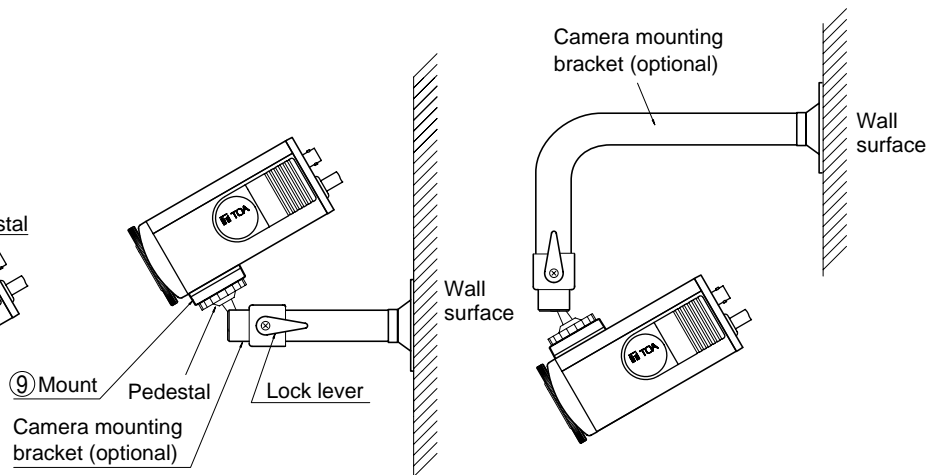
The above numbers are used when describing each part in this manual.

5. INSTALLATION

[Ceiling Mounting Example]



[Wall Mounting Example]



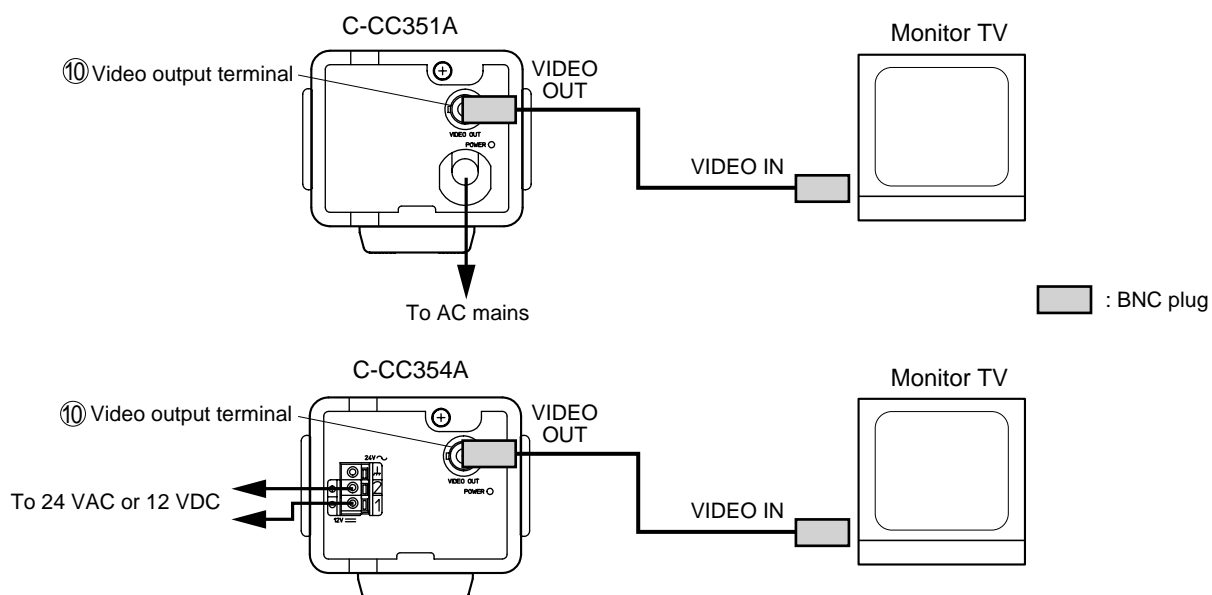
1. Mount the optional camera mounting bracket to the ceiling or wall. The bracket must be fixed securely using an electrical box and screws supplied with the bracket. When securing, be sure to run the coaxial cable through the hole in the bracket.
2. Rotating the bracket's pedestal, fully insert it into the threaded hole in the mount (9).
3. Set the camera's direction, then fix the camera by rotating the lock lever.

Note

The mount can be installed on either the top panel or bottom panel of the camera, and is installed on the bottom panel by the factory. When changing the position, first remove the mount from the camera and reattach it to the top panel, then fix it to the mounting bracket.

6. CONNECTIONS

Connect the camera's video output terminal (10) to the monitor, etc.



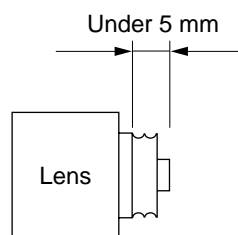
7. ABOUT THE LENSES

7.1. Lens (optional) Selection and Camera Setting

- When using the flickering-reduction function outdoors or under the fluorescent lighting, use the auto-iris lens. Follow the procedure below to perform the setting:
 - Set the Lens Auto/Manual selector switch of the mode switch (6) to "AUTO" position (factory-preset position).
 - Set the lens selector switch (5) to "DC" or "VIDEO" position depending on the type of auto-iris lens to use. Factory-preset for "DC" position.
 - To reduce flickering, set the flickering-reduction switch of the mode switch to "1/100" position (NTSC.version), "1/120" position (PAL version).
- When using the flickering-reduction function indoors or in locations where the lighting condition does not much change, you can use the manual or fixed iris lens by making the following camera settings:
 - Set the Lens Auto/Manual selector switch of the mode switch (6) to "MANU" position. Factory-preset for "AUTO" position.
 - Set the flickering-reduction switch of the mode switch to "(1/60)" (NTSC version) position, "(1/50)" (PAL version) position.

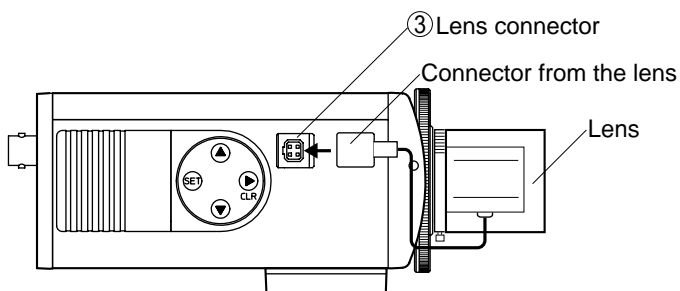
Notes

- When the flickering-reduction switch is set to "1/100" ("1/120") position, the automatic sensitivity adjustment function cannot be used even if the Lens Auto/Manual selector switch of the mode switch is set to "MANU" position. Use the auto-iris lens.
- To avoid damaging the internal sections of the camera's lens mount, be sure that the lens flange is less than 5 mm thick as illustrated on the right.
- C-mount lenses must be used in conjunction with the Lens Mounting Adapter CF-5 (optional).

