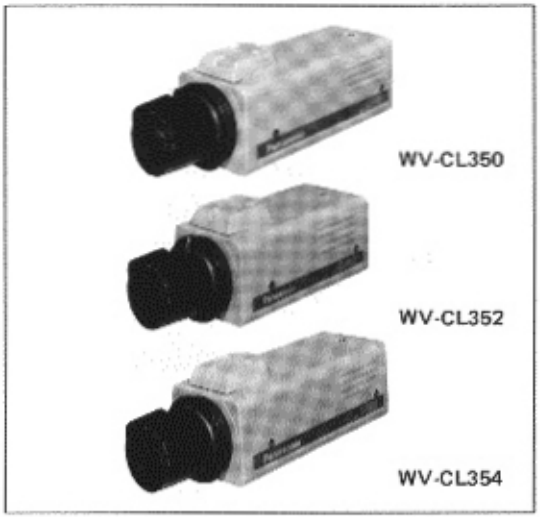
Color CCTV Cameras

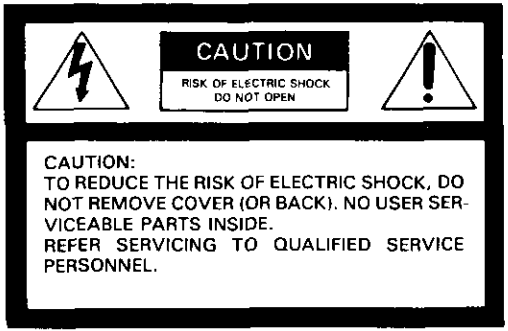
WV-CL350/WV-CL352/WV-CL354

Operating Instructions



Panasonic

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



SA 1965

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

SA 1966

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

For U.S.A

Warning:
This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

For CANADA

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

The serial number of this product may be found on the bottom of the unit.
You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. _____

Serial No. _____

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

CONTENTS

PREFACE

Panasonic's WV-CL350 series color digital cameras introduce a new level of high picture quality and high resolution through the utilization of a 1/2-inch interline CCD image sensor having 682 horizontal pixels (picture elements), and through the use of digital signal processing LSI's. High sensitivity is ensured by the use of on-chip micro lenses on each pixel. In addition, the use of aspherical high speed lenses further improves sensitivity. High performance-to-cost ratio is achieved through the extensive use of newly developed digital LSI's.

FEATURES

1. The following functions are built in.
   (1) Auto Light Control (ALC)/Electronic Light Control (ELC)
   (2) Character Generator
   (3) Backlight Compensation (Auto: Factory preset, Manual: Manual photometric measuring area set)
   (4) Various External Sync Functions, including Gen-Lock
   (5) Auto/Manual White Balance Function
   (6) Electronic Shutter Function
2. Signal-to-noise ratio of 48dB
3. Minimum illumination of 3 lux with F1.4 lenses.
4. Minimum illumination of 0.9 lux by using Panasonic aspherical high speed (F0.75) lenses.
5. 430 lines of horizontal resolution
6. High quality picture:
   (a) 2H type vertical enhancer for greater picture sharpness
   (b) Chroma averaging circuit for better color signal to noise ratio
   (c) Minimum of aliasing on fine objects
   (d) Expanded dynamic range by use of knee circuit
   (e) Highlight aperture correction for greater picture detail of bright object
7. Ability to shoot indoor scenes with fixed iris lens by use of Electronic Light Control (ELC) function.
8. Backlight compensation for use against unusual lighting conditions.

PRECAUTIONS

1. **Do not attempt to disassemble the camera.**
   To prevent electric shock, do not remove screws or cover. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.

2. **Handle the camera with care.**
   Do not abuse the camera. Avoid striking or shaking it. The camera could be damaged by improper handing or storage.

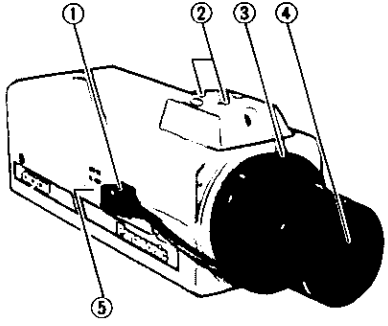
3. **Do not expose the camera to rain or moisture, avoid operation in wet areas.**
   Do take immediate action if the camera should become wet. Turn the power off and request servicing to qualified service personnel. Moisture can damage the camera and also create the danger of electric shock.

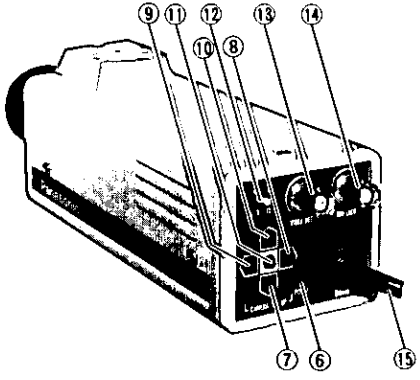
4. **Never aim the camera at the sun.**
   Whether the camera is in use or not, never aim it at the sun or an extremely bright object laser beam etc., as this could cause a damage of CCD image sensor or smear on the picture.

5. **Do not operate the camera beyond its temperature, humidity or power source ratings.**
   (a) Designed for indoor use.
   (b) Ambient temperature must not range beyond 14°F - 122°F (−10°C - +50°C).
   (c) Avoid using the camera when humidity is above 90%.
   (d) The input power source is 120V AC, 60Hz for WV-CL350, 12V DC for WV-CL352 or 24V AC, 60Hz for WV-CL354.

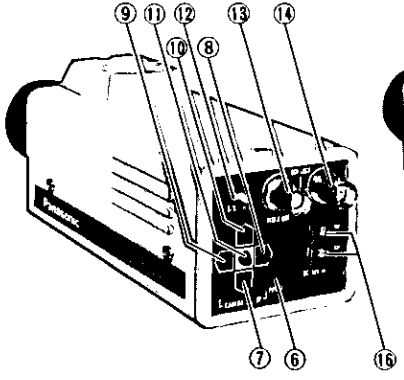
Caution:
To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for DC 12V or AC 24V Input Terminal.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

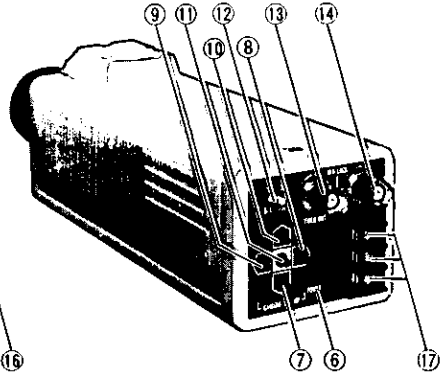




WV-CL350



WV-CL352



WV-CL354

1. **Auto Iris Lens Connector**
   This connector supplies the power and either video signal or DC control signal to the auto iris lens.
   A 4-pin male connector to be mated with the this female connector is supplied as a standard accessory (Part No. YFE4191J100).

2. **Camera Mounting Screw Hole**
   This threaded hole (1/4" - 20) is used to mount the camera onto a mounting bracket or tripod.

3. **Flange-back Adjusting Ring**
   This is used to adjust the back focal length or picture focus by rotating this ring to clockwise for C-mount lens or counterclockwise for special C-mount (CS mount) lens.
   CAUTIONS:
   1. Always set this ring to fully clockwise before mounting the lens to prevent damage of inner glass or CCD image sensor.
   2. Do not turn this ring too much to counterclockwise when the C-mount lens is mounted as this could damage the inner glass or CCD image sensor.

4. **Lens (Option)**
   See pages 11, 12 and 13 for details on lens selection.

5. **Lens Selection Switch (AUTO IRIS, DC/VIDEO)**
   This switch is used to select the supplied auto iris control signal to the lens from the Auto Iris Lens Connector (1).
   DC:
   Choose this position when the auto iris control lens requiring DC control signal such as WV-LA4510, WV-LA608, WV-LA1208,WV-LA2.8, WV-LA12, WV-LA18, WV-LM4.5, WV-LA4.5, WV-LA36, WV-LA6, WV-LZ81/6A, WV-LZ81/10, is mounted on the camera.
   VIDEO:
   Choose this position when the auto iris control lens requiring video signal, such as WV-LA8B, WV-LA16B, WV-LA25B, WV-LA50B, is mounted on the camera.
   Note:
   When this position is chosen, the backlight compensation is not performed.

6. **Power Indicator**

7. **Down Switch (V)**
   This switch is used to move the blinking position (cursor) in the down direction.

8. **Right Switch (>)**
   This switch is used to move the cursor in the right direction.

9. **Left Switch (<)**
   This switch is used to move the cursor in the left direction.

10. **Up Switch (∧)**
    This switch is used to move the cursor in the up direction.

11. **Set Switch**
    The mode selection is enabled by pressing this switch.

12. **Gen-lock Termination Switch (G/L 75 ohms, ON/OFF)**
    When looping through a gen-lock video input signal, set this switch to the OFF position. In all other cases, set this to the ON position.

13. **Video Output Connector (VIDEO)**
    A composite video signal is provided at this connector.

14. **Gen-lock Input Connector (GEN LOCK)**
    A composite color, 1.0 Vp-p/75 ohms video signal, black burst, 0.3 Vp-p/75 ohms signal or composite sync signal should be supplied to this connector for external synchronization.

15. **Power Cord**

16. **12V DC In Terminal (DC 12V IN)**
    This terminal accepts 12V DC power source (10.5V-16V).

> **CAUTIONS:**
> 1. Connect to a 12V DC class 2 power supply only.
> 2. To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for 12V DC Input Terminal.

17. **24V AC In Terminal (AC 24V IN)**
    This terminal accepts 24V AC power source (19.5V - 28V). Be sure to connect grounding lead to the GND terminal.

> **CAUTIONS:**
> 1. Connect to a 24V AC class 2 power supply only.
> 2. To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for 24V AC Input Terminal.

