

**- Line Lock**

To set the camera in LL mode for synchronization with the power supply frequency, take the following steps.

1. Turn switch ⑤ to "L";
2. Turn switch ④ to "PHASE";
3. Press the + or - button ② and ③ to make the phase variable.  
Adjust with the button ② and ③ so that the vertical phase of the camera matches with the vertical phase of another camera (or system) with a multi-channel oscilloscope.  
For initial setting, press RESET button ①.

**- White Balance**

White Balance can be adjusted within the scope of 2900-8000K color temperature.

When switch ⑥ is at "AUTO" the white balance is adjusted automatically.

For manual adjustment, take the following steps.

1. Turn switch ⑥ to "MANUAL";
2. Turn switch ④ to "W,B";
3. Pressing "R" button ② increases redness while pressing "B" increases blueness. For initial setting, press RESET button ①.

**- BLC (Back Light Compensation)**

The switch 7 improves an image that is darkened because of backlighting. Set this switch to ON for backlight subjects.

**- AES**

Turning this switch 8 "ON" when a lens with a manual iris diaphragm is used enables the automatic adjustment of image brightness. In this case the shutter speed changes according to the brightness of the subject.

AES functions only when AGC switch 9 is turned on.

**- AGC**

The switch 9 automatically increases the camera's sensitivity when the level of ambient light drops.

ON: AGC is activated.

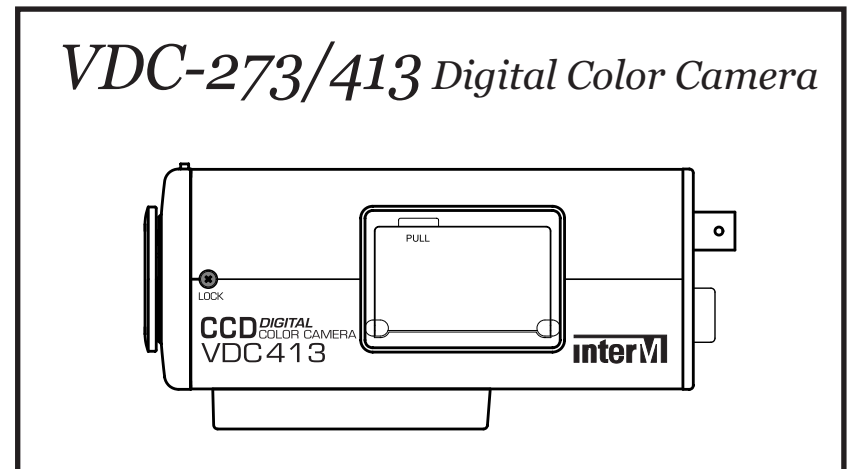
OFF: AGC is not activated.

**Specifications**

Image Pickup Device	1/3 inch interline-transfer CCD		
Number of Effective Pixels	VDC273	NTSC	510(H) × 492(V)
		PAL	500(H) × 582(V)
	VDC413	NTSC	768(H) × 494(V)
		PAL	752(H) × 582(V)
Synchronization Method	INTERNAL / LINE LOCK		
Scanning Frequency	NTSC	HORIZONTAL	15.734Hz
		VERTICAL	59.94Hz
	PAL	HORIZONTAL	15.625Hz
		VERTICAL	50Hz
Video S/N Ratio	48dB (50% AGC OFF)		
Minimum Required Illumination	0.9 Lux (F1.2 AGC-ON)		
Lens Mount	C / CS		
Power Supply	AC 24V 50/60Hz		
Power Consumption	5W		
Dimensions (mm)	70(W) × 56(H) × 134(D) mm		

\* Specifications and design subject to change without notice for improvements.

# Operating Manual



**interM**

## Mounting a Camera

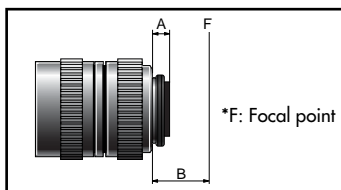
- (1) Mounting a Lens → (2) Connection → (3) Lens Adjustment → Back focus adjust  
→ (4) Setting Switch

## Mounting a Lens

1. Before mounting a lens, check whether it is a C-mount or CS-mount lens.

\* The F mark indicates a focal point.