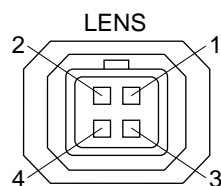


7.2. Auto-Iris Lens Installation

- Attach the lens to the camera.
- Insert the connector from the lens into the lens connector (3).
- Set the Lens Auto/Manual selector switch of the mode switch (6) to "AUTO" position.
- Set the lens selector switch (5) to DC or VIDEO position depending on the type of auto-iris lens to use.



③ Lens connector



⑤ Lens selector switch

VIDEO  DC

Lens connector pin No.	Lens selector switch ⑤ position	
	VIDEO	DC
1	Power +9 V	Damping coil \ominus
2	—	Damping coil \oplus
3	Video signal	Driving coil \oplus
4	Ground	Driving coil \ominus

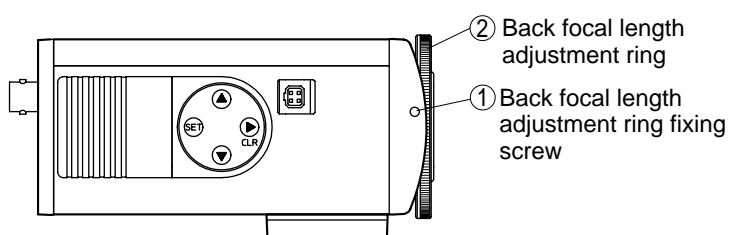
8. ADJUSTMENT

1. Supply power to the camera. The power indicator (11) will light.
2. To view the flickering-free picture, shift the flickering-reduction switch of the mode switch (6) to "1/100" position (NTSC version) , "1/120" position (PAL version).
3. Connect the video output terminal (10) to the monitor so that the picture may be displayed on the monitor.
4. Adjust the camera angle viewing the monitor screen.
5. Adjust the lens for the best possible picture reproduction.
 - When using the DC input type lens, adjust the sensitivity with the iris control (7).
 - When using the VIDEO input type lens, adjust the sensitivity with the ALC or LEVEL control of the lens.

Notes

- Because the iris control is set to the optimum position by the factory, avoid handling it. Rotating the control more than required could downgrade the image quality or result in camera malfunction. When readjusting the camera, first set the AGC switch of the mode switch to "OFF" position, then adjust the iris control for the best possible picture reproduction. After adjustment completion, cover the lens front with the hand and remove it from the lens a few seconds later. If you find the lens iris is functioning correctly, shift the AGC switch back to "(AGC)" position.
- The object that was brought into focus in bright locations could be out of focus in dark conditions. In such cases, use a commercial ND filter for focus adjustment.
- When the distance to an object is shorter than the lens' shortest focusing distance or when a zoom lens is used, if the object is out of focus, adjust the camera as instructed below (back focal length adjustment):

- 5-1. Attach a lens to the camera.
- 5-2. Loosen the back focal length adjustment ring fixing screw (1).
- 5-3. Rotating the back focal length adjustment ring (2), adjust it to the optimum position.
- 5-4. Retighten the back focal length adjustment ring fixing screw.



6. Set the synchronizing method using the synchronization selector switch of the mode switch (6). One of the following methods can be selected: internal locking (switch position: "INT") and line locking ("LL" position). When using the line locking method, set the synchronization switch to "LL" position.

Note

You cannot use the line locking method in the area where the power frequency is 50 Hz (NTSC version) , 60 Hz (PAL version).

7. Using the vertical phase control (8), synchronize the camera. (This adjustment is required only for line locking mode.) When using multiple line-locked cameras ("LL" position) and switching camera outputs by means of a sequential switcher, the pictures may be distorted depending on the distance to the power source or camera installation conditions. In such cases, turn the vertical phase control to avoid the picture distortion.

9. CAMERA FUNCTION SETTING

The following 9 functions can be set and reset.

Note

Be sure to set the mode switch (for AGC, backlight compensation, Wide Dynamic, ATW, and flickering-reduction operation settings) to the "(MENU)" position. Failure to do this makes it impossible to set the "shutter speed/flickering-free operation," "backlight compensation," "AGC/sensitivity levels," and "white balance" from the camera menu. An iris level, chroma level, image quality (enhancement), and camera ID title can be set from the camera menu regardless of the mode switch setting.

Functions

[1] Iris level

Adjusts the lens iris.

[2] Shutter speed/flickering-reduction operation

- NTSC : Sets the shutter speed to Normal (1/60), 1/100 (flickering-reduction), 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 or AES.
- PAL : Sets the shutter speed to Normal (1/50), 1/120 (flickering-reduction), 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 or AES.

[3] Wide Dynamic Setting

This function adjusts the image so that an object does not appear too dark or the background too bright, in order to make both the dark and bright sections of the object visible under backlight conditions.

[4] Backlight compensation

Prevents an object from becoming too dark and the back ground from becoming too bright to be viewed due to backlight.

[5] Automatic gain control (AGC)/sensitivity levels

An AGC level can be automatically maintained constant, automatically changed or set for OFF. Also, a sensitivity level can be changed in increments of OFF, 2 times, 4 times, 6 times, 8 times, 10 times, 16 times, 24 times or 32 times.

[6] White balance

Three modes are made available for selection: ATW, AWB, MANUAL

- ATW: The camera's white balance varies as an object's color temperature varies.
- AWB: The camera operates on the initially-set white balance even if an object's color temperature changes, once the camera white balance is adjusted when the camera is installed.
- MANUAL: To adjust the white balance so that the color looks natural when an object is viewed under a special light source.

(7) Chroma level

You can adjust the chroma level as you like.

(8) Image quality (enhancement)

You can enhance the contours of an image as you like.

(9) Camera ID title

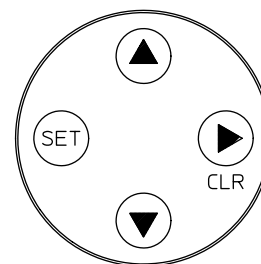
Up to 8 alphanumeric characters and symbols can be used to set a camera ID title. You can select the ID title display position from "Lower Right," "Lower Left," "Upper Left," and "Upper Right" of the screen.

Reset

The camera functions can be reset to the factory-preset values (initial setting status). Refer to p. 19.

Note

Use the menu keys (▲ key, ▼ key, SET key, and ► /CLR key) located on the camera's side panel to set the camera functions.