CONNECTION

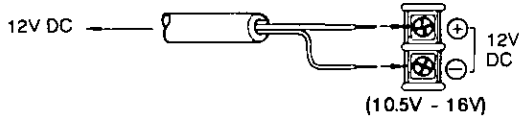
A. WV-CL350

1. Connect the AC Power Cord (15) to a electrical outlet of 60Hz 120V AC.

B. WV-CL352

1 A power supply of 12V DC is required.

2 Connect the power cable to the 12V DC Power Terminal (16) on the rear panel of the camera.



Resistance of copper wire [at 68°F (20°C)]

Copper wire size (AWG)	#24 (0.22mm^2)	#22 (0.33mm^2)	#20 (0.52mm^2)	#18 (0.83mm^2)
ohms/ft	0.257	0.165	0.099	0.059
Resistance ohms/m	0.078	0.050	0.030	0.018

- Calculation method of maximum cable length between camera and power supply.

  10.5V DC$\leqq$ $V_A - (R \times 0.42 \times L) \leqq$ 16V DC

  L: Cable length (meter)

  R: Resistance of copper wire (ohms/meter)

  V_A: DC output voltage of power supply

$$L\ standard = \frac{V_A - 12}{0.42 \times R}\ (Meter)$$

$$L\ minimum = \frac{V_A - 16}{0.42 \times R}\ (Meter)$$

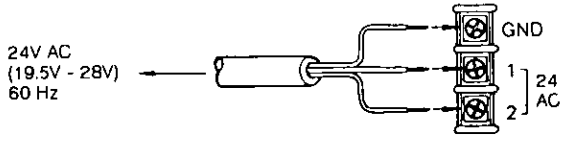
$$L\ maximum = \frac{V_A - 10.5}{0.42 \times R}\ (Meter)$$

Caution:

To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for 12V DC Input Terminal.

C. WV-CL354

1. A power supply of 24V AC 60Hz is required.
2. Connect the power cable to the 24V AC In Terminal (17) on the rear panel of the camera.



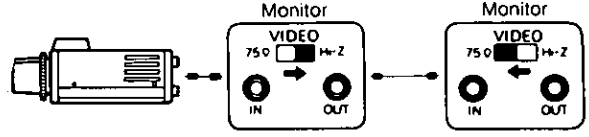
Recommended wire guage sizes for 24V AC line.

Copper wire size (AWG)		#24 (0.22mm^2)	#22 (0.33mm^2)	#20 (0.52mm^2)	#18 (0.83mm^2)
Length of Cable (Approx.)	(ft)	314	495	842	1403
	(m)	95	150	255	425

Caution:
To prevent fire or shock hazard, the UL listed wire VW-1, style 1007 should be used for the cable for 24V AC Input Terminal.

Video Cable

1. It is recommended to use a video monitor whose resolution is at least equal to the camera's.
2. Terminate the camera output with 75-ohm resistor at the furthest end of its cable run.
   A. It is recommended use 75-ohms coaxial cable. (RG-59/U, RG-6/U, RG-11/U, RG-15/U)
   B. Always set the last monitor's termination switch to 75 ohms, and set the termination switches of intermediate monitors to high impedance (Hi-Z) position.



C. The maximum extensible coaxial cable length between the camera and the monitor is shown in the table 1. Since cable quality varies among manufacturers, verify video quality before final installation if maximum lengths are to be used.

Table 1

Type of coaxial cable		RG-59/U (3C-2V)	RG-6U (5C-2V)	RG-11/U (7C-2V)	RG-15/U (10C-2V)
Recommended	(ft)	825	1,650	1,980	2,640
Maximum cable length	(m)	250	500	600	800

3. Wiring precautions:

- Do not bend coaxial cable into a curve whose radius is smaller than 10 times the cables diameter.
- Never staple the cable - not even with circular staples. Mismatching will occur.
- Never crush or pinch the cable.
  All of these will change the impedance of the cable and cause poor picture quality.

LENSES

1. Selection of Lens

<Auto Iris lenses>

Specifications \ Models		WV-LA2.8 (Super Wide Angle)	WV-LA4.5 (Super Wide Angle)	WV-LA6 (Wide Angle)	WV-LA12 (Standard)	WV-LA18 (Telephoto)	WV-LA36 (Telephoto)	WV-LZ81/6A (Motorized Zoom)	WV-LZ81/10 (Motorized Zoom)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)							
Focal Length		2.8 mm	4.5 mm	6 mm	12 mm	18 mm	36 mm	8.5 - 51 mm (6X)	8 - 80 mm (10X)
Maximum Aperture Ratio		1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.4	1 : 1.8	1 : 1.2 (Wide) 1 : 1.3 (Tele)	1 : 1.4 (Wide) 1 : 1.7 (Tele)
Angular Field of View	H	107.0°	70.1°	54.8°	29.0°	20.4°	10.2°	41.9° (Wide) 7.2° (Tele)	44.8° (Wide) 4.6° (Tele)
	V	88.0°	55.6°	42.5°	22.0°	15.2°	7.7°	31.3° (Wide) 5.5° (Tele)	33.5° (Wide) 3.5° (Tele)
Focusing Range		Adjusted by camera	0.92 (ft) - ∞ 0.3 (m) - ∞	0.92 (ft) - ∞ 0.3 (m) - ∞		0.89 (ft) - ∞ 0.27 (m) - ∞	3.3 (ft) - ∞ 1 (m) - ∞	3.3 (ft) - ∞ 1 (m) - ∞	3.6 (ft) - ∞ 1.1 (m) - ∞
Mount		Special C mount (CS mount, 1" - 32UN)							
Filter Size		None	φ37.5 mm P = 0.5	φ37.5 mm P = 0.5	φ37.5 mm P = 0.5	φ37.5 mm P = 0.5	φ37.5 mm P = 0.5	φ49 mm P = 0.75	φ55 mm P = 0.75
Dimensions		φ1-11/16"x 1-5/16" (φ43x34mm)	φ1-11/16"x 1-5/8" (φ43x41mm)	φ1-11/16"x 1-5/8" (φ43x41mm)	φ1-11/16"x 1-5/8" (φ43x41mm)	φ1-11/16"x 1-5/8" (φ43x41mm)	φ1-11/16"x 1-5/8" (φ43x41mm)	3-3/8"(W)x2-7/16" (H)x3-7/8"(D) 86(W)x62(H)x99(D)mm	3-3/8"(W)x2-7/16" (H)x3-7/8"(D) 86(W)x62(H)x99(D)mm
Weights (lbs.)		0.15 (65 g)	0.18 (80 g)	0.17 (75 g)	0.14 (65 g)	0.15 (70 g)	0.18 (80 g)	0.92 (420 g)	0.99 (450 g)

* Dimensions and weight indicated are approximate.
* Specifications are subject to change without notice.

<Auto iris lenses>

Specifications \ Models		WV-LA4510 (Super Wide Angle)	WV-LA608 (Wide Angle)	WV-LA1208 (Standard)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)		
Focal Length		4.5 mm	6 mm	12 mm
Maximum Aperture Ratio		1 : 1.0	1 : 0.75	1: 0.8
Angular Field of View	H	73.2°	57.5°	31.7°
	V	56.9°	43.9°	23.6°
Focusing Range		Adjusted by Camera		
Mount		Special C mount (CS mount, 1" - 32UN)		
Filter Size		None	ϕ46, P = 0.75	ϕ46, P = 0.75
Dimensions		ϕ1-11/16" x 1-11/16" (ϕ43 x 43 mm)	ϕ2-1/16" x 2-1/8" (ϕ52 x 55 mm)	ϕ2-9/16" x 2-7/8" (ϕ66 x 72.5 mm)
Weights (lbs.)		0.2 (85 g)	0.3 (155 g)	0.6 (255 g)

* Dimensions and weight indicated are approximate.
* Specifications are subject to change without notice.

<Manual and fixed lenses>

Specifications \ Models		WV-LM4.5 (Super Wide Angle)	WV-LF6 (Wide Angle)	WV-LF12 (Standard)
Image Size		1/2" (6.4 (H) x 4.8 (V) mm)		
Focal Length		4.5 mm	6 mm	12 mm
Maximum Aperture Ratio		1 : 1.4	1 : 1.4	1: 1.4
Angular Field of View	H	70.1°	56.7°	29.8°
	V	55.6°	43.5°	22.3°
Iris		Manual	Fixed	Fixed
Focusing Range		Adjusted by Camera		
Mount		Special C mount (CS mount, 1" - 32UN)		
Optional Filter Size		ϕ37.5 mm, P = 0.5	ϕ34 mm, P = 0.5	ϕ34 mm, P = 0.5
Dimensions		ϕ1-11/16" x 1-9/16 po (ϕ43 x 41 mm)	ϕ1-7/16" x 1-9/16" (ϕ38 x 41 mm)	ϕ1-7/16" x 1-9/16" (ϕ38 x 41 mm)
Weights (lbs.)		0.22 (100 g)	0.08 (38 g)	0.077 (33 g)

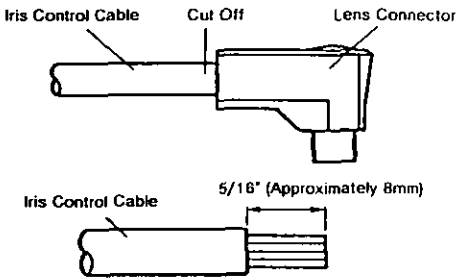
* Dimensions and weight indicated are approximate.
* Specifications are subject to change without notice.

2. Installation of Auto Iris Lens Connector

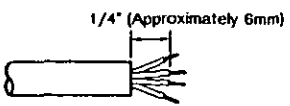
When you use an auto iris lens other than those listed on pages 11 and 12 for example, a video servo auto iris control (ALC) lens, install the lens connector (YFE4191J100) provided with the camera as follows:

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

(1) Cut off the iris control cable at the edge of lens connector and then cut off the outer cable cover as shown in the diagram.