Side panel-mounted menu keys

● Camera menu display screen

Initial screen

1. The camera menu screen appears if the SET key is pressed for about 2 seconds.
2. Using the ▲ key or the ▼ key, move the flashing [→] cursor to the desired item, and press the SET key to register the setting. The screen of the selected item will then be displayed.
3. To exit the camera menu hold down the CLR key for about 2 seconds.

```
→ L E N S   S E L E C T
   S H U T T E R   S P E E D
   W I D E   D Y N A M I C
   B A C K L I G H T
   A G C · S E N S   U P
   W H I T E   B A L A N C E
   C H R O M A   L E V E L
   E N H A N C E R
   C A M E R A   I D
   P R E S E T
```

■ Iris Level Setting

If the item "LENS SELECT" is selected, its screen is displayed with the iris type automatically set for either "auto iris" (when the iris selector switch is placed in the AUTO position) or "manual iris" (when the iris selector switch is placed in the MANU position) as indicated by the [→] cursor.

On the lens selection screen, the [*] cursor in the indication of "LOW -- + -- HIGH" is flashing. Set an iris level by moving the [*] cursor with the ▲ key or ▼ key and press the SET key to register the setting. Pressing the SET key causes the [*] cursor in the indication of "AV -- + -- PK" to flash, permitting its level to be set in the same manner. When the SET key is pressed for registration, the display returns to the initial screen.

```
L E N S   S E L E C T      → A U T O
                             M A N U A L
```

```
I R I S   L E V E L
```

```
L O W -----+-*----- H I G H
A V -----*--+----- P K
```

IRIS LEVEL: LOW (dark), HIGH (bright)
AV (average), PK (peak)

■ Shutter Speed/Flickering-Reduction Operation Setting

● Shutter speed setting screen

NTSC: You can set the shutter speed to NORMAL (1/60), 1/100 (flickering-reduction for), 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 or AES.

PAL : You can set the shutter speed to NORMAL (1/50), 1/120 (flickering-reduction for), 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 or AES.

Using the ▲ key and the ▼ key, move the flashing [→] cursor to the desired speed, and press the SET key to register the setting. The display will then return to the initial screen.

Notes

- When "AUTO" (auto iris) is selected on the lens selection screen, the indication of AES is not displayed.
- When "MANUAL" (manual iris) is selected on the lens selection screen, the shutter speed is set for AES.

[NTSC]

```
SHUTTER SPEED →NORMAL
                  1 / 1 0 0
                  1 / 1 2 5
                  1 / 2 5 0
                  1 / 5 0 0
                  1 / 1 0 0 0
                  1 / 2 0 0 0
                  1 / 4 0 0 0
                  1 / 1 0 0 0 0
                  A E S
```

[PAL]

```
SHUTTER SPEED →NORMAL
                  1 / 1 2 0
                  1 / 1 2 5
                  1 / 2 5 0
                  1 / 5 0 0
                  1 / 1 0 0 0
                  1 / 2 0 0 0
                  1 / 4 0 0 0
                  1 / 1 0 0 0 0
                  A E S
```

■ Wide Dynamic Setting

This function adjusts the image so that an object does not appear too dark or the background too bright, in order to make both the dark and bright sections of the object visible under backlight conditions.

● Wide Dynamic Setting Screen

1. Move the cursor [→] using the ▲ and ▼ keys to select OFF, NORMAL or MANUAL.
 - NORMAL: The Wide Dynamic function is enabled only when a camera detects backlighting.
 - MANUAL: Permits more precise settings to be made, depending on installation conditions.

Note

When the Backlight Compensation switch is set to the OFF position, the [→] cursor is set to OFF.

2. Press the [SET] key to confirm the selection.

- OFF or NORMAL: The display returns to the initial screen.
- MANUAL: The Wide Dynamic Area Setting Screen is displayed. (Refer to p. 12.)

```
WIDE DYNAMIC →OFF
                NORMAL
                MANUAL
```

● Wide Dynamic Area Setting Screen

Set the areas on the screen which will be used to detect backlighting.

When the brightness level of the on-screen area greatly varies because of a frequently moving object in the area, its influence can be eliminated by registering the area as "Invalid." Each of the areas created by splitting the entire screen into 12 segments, as shown in the figure, can be individually set as "Valid" or "Invalid."

1. All of Area A flashes. Set the area as "Valid" or "Invalid" using the ▲ or ▼ key.
 - To register as "Valid," leave the area in the condition shown in Figure 1.
 - To register as "Invalid," switch the area to the condition shown in Figure 2.
2. Press the [SET] key to confirm the setting.
All of Area B flashes.
3. Repeat Steps 1 and 2 above to perform these settings for all screen areas. After the setting of Area L is completed, the Wide Dynamic Effect Setting Screen appears.

Figure 1 : Valid

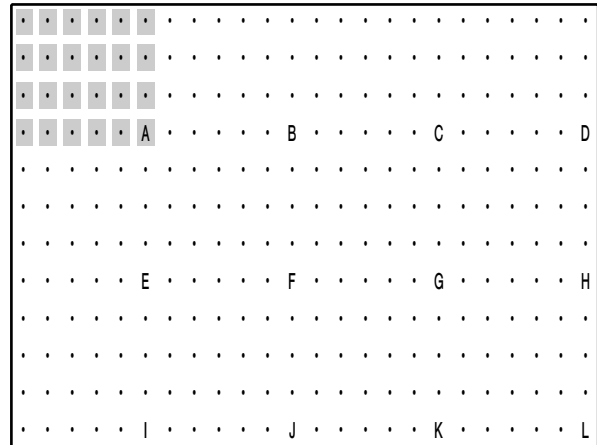
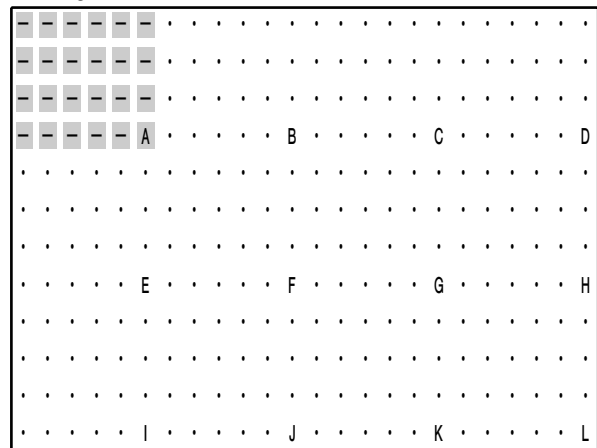


Figure 2 : Invalid



● Wide Dynamic Effect Setting Screen

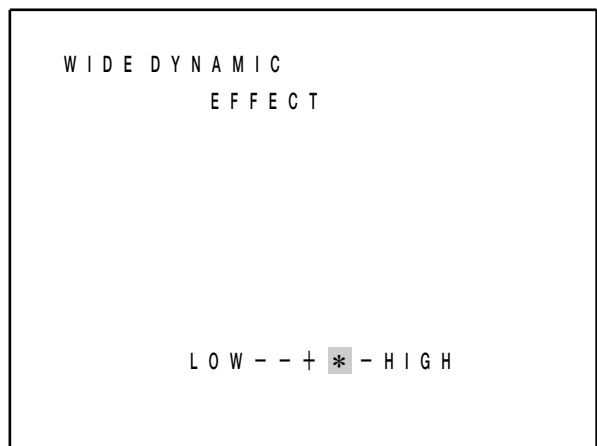
Set the Wide Dynamic effect depending on the degree of backlighting.