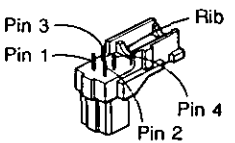


(2) Cut off the inner cable covers of the iris control cable as shown in the diagram.

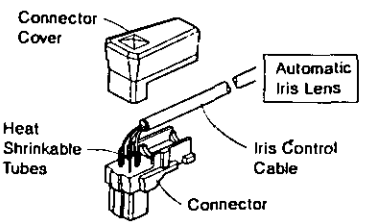


(3) Put heat shrinkable tubes or equivalent tubes on the inner cables of the iris control cable.

(4) Solder the inner cables of the iris control cable at the pin-plug block according to the following pin assignment and slide the heat shrinkable tubes or equivalent tubes over the soldered area and then heat the tubes to shrink them.
Pin 1: Power source: +9V DC, 50mA Max.
Pin 2: Not used
Pin 3: Video signal: 1.2Vp-p/40 kohms
Pin 4: Shield, ground
(Set the Lens Selection Switch (5) to the VIDEO position)



(5) Both the connector cover and connector should be positioned to interlock.



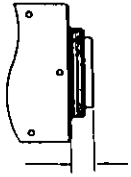
Note:

Cut off the rib on the connector, when the iris control cable is too thick and the connector cover and connector can not be interlocked.

3. Mounting the Lens

When you use a lens other than those listed on pages 11, 12 and 13, the lens mount should be C-mount or special C-mount (CS-mount (1"-32UN)) and lens weight should be less than 0.99 lbs (450g). If not, both the lens and camera should be secured.

The protrusion of the rear of the lens should be as shown below.



C-mount : Less than 7/16" (Less than 11 mm)

CS mount : (Less than 1/4" (Less than 6 mm)

Caution:

Always set the Flange-back adjusting ring to fully clockwise (C-mount side) by loosing the screw on the ring before mounting the lens otherwise the inner glass and CCD image sensor could be damaged by the lens.

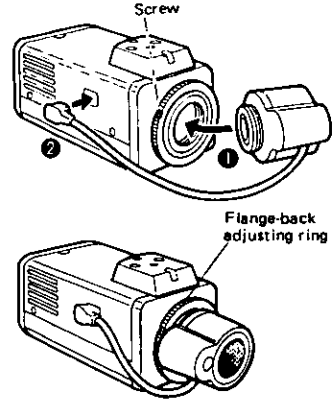
(1) Mount the lens by turning it clockwise onto the lens mount of the camera.

(2) Connect the lens cable to the Auto Iris Lens Connector (1) on the camera when an auto iris lens is used.

(3) Set the Lens Selection Switch (5) to the proper position by referring to the item-5 on page 6 as follows.

DC: The mounted lens is one of the lenses listed on pages 11 and 12 or other one requiring DC control signal for auto iris control.

VIDEO: The mounted lens requires a video signal for auto iris control.



SETUP PROCEDURE

1. SETUP MENU

This camera utilizes various user setup menu using on-screen character display.
This setup menu is structured as a tree-type menu as shown in Fig. 1.
This menu is described in the following section 3. "SETUP MENU DESCRIPTION" in detail.

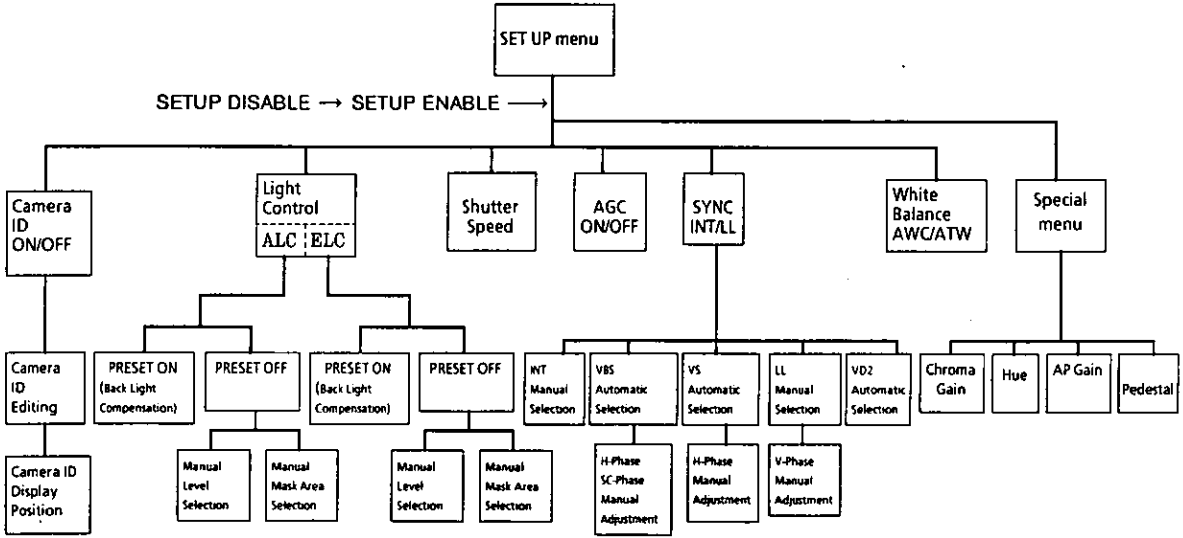


Fig. 1

All setup operations are performed by the following switches on the rear panel:

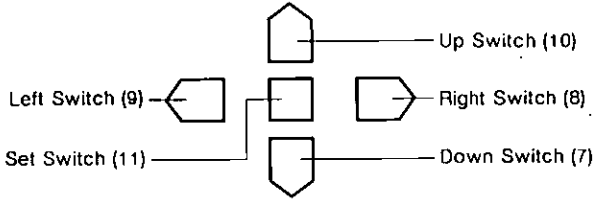


Fig. 2

Up Switch(10): The cursor moves upwards.
Down Switch(7): The cursor moves downwards.
Right Switch(8): The cursor moves right. The mode is selected by this switch. The adjustment of certain levels can be made by this switch.
Left Switch(9): The cursor moves left. The mode is selected by this switch. The adjustment of certain levels can be made by this switch.
Set Switch(11): The mode is set by this switch. The menu is changed by this switch.

2. SETUP ORDER

When the camera setup is required, proceed it according to the following steps.

(1) Display the "SETUP" menu. (See page 18 for description and page 25 for procedure)
(2) Camera Identification setting. (See page 18 for description and page 27 for procedure)
(3) Auto Light Control/Electronic Light Control setting. (See page 18 for description and page 29 for procedure)
(4) Shutter speed setting. (See page 21 for description and page 30 for procedure)
(5) Gain Control setting. (See page 21 for description and page 30 for procedure)
(6) Synchronization setting. (See page 22 for description and page 31 for procedure)
(7) White Balance setting. (See page 22 for description and page 38 for procedure)
(8) Camera mounting. (See page 39 for procedure)
(9) Focus or Flange-back adjustment. (See page 39 for procedure)
(10) Backlight Compensation setting. (See page 19 for description and page 40 for procedure)
(11) Special Menu setting. (See page 24 for description and page 45 for procedure)

3. SETUP MENU DESCRIPTION

3-1. Camera Identification (CAMERA ID)

Up to 16 of alphabetic/numerical characters for camera identification characters can be displayed on the bottom line of the picture.

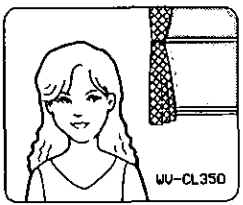


Fig. 3

The ID display ON or OFF can be chosen by the primary setup menu and the editing of displayed characters is made available in the secondly submenu.

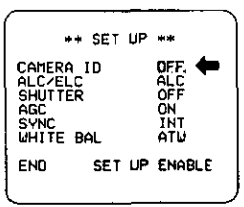


Fig. 4

Note:

Refer to the SETUP OPERATION section for detailed procedure.

3-2. Light Control (ALC / ELC)

The video output level corresponding to the incoming light level can be controlled by either the lens iris (Auto Light Control (ALC)) or the CCD image sensor (Electronic Light Control (ELC)) by this menu.

The auto iris lens (ALC type lens), such as WV-LA4.5, WV-LA4510, WV-LA6, WV-LA608, WV-LA12, WV-LA1208, WV-LA18, WV-LA36 etc., is rather recommended to use with the "ALC" position to have wide incoming light control range.

The fixed iris lens, such as WV-LF6 or WV-LF12, or manual iris lens such as WV-LM4.5 might be used with the "ELC" position under limited lighting condition.

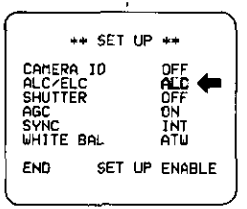


Fig. 5

In the ELC mode, a continuously variable electronic shutter is employed to automatically control the exposure times in the CCD image sensor, according to the incoming light level. With this mode selected, fixed or manual iris lens can be used instead of an ALC type lens.

Cautions:

1. Under bright lighting conditions such as outdoors, use an ALC type lens as the ELC control range is not wide enough under these conditions.
2. Under certain unique lighting conditions, the following phenomena may appear and should these phenomena occur, use an ALC type lens.

- Strong smear and/or blooming on highlight objects such as spotlights or windows.
- Noticeable flicker on the picture and/or the color rendition variations.

3. When using in the ELC mode with a fixed iris lens, the depth of field of the image may be less than that obtained by using an ALC lens. Depth of field varies inversely with the iris opening. Thus, using this camera in the ELC mode with the fixed iris lens fully opened may result in less depth of field than if an ALC lens was used (and distant objects in the picture might not be in focus).

   When the ELC mode is selected, the white balance control is automatically switched to the ATW mode.

As the submenu of this menu, the backlight compensation between the factory preset and manual masking area setting can be chosen as follows.