1. Move the [*] cursor using the ▲ or ▼ key to set the degree of effect.
Set the effect to the [+] position for normal use. When there are both bright and dark sections on the screen, moving the cursor toward the [HIGH] side makes it easier for the Wide Dynamic function to operate.

Note

If the effect is set too high, the Wide Dynamic function will continue to work even when no backlighting is detected, thus decreasing the contrast.

2. Press the [SET] key to confirm the setting.
The display returns to the initial screen.



■ Backlight Compensation Setting

This function prevents an object from becoming too dark to be viewed due to backlight.

● Backlight compensation setting screen

Each item represents the size of the screen area used to detect backlighting.

- ON 4/4: Whole screen
- ON 3/4: 3/4 screen (lower screen making up 3/4 of the whole screen)
- ON 2/4: 1/2 screen (lower half of the whole screen)

1. Move the [→] cursor using the ▲ or ▼ key to select OFF, "ON 4/4", "ON 3/4", or "ON 2/4".

Note

The [→] cursor is set to "OFF" when the Backlight Compensation switch is set to OFF or when "NORMAL" or "MANUAL" is selected on the Wide Dynamic Setting Screen.

2. Press the [SET] key to confirm the selection.
 - When "OFF" is selected, the display returns to the initial screen.
 - When "ON" is selected, the backlight compensation setting screen of the selected size is displayed.

● Backlight Area Setting Screen

Set the area that detects backlighting on the screen of the size selected above.

Each area created by splitting the backlight compensation setting screen into 12 segments can be individually set as "Valid" or "Invalid," as shown in the figure. The figure on the right shows an example when set to "ON 3/4."

1. All of Area A flashes. Set the area as "Valid" or "Invalid" using the ▲ or ▼ key.
 - To register as Valid, leave the area in the condition shown in Figure 1.
 - To register as Invalid, switch the area to the condition of Figure 2.
2. Press the [SET] key to confirm the setting.

All of Area B flashes.
3. Repeat Steps 1 and 2 above to perform these settings for all screen areas. After the setting of Area L is completed, the display returns to the initial screen.

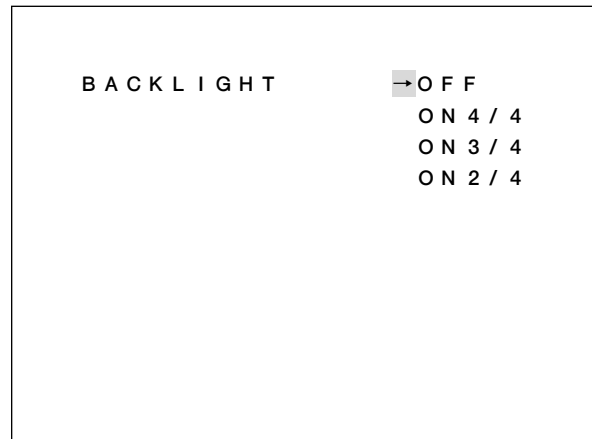


Figure 1 : Valid

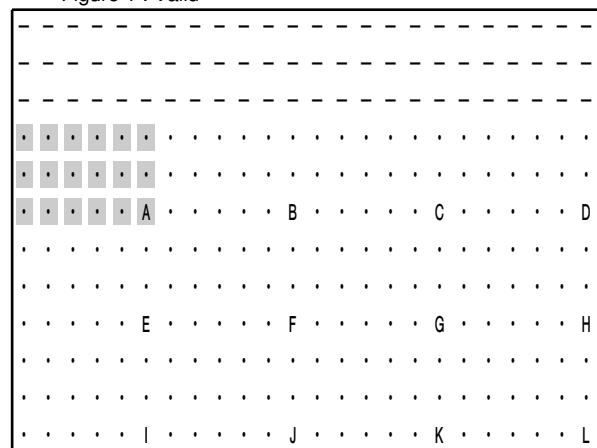
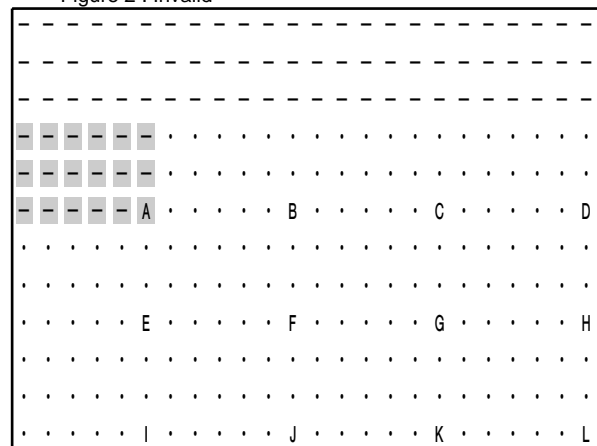


Figure 2 : Invalid



■ Automatic Gain Control (AGC) and Sensitivity Level Settings

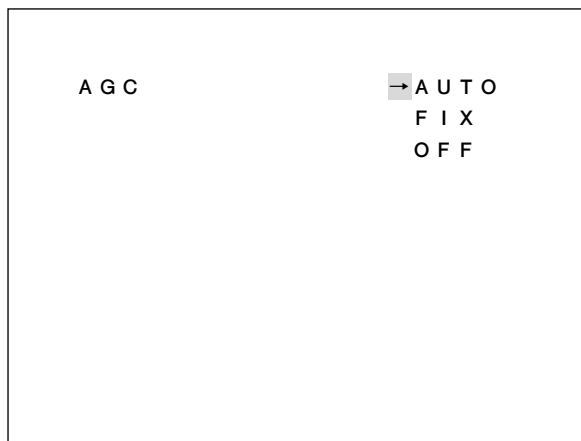
● AGC/sensitivity level setting screen 1

An AGC level can be automatically changed, maintained constant or set for OFF. This screen also permits a sensitivity level to be changed in increments of OFF, 2 times, 4 times, 6 times, 8 times, 10 times, 16 times, 24 times or 32 times.

Move the flashing [→] cursor using the ▲ key and the ▼ key to select the desired AGC mode of "AUTO," "FIX" or "OFF," then press the SET key to register the setting. When "AUTO" or "OFF" is selected, the AGC/sensitivity level setting screen 3 is displayed. When "FIX" is selected, the AGC/sensitivity level setting screen 2 is displayed.

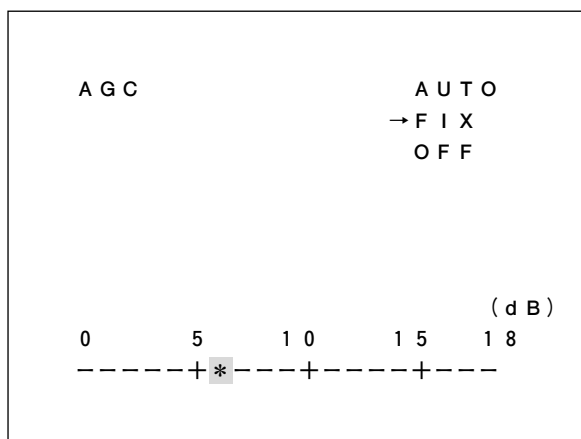
Note

When the AGC switch is placed in the OFF position, the mode is set for OFF.



● AGC/sensitivity level setting screen 2

This screen appears and the [*] cursor in the AGC level (dB) indication flashes if "FIX" is selected and the setting is registered. Vary the level by moving the [*] cursor using the ▲ key and the ▼ key. Pressing the SET key for registration will advance the display to the AGC/sensitivity level setting screen 3 "SENS UP."

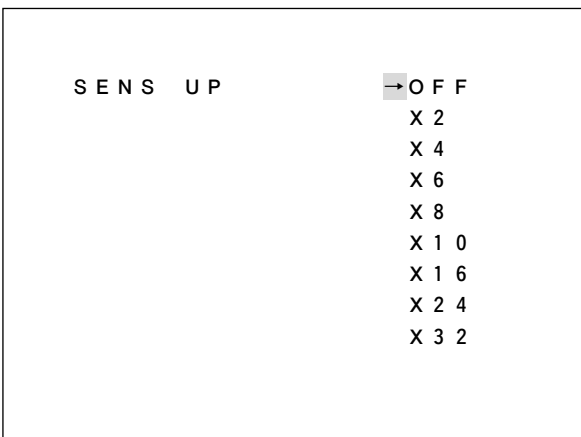


● AGC/sensitivity level setting screen 3

Move the flashing [→] cursor using the ▲ key and the ▼ key to select the desired incremental parameter and press the SET key to register the setting. The display will then return to the initial screen.

Note

When the AGC switch is placed in the OFF position, the mode is set for OFF.



AGC	Sensitivity	Operation
AUTO	Incremental parameter	Automatically adjusts the sensitivity for up to the designated maximum level. Change the incremental parameter when giving more consideration to a residual image reduction than to a sensitivity level increase. Normally, use this mode.
AUTO	OFF	Use this mode to automatically adjust a AGC level without using the sensitivity increasing function, and create pictures free from residual images in poor lighting conditions.
FIX or OFF	Incremental parameter	The AGC level is always maintained at a set level of 0-18 dB, and a sensitivity level automatically increases to up to the level of the designated incremental parameter as the lighting condition worsens. Use this function when noise is a greater annoyance than a residual image.
FIX or OFF	OFF	Handles changes in brightness by means of the lens iris only. Use this function when noise or residual image is an annoyance.

Note

The sensitivity increasing function is realized by making longer than usual the time required to store light in the image sensor. For this reason, if an object becomes dark, a residual image phenomenon take place.

■ White Balance Setting

● White balance setting screen 1

Three modes are made available for selection: ATW, AWB, MANUAL

ATW: The camera's white balance varies as the object's color temperature varies.

AWB: Once the camera's white balance is adjusted during its installation, the camera operates on the initially-set white balance even though the object's color temperature changes.

MANUAL: To adjust the white balance so that the color looks natural when an object is viewed under a special light source.

Move the flashing [→] cursor with the ▲ key and the ▼ key to select the desired mode out of the four modes, then press the SET key for registration.

When ATW is selected, the [*] cursor in the indication of "RED -- + -- BLUE" flashes and the level can be varied with the ▲ key and the ▼ key, thereby permitting the white balance offset to be changed. Pressing the SET key here for registration will return the display to the initial screen.

Note

Because the camera readjusts the white balance depending on a subject, several seconds may be required till the [*] cursor begins to flash after ATW has been selected.

```

WHITE BALANCE  → ATW
                  AWB
                  M A N U A L

RED -----+-- * -----BLUE

```

When AWB is selected, Setting Screen 2 (on the next page) is displayed.

When MANUAL is selected, Setting Screen 3 (on the next page) is displayed.

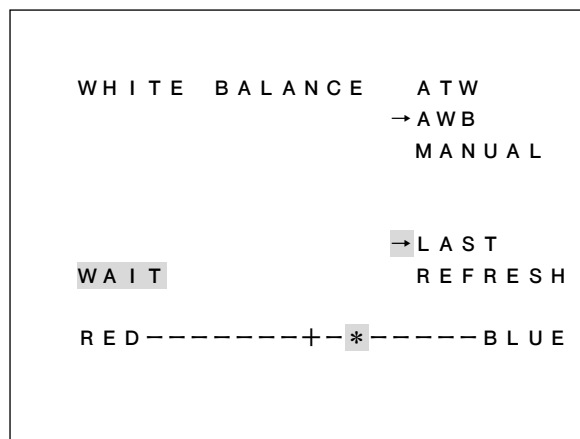
Note

When the ATW switch is placed in the AWB position, the mode is always set for AWB.

● White balance setting screen 2

When AWB is selected, the cursor first flashes at the position of LAST. If you press the SET key here for registration, the [*] cursor in the indication of "RED -- + -- BLUE" begins to flash.

If you select "REFRESH" with the ▲ key and press the SET key, the indication of "WAIT" lights for several seconds, during the period of which the white balance is readjusted. After readjustment completion, the [*] cursor in the indication of "RED -- + -- BLUE" begins to flash, permitting the white balance to vary as a level is varied with the ▲ key and the ▼ key. Pressing the SET key here for registration will return the display to the initial screen.



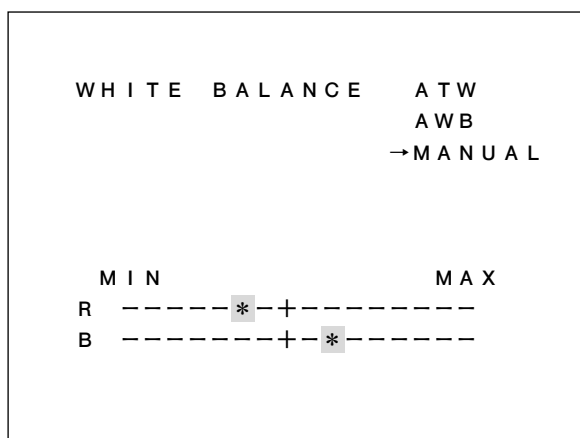
● White balance setting screen 3

When MANUAL is selected, the [*] cursor in the indication of "R -- + -- " first flashes, and a red level can be varied with the ▲ key and the ▼ key.

If you press the SET key to register the setting, the [*] cursor in the indication of "B -- + -- " will then flash, permitting a blue level to be varied.

When readjusting the red level here, press the CLR key. The [*] cursor in the "R -- + -- " indication flashes, and the red level can be varied again.

Adjust the blue level by using the ▲ key and the ▼ key, then press the SET key for registration, and the display returns to the initial screen.