3-2-1. Backlight Compensation (BACKLIGHT COMP)

With conventional cameras, strong background lighting , such as a spotlight, interferes with the clarity of important scene objects, making them appear dark. This camera is equipped with a backlight compensation mode as the submenu of the Light Control (ALC/ELC) to overcome this problem.

As shown in the Fig. 1 SETUP MENU TREE, the factory setup mode of backlight compensation (PRESET ON) and field (manual) masking area and video output level setup (PRESET OFF) (MANUAL SET) modes are available for both the ALC and ELC modes respectively.

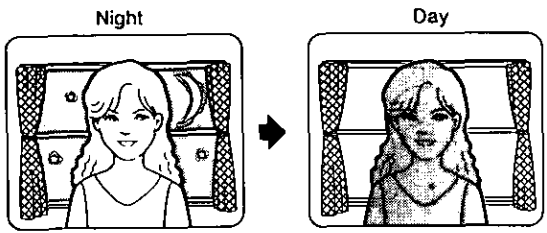
- **Factory Setup Mode (PRESET ON)**

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

Notes:

- The masking area and the video output level are factory setup in this mode.
- Refer to the SETUP OPERATION section for detailed procedure.

<Convensional Camera>



<WV-CL350 Preset ON>

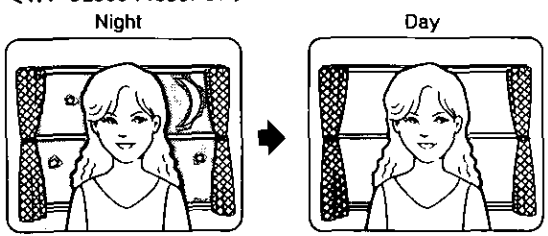


Fig. 6

- **Field Setup Mode (PRESET OFF)**
  This mode is effective in conditions where the important object in the scene is not located centrally in the picture and when a bright light source is located near the center of the screen. A conventional camera cannot cope with these situations.

<Convensional Camera>

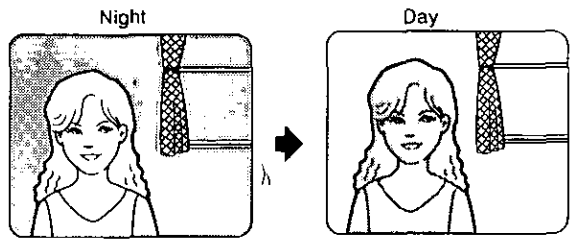


Fig. 7

However, by using the WV-CL350 in the preset "OFF" mode, it is possible to compensate for difficult lighting conditions. In this mode, the picture is divided into 25 zones or mask areas. It is possible to mask (or tell the camera to ignore) any bright light sources in those mask areas that might interfere with picture clarity.

For example, a strong spotlight in the background might cause the lens iris to close down so much that all other objects in the scene appear dark. With backlight compensation, it is possible to mask out the spotlight and increase the rest of the scene's brightness as shown below.
In addition to the field mask area setup, the overall video output level can be adjusted by using the level adjustment (LEVEL) in the preset "OFF" mode for both the ALC and ELC modes respectively.

<WV-CL350 Masked>

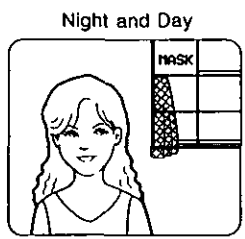


Fig. 8

Notes:

- The result of field setup of the mask area and level adjustment is fed back (effected) to the lens iris control at the ALC mode and the exposure time control of the CCD image sensor at the ELC mode.
- Refer to the SETUP OPERATION section for detailed procedure.

3-3. Shutter Speed (SHUTTER)

The electronic shutter speed can be select among the 1/60 second (OFF) and 1/100 - 1/10000 second.

Note:

Refer to the SETUP OPERATION section for detailed procedure.

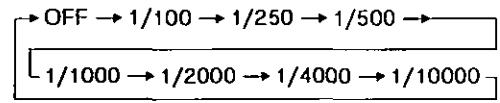


Fig. 9

3-4. Gain Control (AGC)

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

Note:

Refer to the SETUP OPERATION section for detailed procedure.

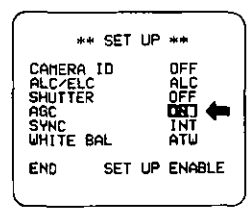


Fig. 10

3-5. Synchronization (SYNC)

The camera sync can be chosen between the internal sync (INT) and the line-lock sync (LL) mode by this menu. This camera, however, accepts a composite color video signal, black burst signal (VBS) or composite B/W (black and white) video signal, composite sync signal (VS) for the Gen-lock input signal to be supplied to Gen-lock Input Connector (14) and the sync mode selection in this case is performed automatically.

This camera also accepts the vertical drive signal multiplexed on the composite video output signal (VD2), being supplied by the Multiplex Unit WJ-MP404 etc., for a vertical interval switching on the sequential switcher. Whenever the VD2 is being supplied, sync mode selection is performed automatically.

As the submenu of this menu, the line-lock phase, gen-lock horizontal and subcarrier phase can be adjusted.

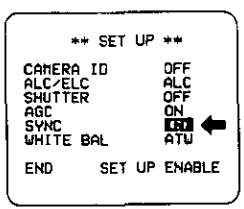


Fig. 11

Important Notice:

The priority of sync mode is as follows.

1. Multiplexed Vertical Drive (VD2) (Highest)
2. Line-lock (LL)
3. Color Composite Video or Blackburst Signal (VBS)
4. B/W Composite Video or Composite Sync Signal (VS)
5. Internal Sync (INT) (Lowest)

Note:

The sync mode selection among above modes is made according to priority. Refer to the SETUP OPERATION section for detailed procedure.

3-6. White Balance (WHITE BAL)

A color characteristic of illumination is called color temperature and it is measured in units of Kelvin (°K). The higher color temperature are considered bluish while the lower color temperatures are more reddish. A camera shooting a scene with high color temperature illumination produces a bluish picture. Likewise, it will produce a reddish picture with lower color temperature illumination. Therefore, in order for the camera to reproduce a scene accurately, it needs to be white balanced before shooting.

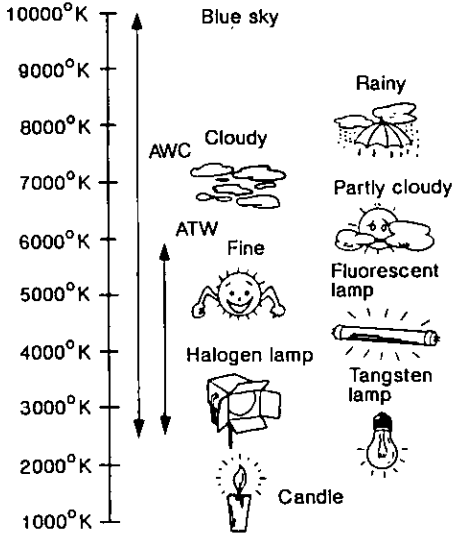


Fig. 12

The white balance control can be chosen between the auto-tracing white balance (ATW) and one-touch automatic white balance control (AWC) mode by this menu.

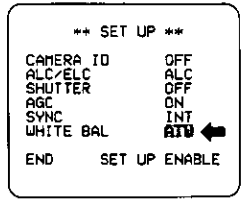


Fig. 13

3-6-1. Auto-Tracing White Balance Mode (ATW)

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

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

The ATW mode might not produce optimum color rendition in the following conditions.

1. When the scene consists mostly of strongly colored objects or illumination such as a blue sky or during sunset.
2. When the scene is dimly lit.
   In these cases, use the AWC mode.

3-6-2. Automatic White Balance Control Mode (AWC)

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

Note:

Refer to the SETUP OPERATION section for detailed procedure.

3-7. Special Menu (SPECIAL)

The chroma level, chroma phase (HUE), aperture level and pedestal level of this camera can be adjusted by using this special menu.

Note:

Refer to the SETUP OPERATION section for detailed procedure.

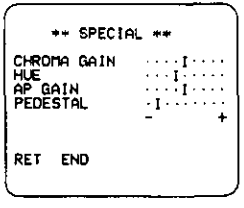


Fig. 14

4. SETUP OPERATION

Before entering the Setup menu, remember the ALL RESET operation in order to escape from the confusion of setting up the each item to the factory setup condition as follows.

(1) Confirm that the normal camera picture is displayed and no setup menu is displayed.

(2) While pressing both the Left Switch (<) (9) and Right Switch (>) (8) together, press the Set Switch (11) for a while in order to reset all adjustments and selections to the factory setup condition.

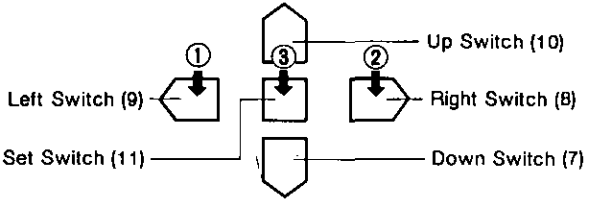


Fig. 15

Note:

While the ALL RESET mode is being processed, picture may be disturbed. This phenomenon is normal and indicating the sign of the all reset mode.

4-1. Entering Setup Menu

- By pressing the Set Switch (11) for more than 1 second, the "SET UP" menu is displayed on the monitor screen as shown in Fig. 16.

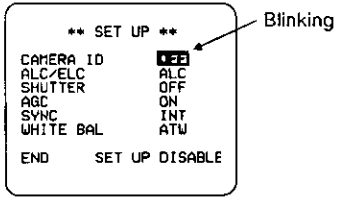


Fig. 16

- By observing this menu, you can check the current conditions.
  Refer to the following sections for details of each item.
- After confirming current conditions and further resetting of each item is not required, move the cursor to the "END" position on the left bottom line and press the Set Switch (11) to return to the normal camera picture mode.

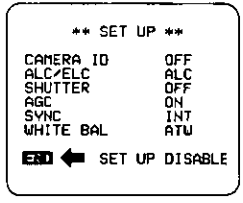


Fig. 17

Important Notice

When "SET UP DISABLE" is displayed on the bottom line of the Setup menu, you can not enter the actual mode setting. This prevents mis-operation of the mode setting.

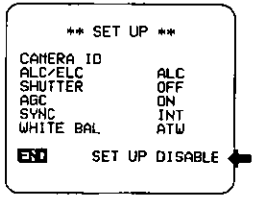


Fig. 18

- To enable the setup menu editing (resetting/readjustment), move the cursor to the bottom line by using the Up Switch (∧) (10) and Down Switch (∨) (7) and move it to the "SET UP DISABLE" position by using the Right Switch (>) (8) and Left Switch (<) (9) and press the Set Switch (11) and "SET UP ENABLE" is displayed.

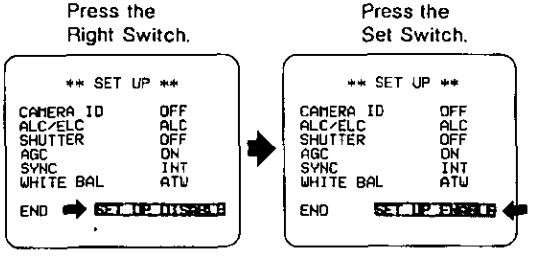


Fig. 19

- Move the cursor to the desired item to be reset or readjust through the "END" position.

- When the Special Menu is needed to be adjusted, move the cursor to the "END" position and press both the Left Switch (<) (9) and Right Switch (>) (8) together for approximately 2 seconds to display the Special Menu. (Refer to the 8. SPECIAL MENU on page 45.)

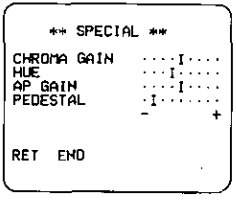


Fig. 20

Important Notice:

When the cursor is moved to the next position (next item) after changing the data (ex. ON → OFF), the latest data is written on the memory (Electronic Erasable Programmable Read Only Memory (EEPROM)) and it remains until the further data write is made even if the camera power is switched off.

4-2. Camera Identification (CAMERA ID) Setting

- Move the cursor to the "CAMERA ID" mode position, and select either "ON" (Camera Identification character is displayed) or "OFF" mode by using either the Left Switch (<) (9) or Right Switch (>) (8).

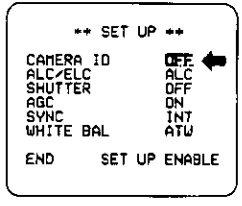


Fig. 21

- Move the cursor to the next item to write the new data into the memory.
- When the camera identification character needs editing, perform the following steps by using the submenu of Camera Identification.
- Move the cursor to the "CAMERA ID" mode position and press the Set Switch (11) to display the Character Editing menu as shown in Fig. 22.

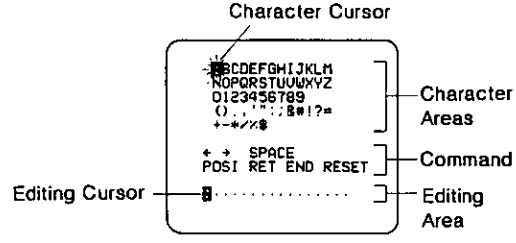


Fig. 22

- The character cursor on the letter "A" and the editing cursor on the left end of the editing area starts blinking.
- Move the character cursor to the desired letter by using the Up Switch (∧) (10), Down Switch (∨) (7), Left Switch (<) (9) and Right Switch (>) (8) and press the Set Switch(11). The selected letter is written on the editing cursor. (The blinking Editing Cursor moves to right automatically at this moment.)
- Repeat this procedure until the character editing has been completed.

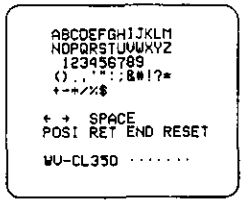


Fig. 23

- When the position of the editing cursor is to be shifted on the editing area, move the character cursor to the "←" or "→" and press the Set Switch (11). This function is used to move the editing position or correct an individual character.

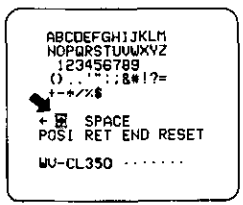


Fig. 24

- When a blank space is needed, move the character cursor to the "SPACE" position and press the Set Switch (11). The blank space is inserted into the cursor position on the editing area.

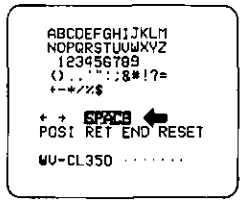


Fig. 25

- When the all characters in the editing area are to be erased, move the character cursor to the "RESET" position and press the Set Switch(11).

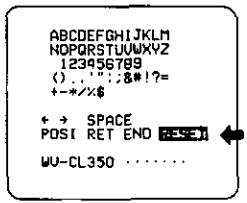


Fig. 26

- After completing the editing of the Camera Identification characters, the display position of the Camera Identification character on the monitor screen can be set as follows.
- Move the character cursor to the "POSI" position and press the Set Switch(11) to display the ID position menu as shown Fig. 27 and the characters of the camera ID starts blinking to identify the positioning menu for you.

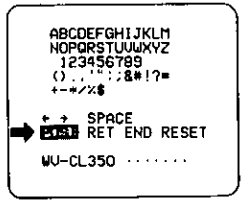


Fig. 27

- The display position of the camera ID on the monitor screen can be changed anywhere on the entire screen by using the Up Switch (Λ) (10), Down Switch (V) (7), Left Switch (<) (9) and Right Switch (>) (8).

Notes:

1. The position moving of the camera ID stops at the edges of the monitor screen.
2. The camera ID moves faster when any of the Up Switch (Λ) (10), Down Switch (V) (7), Left Switch (<) (9) and Right Switch (>) (8) is kept pressed for more than 0.5 seconds.

- After completing the positioning of the camera ID, press the Set Switch (11) to return to the Character Editing menu as shown in Fig. 22.
- To return to the normal camera picture mode, move the character cursor to the "END" position and press the Set Switch (11).
- To return to the Setup menu for setting other items, move the character cursor to the "RET" position and press the Set Switch (11).

4-3. Light Control Setting (ALC/ELC)

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the "ALC/ELC" mode position and select either the "ALC" or "ELC" mode by using the Left Switch (<) (9) or Right Switch (>) (8).

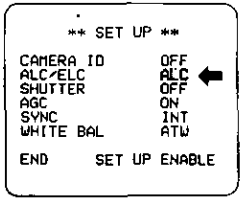


Fig. 28

- Choose the "ALC" mode when an auto iris lens (ALC lens) is used with this camera.
- Choose the "ELC" mode when a fixed iris lens such as WV-LF6 or WV-LF12 or a manual iris lens such as WV-LM4.5 is used with this camera.

Caution:

The backlight compensation setting allocated under this menu is described in the section 7 and this setting should be done after installing the camera to the site and observing the actual site picture.

4-4. Shutter Speed Setting (SHUTTER)

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the SHUTTER mode position and select the electronic shutter speed by pressing the Left Switch (<) (9) and the Right Switch (>) (8).

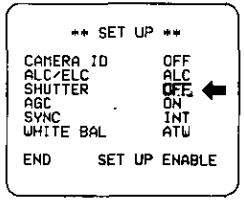
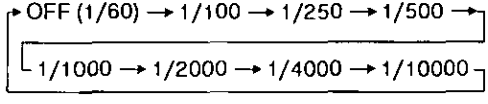


Fig. 29

The following electronic shutter speed is available.



4-5. Gain Control Setting (AGC ON/OFF)

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the AGC mode position and select either ON or OFF mode by using the Left Switch (<) (9) and Right Switch (>) (8).

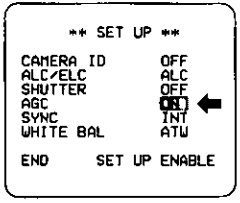


Fig. 30

4-6. Synchronization Setting (SYNC)

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the SYNC mode position and select either the line-lock (LL) or internal (INT) mode by pressing the Left Switch (<) (9) and the Right Switch (>) (8).

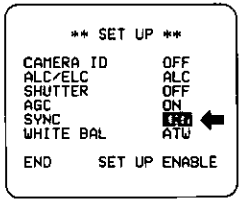


Fig. 31

Important Notice:

1. The priority of sync mode is as follows.
   1. Multiplexed Vertical Drive (VD2) (Highest priority)
   2. Line-lock (LL)
   3. Color Composite Video or Blackburst Signal (VBS)
   4. B/W Composite Video or Composite Sync Signal (VS)
   5. Internal Sync (INT) (Lowest priority)
2. When the internal sync mode is to be used, select the INT position and no gen-lock input signal should be supplied to the Gen-lock Input Connector (14) on the rear panel.
3. Whenever the multiplexed vertical drive pulse (VD2) is supplied to the camera through the coaxial cable connected to the Video Output Connector (13) on the rear panel from the Multiplex Unit WJ-MP404 etc., the camera sync mode is automatically switched to the VD2 mode regardless of the sync mode selection.
4. When the VBS or VS gen-lock mode is to be used, select the INT position on this menu and supply the gen-lock input signal to the Gen-lock Input Connector (14) on the rear panel.
5. The VBS gen-lock mode has a submenu of the horizontal and subcarrier phase adjustments as shown in the following section 4-6-1.

When the cable length of video output signal or gen-lock input signal is changed, the horizontal and subcarrier phase must be readjusted.

6. The VS gen-lock mode has a submenu of the horizontal phase adjustment as shown in the following section 4-6-2. When the cable length of video output signal or gen-lock input signal is changed, the horizontal phase must be readjusted.
7. The line-lock mode has a submenu of line-lock vertical phase adjustment as shown in the following section 4-6-3. When the camera installation is relocated, check the vertical phase adjustment again since the AC line phase may be different.