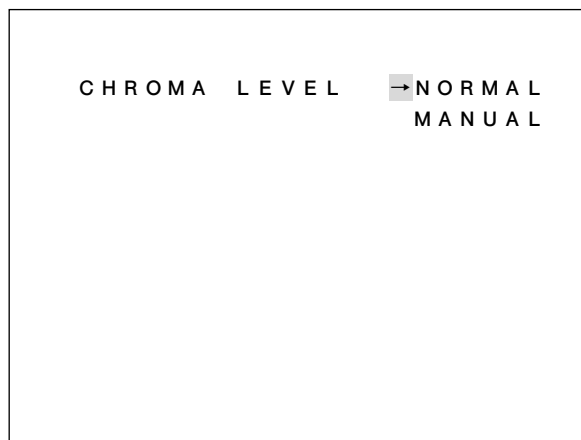
■ Chroma Level Setting

● Chroma level setting screen 1

You can adjust the chroma level of the picture as you like.

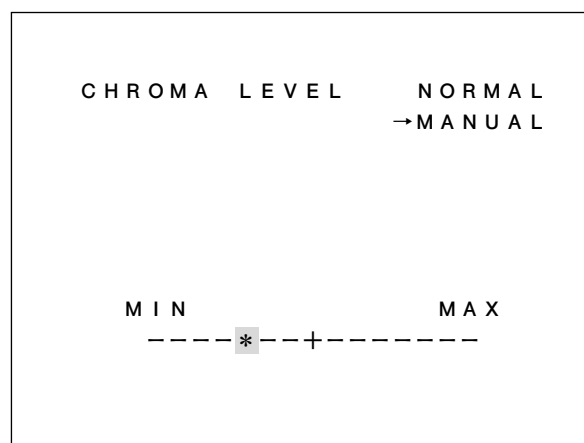
Move the flashing [→] cursor with the ▲ key and the ▼ key to select either NORMAL or MANUAL, then press the SET key to register the setting.

When you select NORMAL and register its setting, the display returns to the initial screen. When you select MANUAL and register its setting, the chroma level setting screen 2 will be displayed.



● Chroma level setting screen 2

When you select MANUAL and register its setting, the [*] cursor in the indication of "MIN -- + -- MAX" flashes, permitting a level to be varied with the ▲ key and the ▼ key. Pressing the SET key here for registration will display to the initial screen.



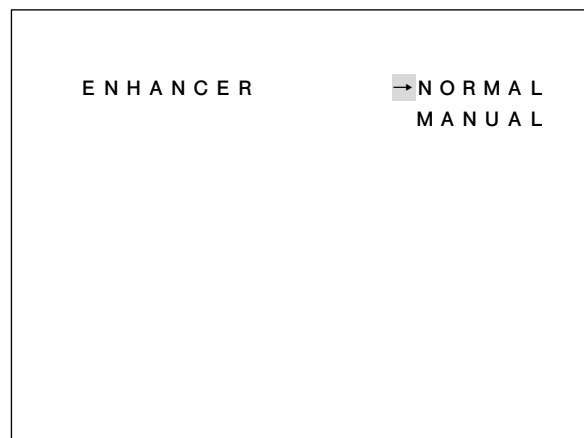
■ Enhancement Setting

● Enhancement setting screen 1

You can enhance the contours of the picture as you like.

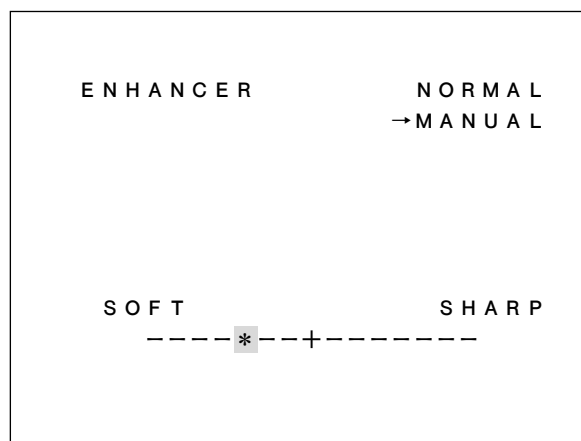
Move the flashing [→] cursor with the ▲ key and the ▼ key to select either NORMAL or MANUAL, then press the SET key to register the setting.

When you select NORMAL and press SET key to register the setting, the display returns to the initial screen. When you select MANUAL and press the SET key, the enhancement setting screen 2 is displayed.



● Enhancement setting screen 2

When you select MANUAL and register its setting, the [*] cursor in the indication of "SOFT -- + -- SHARP" flashes, permitting a level to be varied with the ▲ key and the ▼ key. Pressing the SET key here for registration will return the display to the initial screen.



■ Camera ID Title Setting

● Camera ID title setting screen 1

You can use up to 8 alphanumeric characters and symbols to set a camera ID title. The title can be displayed at one of the following 4 locations on the screen: lower right, lower left, upper left, and upper right.

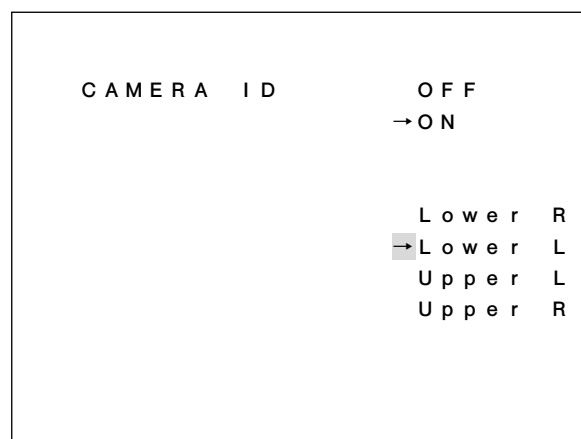
Move the flashing [→] cursor with the ▲ key and the ▼ key to select either "ON" (display ON) or "OFF" (display OFF), then press the SET key to register the setting.

When you select OFF and register its setting, the display returns to the initial screen without displaying the camera title. When you select ON and register its setting, the camera ID setting screen 2 is displayed.



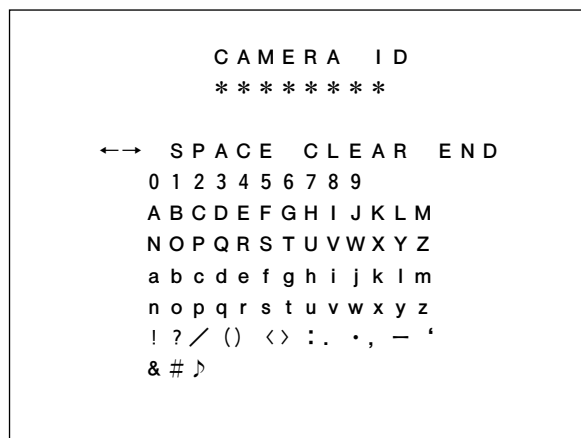
● Camera ID title setting screen 2

Move the flashing [→] cursor with the ▲ key and the ▼ key to select the title display position from Lower R, Lower L, Upper L, and Upper R. Press the SET key for setting the register display the camera ID title setting screen 3.