4-6-1. VBS Gen-lock Mode (EXT(VBS))

- Confirm that the cursor is on the "INT" position of the sync mode selection.

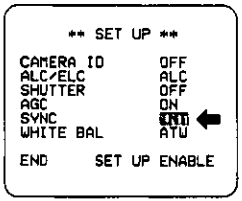


Fig. 32

- Connect the coaxial cable of the blackburst or composite color video signal to the Gen-lock Input Connector (14) and confirm that the "INT" position has been changed into the "EXT(VBS)" indication.

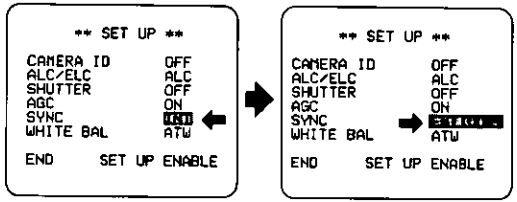


Fig. 33

CAUTION:

The gen-lock input signal should be met with the EIA RS-170A specification and should not contain jitter such as VTR playback signal as it could cause a synchronization error.

- After confirming that the cursor is on the "EXT(VBS)" position, press the Set Switch (11) on the rear panel and following phase adjustment menu is then displayed on the monitor.

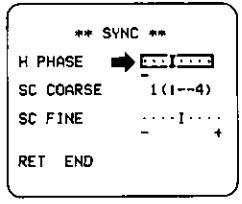


Fig. 34

- Move the cursor to the "H PHASE" mode position. The cursor "I" starts blinking.
- Connect the camera video output signal and the gen-lock input signal to a dual-trace oscilloscope.
- Set the oscilloscope to the horizontal rate and expand the horizontal sync portion on the oscilloscope.
- Adjust the horizontal phase by using the Left Switch (<) (9) or Right Switch (>) (8). The cursor "I" moves left or right. The adjustable range is 0 - 2.5 μsec.

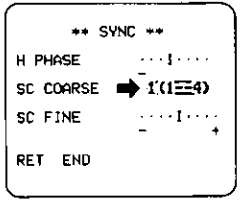
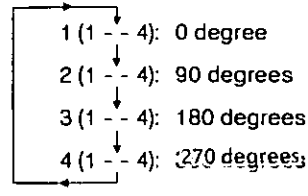


Fig. 35

- Move the cursor to the "SC COARSE" mode position for subcarrier phase adjustment. The cursor starts blinking.
- Press the Left Switch (<) (9) or Right Switch (>) (8) so that the color of the Effect Output video signal (Program Output video signal) of the Special Effects Generator (SEG) becomes the closest color of the original objects. (The SC coarse adjustment can be made for every 90 degrees (4 steps) by using the Left Switch (<) (9) or Right Switch (>) (8).)

Note:

After the fourth step, it returns to the first step.



- Move the cursor to the "SC FINE" mode position. The cursor starts blinking.
- Press the Left Switch (<) (9) or Right Switch (>) (8) so that the color of the Effect Output video signal (Program Output video signal) of the Special Effects Generator (SEG) becomes the closest color of the orignal objects. (The fine adjustment can be made for up to 90 degrees by using the Left Switch (<) (9) or Right Switch (>) (8).)

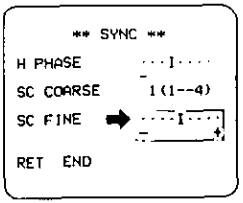


Fig. 36

Notes:

1. When the cursor "I" reaches to the end of "+" position, the cursor "I" jumps to the "—" position. At the same time, the step number of the SC COARSE mode increases one step to make enable a continuous adjustment. The reverse operation takes place when the cursor "I" reaches to the end of "—" position.

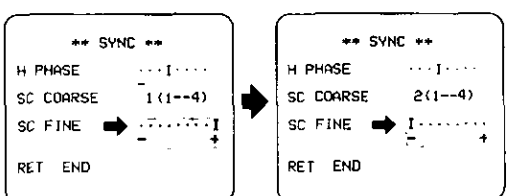


Fig. 37

2. When the Left Switch (<) (9) or Right Switch (>) (8) is kept pressed for more than one second, the cursor "I" moves quickly.
3. For more accurate adjustment, supply both the original camera video output signal and the Effect Output video signal (Program Output video signal) of the Special Effects Generator (SEG) to the vectorscope and compare the chroma phase for both signals.
4. When both the Left Switch (<) (9) and the Right Switch (>) (8) are pressed simultaneously, the cursor "I" is reset to the factory setup position.

4-6-2. VS Gen-lock Mode (EXT(VS))

- Confirm that the cursor is on the "INT" position of the sync mode selection.

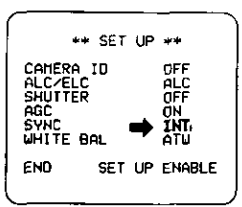


Fig. 38

- Connect the coaxial cable of the composite sync or composite black-and-white video signal to the Gen-lock Input Connector (14) and confirm that the "INT" position has been changed into the "EXT(VS)" indication.

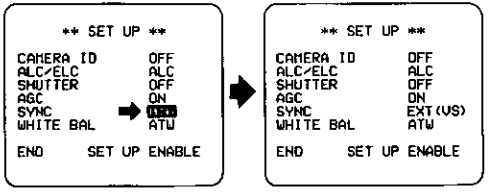


Fig. 39

CAUTION:

The gen-lock input signal should be met with the EIA RS-170 specification and should not contain jitter such as VTR playback signal as it could cause a synchronization error.

- After confirming that the cursor is on the "EXT(VS)" position, press the Set Switch (11) on the rear panel and following phase adjustment menu is then displayed on the monitor.

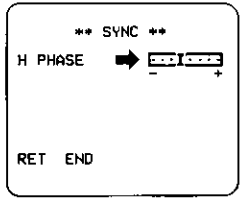


Fig. 40

- Connect the camera video output signal and the gen-lock input signal to a dual-trace oscilloscope.
- Set the oscilloscope to the horizontal rate and expand the horizontal sync portion on the oscilloscope.
- Adjust the horizontal phase by using the Left Switch (<) (9) or Right Switch (>) (8). The cursor "I" moves left or right. The adjustable range is 0 - 2.5 μsec.

4-6-3. Line-lock Sync Mode (LL)

Note:

The line-lock (LL) sync mode is not available for WV-CL352 due to DC operation camera.

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the "SYNC" mode position and select the line-lock "LL" mode by pressing the Left Switch (<) (9) and the Right Switch (>) (8). This setup can be made when the multiplexed vertical drive (VD2) pulse is not supplied to the camera.

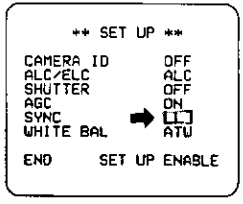


Fig. 41

- After confirming that the cursor is on the "LL" position, press the Set Switch (11) on the rear panel and following vertical phase adjustment menu is then displayed on the monitor.

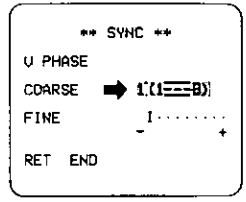
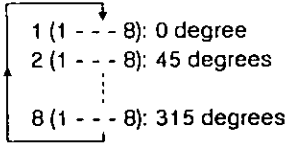


Fig. 42

- Move the cursor to the "COARSE" mode position by using the Up Switch (Λ) (10) or Down Switch (V) (7). The cursor starts blinking.
- Connect the video output signal of the camera to be adjusted and referenced camera video output signal (for example, Camera 1) to the dual-trace oscilloscope.
- Set the dual-trace oscilloscope to the vertical rate and expand the vertical sync portion on the oscilloscope.

- Press the Left Switch (<) (9) or Right Switch (>) (8) to adjust the vertical phase for both video output signal. (The coarse adjustment can be made for every 45 degrees(8 steps) by the Left Switch (<) (9) or Right Switch (>) (8).



Note:

After the eighth step, it returns to the first step.

- Move the cursor to the "FINE" mode by pressing the Down Switch (V) (7). The cursor starts blinking.
- Press the Left Switch (<) (9) or Right Switch (>) (8) to adjust the vertical phase for both video output signal. (Fine adjustment can be made for up to 45 degrees by using the Left Switch (<) (9) or Right Switch (>) (8).)

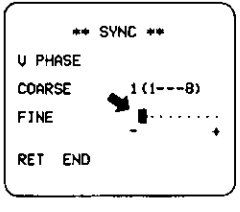


Fig. 43

Notes:

1. When the cursor "I" reaches to the end of "+" position, the cursor "I" jumps to the "–" position. At the same time, the step number on the "COARSE" mode increases one step to make enable a continuous adjustment. The reverse operation takes place when the cursor "I" reaches to the end of "–" position.
2. When the Left Switch (<) (9) or Right Switch (>) (8) is kept pressed for more than one second, the cursor "I" moves quickly.
3. When both the Left Switch (<) (9) and the Right Switch (>) (8) are pressed simultaneously, both the coarse and fine adjustment are reset to the factory setup position. (Factory setup position is zero-crossing to AC line phase as shown below.)

Press the Left Switch (<)(9) and the Right Switch (>)(8) simultaneously.

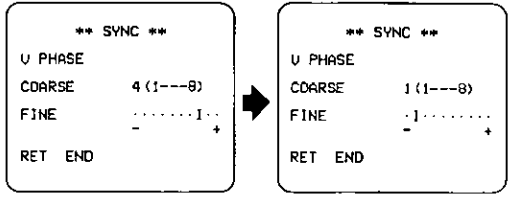


Fig. 44

4. If the AC line contains noises (spike noise etc.), the vertical phase of the camera video output signal would be changed or disturbed.

4-7. White Balance Setting (WHITE BAL)

4-7-1. Auto-Tracing White Balance Mode (ATW)

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the "WHITE BAL" mode position and select the "ATW" mode by pressing the Left Switch (<) (9) and the Right Switch (>) (8)

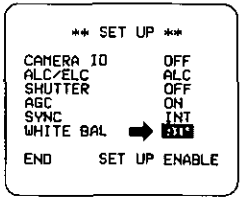


Fig. 45

No more setting up or adjustment is required.

4-7-2. Automatic White Balance Control Mode (AWC)

- Move the cursor to the "WHITE BAL" mode position and select the "AWC" mode by pressing the Left Switch (<) (9) or Right Switch (>) (8). "(PUSH SW)" is now displayed.

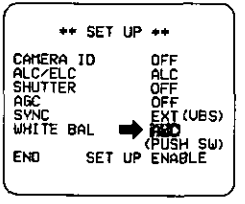


Fig. 46

- Press the Set Switch(11) to set up the white balance. The "(PUSH SW)" display starts blinking to indicate that the white balance is being set.

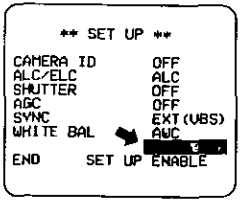


Fig. 47

- When the white balance setting is completed, the blinking "(PUSH SW)" stops.

5. CAMERA MOUNTING

CAUTION:

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

■ Mounting from the top

This camera is originally designed to be mounted from the top, as shown in the figures.

The hole is the standard photographic pan-head screw size (1/4"-20).

■ Mounting from the bottom

- Remove the mount adaptor from the top of the camera by removing the two fixing screws.
- Attach the mount adaptor to the bottom as shown in the figure, then mount the camera on the mounting bracket.
- Make sure that the two original screws are used to mount the mount adaptor; other longer type screws may damage inner components.

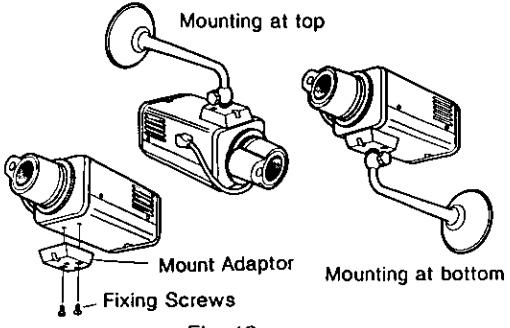


Fig. 48

6. FOCUS OR FLANGE-BACK ADJUSTMENT

CAUTION:

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

- Loosen the screw on the flange-back adjusting ring.
- Turn the flange-back adjusting ring to the desired position.

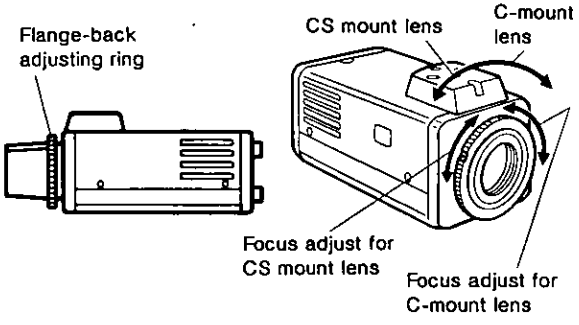


Fig. 49

CAUTION:

Do not turn this ring too much to counterclockwise as this could damage the inner glass and CCD image sensor.

- Tighten the screw on the flange-back adjusting ring.
- After setting the camera angle and picture focus, proceed to the Backlight Compensation in the following section.

7. BACKLIGHT COMPENSATION (BACKLIGHT COMP)

7-1. Auto Iris Lens with ALC Mode

- Confirm that the ALC mode is selected as follows.
- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the "ALC/ELC" mode position and select the "ALC" mode by using the Left Switch (<) (9) or Right Switch (>) (8).

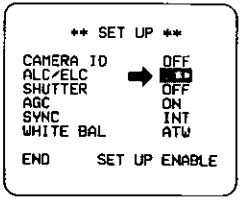


Fig. 50

- Press the Set Switch (11) to proceed to the Backlight compensation menu as shown in Fig. 51.

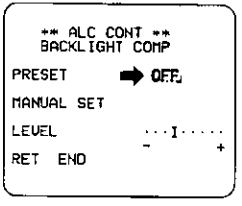


Fig. 51

7-1-1. ALC Mode with Preset Mode (PRESET ON)

- Move the cursor to the "PRESET" mode position and select the "ON" mode by using the Left Switch (<) (9) or Right Switch (>) (8). The preset mode menu is displayed on the monitor screen as shown in Fig. 52.

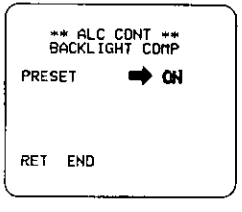


Fig. 52

- Move the cursor to "RET" position by using the Up Switch (∧) (10) or Down Switch (V) (7) and press the Set Switch (11) to return to the Set Up menu.

Note:

Move the cursor to the "END" position and press the Set Switch (11) to return to the normal camera picture mode.

7-1-2. ALC Mode with Field Setup Mode (PRESET OFF)

- Move the cursor to the "PRESET" mode position and select the "OFF" mode by using the Left Switch (<) (9) and Right Switch (>) (8).
- The field setup menu is displayed on the monitor screen as shown in Fig. 53.

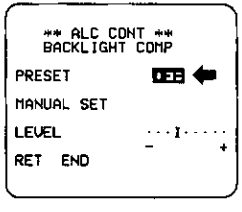


Fig. 53

- Move the cursor to the "MANUAL SET" mode position and press the Set Switch (11). The 25 Mask Areas appears on the monitor screen as shown in Fig. 54. The left top area starts blinking as a cursor.

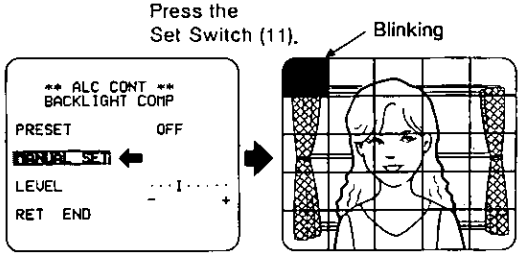


Fig. 54

- To mask this area, press the Set Switch (11). The word "MASK" appears in this area as shown in Fig. 55.

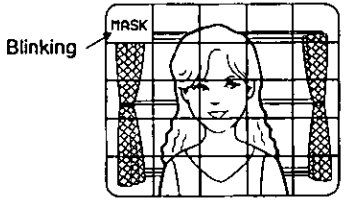


Fig. 55

- To mask other areas, move the cursor to the desired area by using the Up Switch (Λ) (10), Down Switch (V) (7), Left Switch (<) (9) or Right Switch (>) (8). The previous masked area then stops blinking and turns to white as shown in Fig. 56.

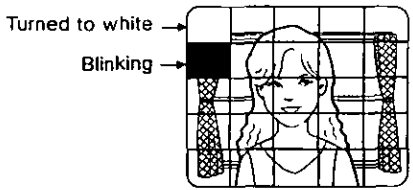


Fig. 56

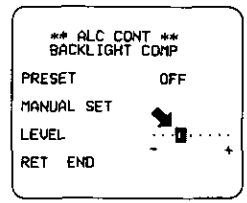


Fig. 57

- When the cursor is moved to the area where has already been masked before, the word "MASK" appears.
- Press the Set Switch (11) when this masking is to be canceled.
- After masking is completed, press the Set Switch(11) for more than 2 seconds and the 25 Mask Areas on the monitor screen disappears and the field setup menu shown in Fig. 53 is then displayed.
- When the video output level (picture contrast) is to be changed, move the cursor to the "LEVEL" mode position and press the Left Switch (<) (9) and Right Switch (>) (8) to adjust the iris of the ALC lens. The cursor "I" moves right (open) or left (close) corresponding to the video output level (iris opening).
- Move the cursor to "RET" position by using the Up Switch (Λ) (10) or Down Switch (V) (7) and press the Set Switch (11) to return to the Set Up menu.

Note:

Move the cursor to the "END" position and press the Set Switch (11) to return to the normal camera picture mode.

7-2 Auto Iris, Manual Iris or Fixed Iris lens with ELC mode

- Confirm that the ELC mode is selected as follows.
- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.
- Move the cursor to the "ALC/ELC" mode position and select the "ELC" mode by using the Left Switch (<) (9) or Right Switch (>) (8).

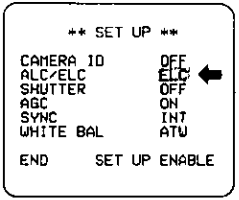


Fig. 58

CAUTION:

When an auto iris lens requiring DC control signal is used, the lens iris is fully opened in the ELC mode.

- Press the Set Switch (11) to proceed to the Backlight compensation menu as shown in Fig. 59.

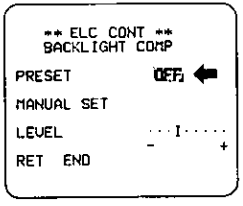


Fig. 59

7-2-1. ELC Mode with Preset Mode (PRESET ON)

- Move the cursor to the "PRESET" mode position and select the "ON" mode by using the Left Switch (<) (9) or Right Switch (>) (8). The preset mode menu is displayed on the monitor screen as shown in Fig. 60.

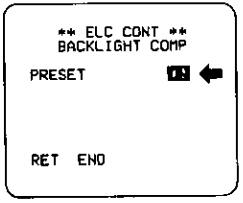


Fig. 60

- Move the cursor to "RET" position by using the Up Switch (Λ) (10) or Down Switch (V) (7) and press the Set Switch (11) to return to the Set Up menu.

Note:

Move the cursor to the "END" position and press the Set Switch (11) to return to the normal camera picture mode.

7-2-2. ELC Mode with Field Setup Mode (PRESET OFF)

- Move the cursor to the "PRESET" mode position and select the "OFF" mode by using the Left Switch (<) (9) and Right Switch (>) (8).

- The field setup menu is displayed on the monitor screen as shown in Fig. 61.