● Camera ID title setting screen 3

- The ID title's leftmost [*] cursor flashes, indicating that the character may be entered.
- The cursor for character selection flashes at the position of "END". Select the character or symbol by moving the cursor with the ▲ key, ▼ key, and ► key, and press the SET key to register the setting. Since the remaining [*] cursors flash by turns with each depression of the SET key, set the character for each [*] cursor in the same manner.
- After character entry completion, move the character-selection cursor to "END" and press the SET key. The camera ID title is then set, and the display returns to the initial screen (Refer to p. 3).
- To change the character entered, move the character-selection cursor to the position of [←] or [→]. Then, press the SET key to move the ID title cursor to the desired character position and enter a new character using the character-selection cursor. After setting completion, press the SET key. The ID title cursor moves left or right one character with each depression of the SET key.
- To clear all 8 characters simultaneously, move the character-selection cursor to the position of CLEAR, then press the SET key.

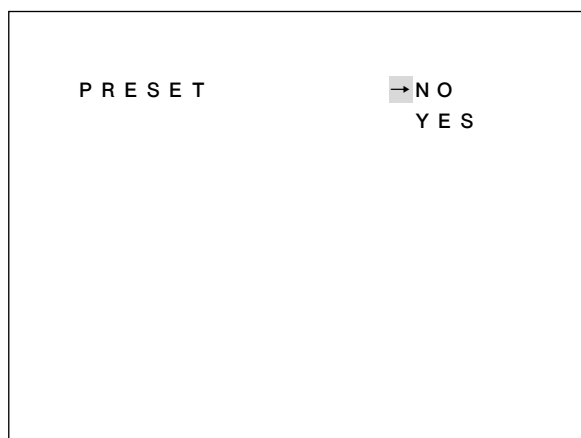


■ Resetting the Camera Functions to the Factory-Preset Values

Move the flashing [→] cursor with the ▲ key and the ▼ key to select whether or not to reset to the factory-preset values, then press the SET key to register the setting.

When you select NO, the display returns to the initial screen. When you select YES, the current setting is reset to the factory-preset status, and then the display returns to the initial screen.

The following table shows the factory-preset values:

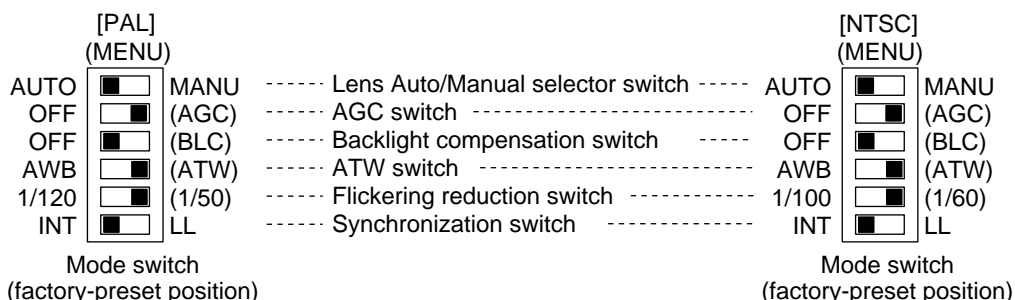


[Factory-preset values for the C-CC351A NTSC, C-CC351A PAL, C-CC354A NTSC, C-CC354A PAL]

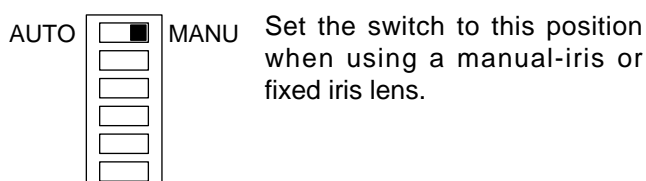
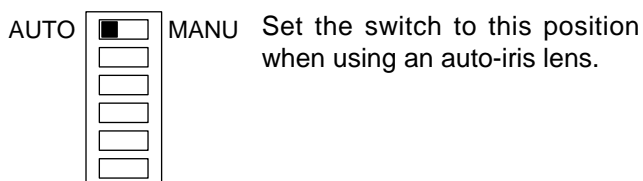
Setting Item	Factory-Preset Value
Shutter speed	NORMAL
Wide Dynamic	NORMAL
Backlight compensation (BACK LIGHT)	OFF
AGC/sensitivity level (AGC/SENS UP)	AGC: AUTO, Sensitivity level: X32
White balance	ATW
Chroma level	NORMAL
Enhancement setting (ENHANCER)	NORMAL
Camera ID title (CAMERA ID)	OFF

10. ABOUT THE MODE SWITCH

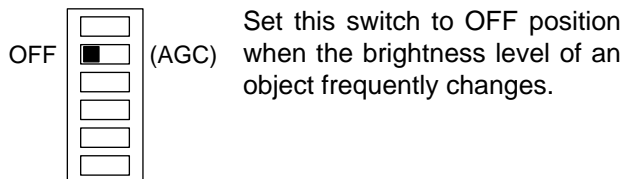
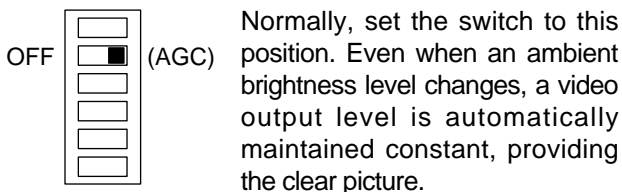
Set each switch to the position that provides the best picture reproduction. The color camera has the remote camera control function. When setting the camera's property with the menu key, set the corresponding switch (AGC, backlight compensation, ATW, and flickering reduction) to the "(MENU)" side (right-hand side).



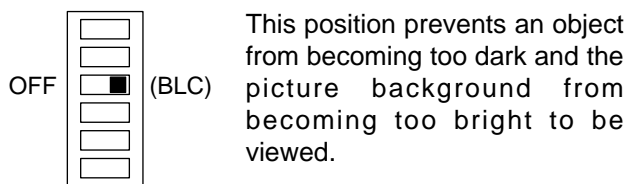
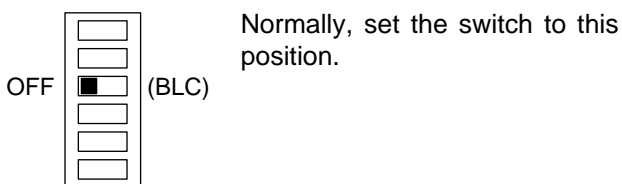
● Lens auto/manual selector switch