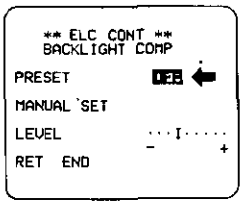


Fig. 61

- Move the cursor to the "MANUAL SET" mode position and press the Set Switch (11). The 25 Mask Areas appears on the monitor screen as shown in Fig. 62. The left top area starts blinking as a cursor.

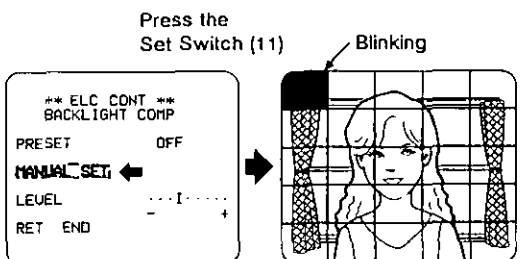


Fig. 62

- To mask this area, press the Set Switch (11). The word "MASK" appears in this area as shown in Fig. 63.

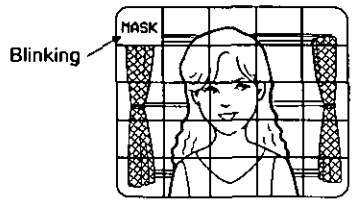


Fig. 63

- To mask other areas, move the cursor to the desired area by using the Up Switch (∧) (10), Down Switch (V) (7), Left Switch (<) (9) or Right Switch (>) (8). The previous masked area then stops blinking and turns to white as shown in Fig. 64.

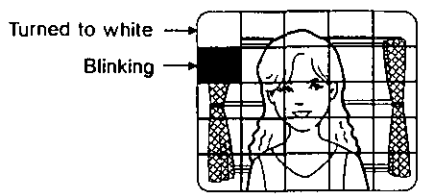


Fig. 64

- When the cursor is moved to the area where has already been masked before, the word "MASK" appears.
- Press the Set Switch (11) when this masking is to be canceled.
- After masking is completed, press the Set Switch(11) for more than 2 seconds and the 25 Mask Areas on the monitor screen disappears and the field setup menu shown in Fig. 61 is then displayed.
- When the video output level (picture contrast) is to be changed, move the cursor to the "LEVEL" mode position and press the Left Switch (<) (9) and Right Switch (>) (8) to adjust the exposure time of the CCD image sensor. The cursor "I" moves right (long) or left (short) corresponding to the video output level (exposure time).

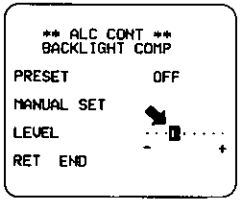


Fig. 65

- Move the cursor to "RET" position by using the Up Switch (Λ) (10) or Down Switch (V) (7) and press the Set Switch (11) to return to the Set Up menu.

Note:

Move the cursor to the "END" position and press the Set Switch (11) to return to the normal camera picture mode.

When a manual iris lens is used with the ELC mode, set the lens iris fully opened in the low lighting condition or adjust the lens iris manually in the normal room lighting condition.

Remark:

When the ELC mode is selected, the shutter speed selection is not available.

8. SPECIAL MENU

This menu allows for the customer to adjust and set the video signal of the camera to meet the customer's requirement.

- Display the Setup menu as shown in Fig. 16.
- When you begin to start with this menu, refer to 4-1. Entering Setup Menu to have display the Setup menu on the monitor screen.

- Move the cursor to the "END" position and press both the Left Switch (<) (9) and the Right Switch (>) (8) simultaneously for approximately 2 seconds. (The Left Switch (<) (9) should be pressed first.) The special menu is displayed as shown below

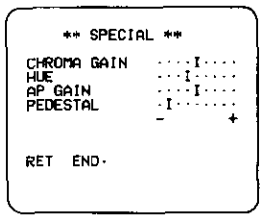


Fig. 66

8-1. Chroma Level Setting (CHROMA GAIN)

- Move the cursor to the "CHROMA GAIN" mode position. The cursor "I" starts blinking.

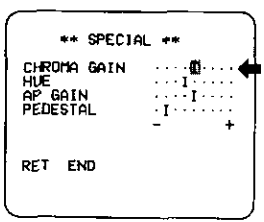


Fig. 67

- While observing the vectorscope or color video monitor, adjust the chroma level by using the Left Switch (<) (9) and the Right Switch (>) (8). The cursor "I" moves right or left.

8-2. Chroma Phase (Hue) Setting (HUE)

- Move the cursor to the "HUE" mode position. The cursor "I" starts blinking.

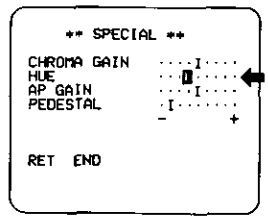


Fig. 68

- While observing the vectorscope or color video monitor, adjust the chroma phase (hue) by using the Left Switch (<) (9) and the Right Switch (>) (8). The cursor "I" moves right or left.

8-3. Aperture Level Setting (AP GAIN)

- Move the cursor to the "AP GAIN" mode position. The cursor "I" starts blinking.
- While observing the color video monitor, adjust the aperture level by using the Left Switch (<) (9) and the Right Switch (>) (8). The cursor "I" moves left (soft) or right (sharp).

8-4. Pedestal Level Setting (PEDESTAL)

- Move the cursor to the "PEDESTAL" mode position. The cursor "I" starts blinking.
- While observing the waveform monitor/ oscilloscope or color video monitor, adjust the pedestal level (black level) by using the Left Switch (<) (9) and the Right Switch (>) (8). The cursor "I" moves left (low, dark) or right (high, bright).

Notes:

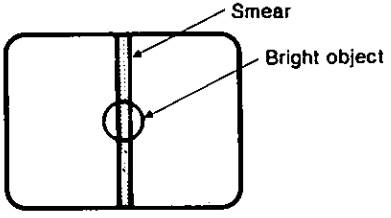
■ **How to reset to factory setup**

Any of the above setting plus the ALC/ELC level control and phase adjustments, can be reset to the factory setup by placing the cursor over the desired mode and then simultaneously pressing both the Left Switch (<) (9) and the Right Switch (>) (8) for more than 2 seconds.

PREVENTION OF BLOOMING AND SMEAR

When the camera is aimed towards spotlights or other bright lights or light reflecting objects, smear or blooming may appear. Therefore the camera should be operated carefully in the vicinity of extremely bright objects to avoid smear or blooming.

If the camera is aimed at the sun or very bright light, such as laser beam, for a long period of time, the CCD image sensor may be burned in and blemishes (white or black dots) appears on the picture.



SPECIFICATIONS

Pick-up Device:	682(H) × 492(V) pixels, Interline Transfer CCD
Scanning Area:	6.4(H) × 4.8(V) mm (Equivalent to scanning area of 1/2" pick-up tube)
Synchronization:	Internal sync for WV-CL350/WV-CL352/WV-CL354 Line-locked Sync for WV-CL350/WV-CL354 External Sync for WV-CL350/WV-CL352/WV-CL354
Scanning System:	2 : 1 Interlace
Scanning:	525 Lines/60 Fields/30 Frames
Horizontal:	15.734 KHz
Vertical:	59.94 Hz
Horizontal Resolution:	430 lines
Video Output:	1.0 Vp-p NTSC composite, 75 ohms/BNC connector
Signal to Noise Ratio:	48 dB (AGC OFF)
Automatic Light Compensation:	ALC: 1 : 26,000 with F1.4 ALC Lens
Electronic Light Control:	Equivalent to continuous variable shutter speed between 1/60 sec. and 1/15,700 sec.
Minimum Illumination:	0.3 footcandle (3 lux) at F1.4 (AGC ON) 0.09 footcandles (0.9 lux) at F0.75 (AGC ON) with WV-LA608 lens
White Balance:	AWC/ATW selectable
Back Light Compensation:	Preset On (Factory setup) Preset Off (Manual setup at field) Photometry area is selectable (25 blocks) Signal level is adjustable
Sync. System:	Line-lock/Multiplexed VD/VBS G, L/VS (Sync Lock) is selectable 360° V-PHASE adjustment of Line-lock is available. H-PHASE adjustment in the VBS, VS, Gen-lock SC-PHASE adjustment in VBS Gen-lock mode
Electronic Shutter Speed:	Selectable 1/60 (OFF), 1/100, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000

Lens Mount:	C-mount or CS-mount
Gain Control:	Selectable AGC ON (+14 dB) or OFF
Ambient Temperature:	14°F - +122°F (−10°C - +50°C)
Power Source:	WV-CL350 : 120V AC 60Hz, 6.7W WV-CL352 : 12V DC, 0.42A WV-CL354 : 24V AC 60Hz. 7.0W
Dimensions (Excluding lens):	WV-CL350/WV-CL354 : 2-3/4"(W) × 2-3/4"(H) × 6-1/2"(D) [70(W) × 70.5(H) × 166(D) mm] WV-CL352 : 2-3/4"(W) × 2-3/4"(H) × 5-1/2"(D) [70(W) × 70.5(H) × 141(D) mm]
Weight (Without lens):	WV-CL350 : 1.89 lbs (0.86 kg) WV-CL352 : 1.25 lbs (0.57 kg) WV-CL354 : 1.60 lbs (0.73 kg)

STANDARD ACCESSORIES

ALC Lens Connector (YFE4191J100) ..... 1pc.
Body Cap ..... 1pc.

OPTIONAL ACCESSORIES

Lenses:
Fixed Iris Lens: WV-LF6, WV-LF12
Manual Iris Lens: WV-LM4.5
Aspherical High Speed ALC Lens:
WV-LA4510, WV-LA608, WV-LA1208
ALC Lens: WV-LA2.8, WV-LA4.5, WV-LA6,
WV-LA12, WV-LA18, WV-LA36
Motorized Zoom Lens:
WV-LZ81/10, WV-LZ81/6A

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

Panasonic

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