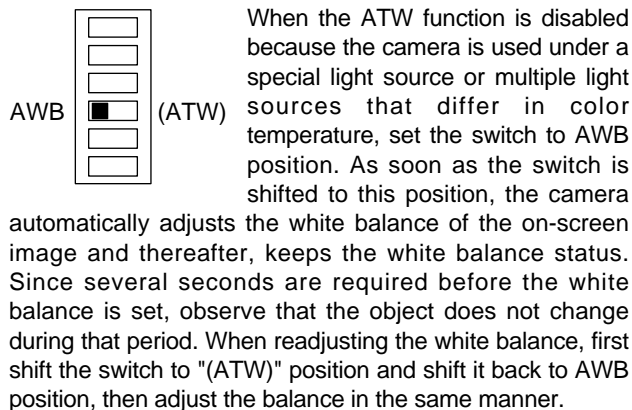
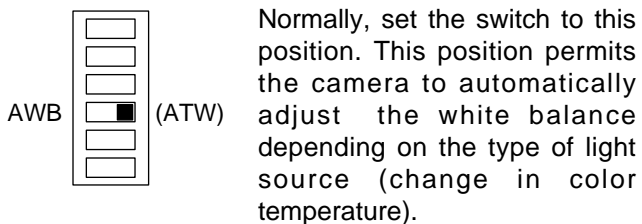
● AGC switch



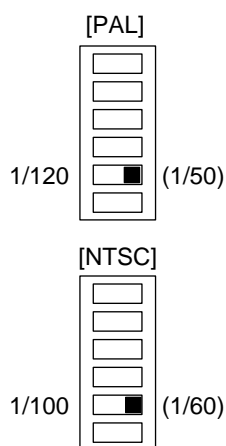
● Backlight compensation switch



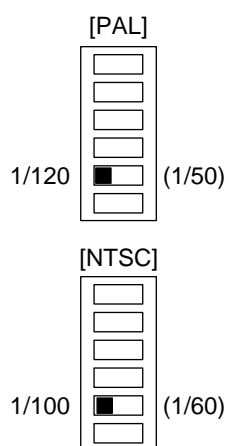
● ATW switch



● Flickering-reduction switch

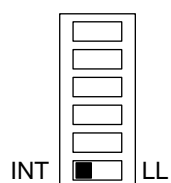


Normally, set the switch to this position.

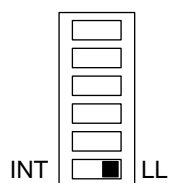


Flickering of the picture may interfere with the view under fluorescent lamps in the area with power frequency of 60 Hz (50Hz) . In such cases, set the switch to "1/100" ("1/120") position, and the image free from flickering can be obtained.

● Synchronization switch



Set the switch to this position when a single camera is used and it does not need to be synchronized with other camera.



Set the switch to this position when locking multiple cameras to the power frequency.

11. SPECIFICATIONS

Model No.	C-CC351A PAL	C-CC351A NTSC
Power Source	230VAC	120VAC
Power Consumption	5 W	
Image Sensor	1/3 type IT-CCD	
No. of Effective Pixels	752 (H) x 582 (V)	768 (H) x 494 (V)
Scanning System	2:1 interlace	
Scanning Frequency (H/V)	15.625 kHz / 50.00 Hz	15.734 kHz / 59.94 Hz
Video Output	VBS 1.0 V _{P-P} , 75 Ω, BNC	
Synchronizing System	Internal, Line Locking (phase adjustable)	
Resolution	Horizontal: 480 lines Vertical: 410 lines	Horizontal: 480 lines Vertical: 350 lines
Signal-to-Noise Ratio	48 dB (AGC: OFF)	
Minimum Illumination	1 lx (F1.2, 50 IRE), 0.5 lx (F0.8, 50 IRE) (Sensitivity up: OFF) 0.032 lx (F1.2, 50 IRE), 0.016 lx (F0.8, 50 IRE) (Sensitivity up: 32 times)	
AES Range	1: 600	1: 500
Dynamic Range	46 dB or more (Wide Dynamic: ON)	
Shutter Speed	PAL : 1/50, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 NTSC : 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000	
Backlight Compensation	OFF/Backlight Compensation/Wide Dynamic	
AGC	Auto/Fixed (0-18 dB)/OFF	
Sensitivity Up	OFF, 2, 4, 6, 8, 10, 16, 24, 32 times	
White Balance	ATW/AWB/MANUAL	
Chroma	Normal/Manual (MIN-MAX)	
Image Quality	Normal/Manual (soft-sharp)	
Character Display	Up to 8 characters (alphanumeric)	
Lens Mount	CS mount	
Auto Iris Lens Output	VIDEO input type/DC input type (4-pin connector, switchable)	
Operating Temperature Range	-10°C to +50°C	
Finish	Case: Surface-treated steel plate, sand gray	
Dimensions	74(w) x 65(h) x 136.5(d) mm	
Weight	645 g	675 g

Note: Specifications and appearance are subject to change without notice.

• Accessory

4-pin connector 1

Model No.	C-CC354A PAL	C-CC354A NTSC
Power Source	24 VAC, 50/60 Hz or 12 VDC	
Power Consumption	5 W	
Image Sensor	1/3 type IT-CCD	
No. of Effective Pixels	752 (H) x 582 (V)	768 (H) x 494 (V)
Scanning System	2:1 interlace	
Scanning Frequency (H/V)	15.625 kHz / 50.00 Hz	15.734 kHz / 59.94 Hz
Video Output	VBS 1.0 V _{P-P} , 75 Ω, BNC	
Synchronizing System	Internal, Line Locking (phase adjustable)	
Resolution	Horizontal: 480 lines Vertical: 410 lines	Horizontal: 480 lines Vertical: 350 lines
Signal-to-Noise Ratio	48 dB (AGC: OFF)	
Minimum Illumination	1 lx (F1.2, 50 IRE), 0.5 lx (F0.8, 50 IRE) (Sensitivity up: OFF) 0.032 lx (F1.2, 50 IRE), 0.016 lx (F0.8, 50 IRE) (Sensitivity up: 32 times)	
AES Range	1: 600	1: 500
Dynamic Range	46 dB (Wide Dynamic: ON)	
Shutter Speed	PAL : 1/50, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 NTSC : 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000	
Backlight Compensation	OFF/Backlight Compensation/Wide Dynamic	
AGC	Auto/Fixed (0-18 dB)/OFF	
Sensitivity Up	OFF, 2, 4, 6, 8, 10, 16, 24, 32 times	
White Balance	ATW/AWB/MANUAL	
Chroma	Normal/Manual (MIN-MAX)	
Image Quality	Normal/Manual (soft-sharp)	
Character Display	Up to 8 characters (alphanumeric)	
Lens Mount	CS mount	
Auto Iris Lens Output	VIDEO input type/DC input type (4-pin connector, switchable)	
Operating Temperature Range	-10°C to +50°C	
Finish	Case: Surface-treated steel plate, sand gray	
Dimensions	74(w) x 65(h) x 136.5(d) mm	
Weight	440 g	

Note: Specifications and appearance are subject to change without notice.

• **Accessory**

4-pin connector 1