LENS	Flange back (B)	Dimension (A)
C-mount Lens	17.526mm	10mm or less
CS-mount Lens	12.5mm	5.5mm or less



2. Mount the lens on the camera by turning the lens clockwise. Adjust its position.  
3. When using an auto-iris lens with an EE amplifier, turn the switch to the "VIDEO" side. When no EE amplifier is equipped, turn the switch to the "DC" side.

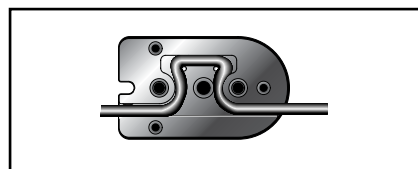
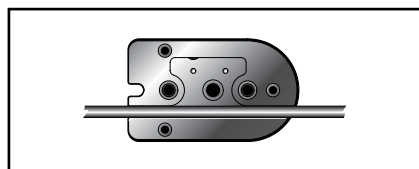
\* Video Iris Lens [3-pin terminal]

Pin No	Lens	Video Iris Lens
1		9.5V [max 50mA]
2		GND
3		VIDEO

\* DC Iris Lens [4-pin plug]

Pin No	Lens	DC Iris Lens
1		Brake ⊖
2		Brake ⊕
3		Drive ⊕
4		Drive ⊖

4. If the cable is too long, house it in the camera mounting bracket.



## Connection

- When the camera is powered, the POWER LED lights up.
- Connect to the video monitor, etc. (75Ω)
- This camera is originally designed to be mounted from the bottom, as shown.

## Lens Adjustment

### 1. Video Adjustment

Connect the camera according to the connection method, turn it on, display a image on the monitor, and check the image. The camera has been factory-adjusted best position, but it may need to be adjusted according to the object conditions of lens.

### a. LEVEL Adjustment

Monitor Screen	LEVEL Turning Direction
Too bright	Counterclockwise (Toward L)
Too dark	Clockwise (Toward H)

### b. ALC Adjustment

Monitor Screen	ALC Turning Direction
Part (high-intensity part) of the screen halates.	Clockwise (Toward PK)
Other part of screen (except high-intensity part) darkens.	Counterclockwise (Toward H)

## Back Focus Adjustment

The back focus has been factory-adjusted to the best point for CS-mount lens, but it may need to be re-adjusted if the mount is changed to the C-mount or when a different lens is used. If required, adjust it as follows.

### - With a fixed-focus lens

If the focus can not be adjusted correctly by rotating the lens focus ring, adjust the back focus as follows.

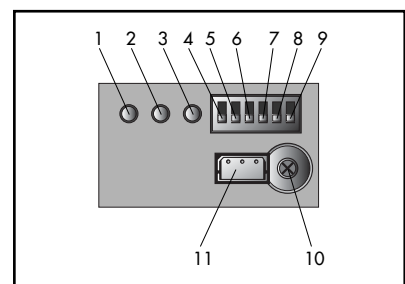
- Loosen the back focus locking screw by turning it counterclockwise with a screwdriver.
- Turn the back focus adjustment ring to focus at the best point.
- Tighten the back focus locking screw by turning it clockwise.

### - With a zoom lens

If the image is out of focus when zooming (with-angle telephoto), adjust the camera as follows.

- Shoot a comparatively dark scene with thin lines about three meters away from the came.
- Set the lens to the maximum telephoto position, and adjust the lens focus.
- Set the lens to the maximum wide-angle position, and adjust the focus.
- Repeat step 2 and 3 two or three times.

## Setting Switch



- [RESET] RESET button.
- [R] White Balance red control, [-] Line Lock vertical phase control.
- [B] White Balance blue control, [+] Line Lock vertical phase control.
- [WHT BAL] White balance control mode, [PHASE] Line lock phase control mode.
- [INT] Internal mode, [LL] To set the LL mode.
- [MANU] [AUTO] White balance select control mode.
- [BLC ON/OFF] Back Light Compensation Switch
- [AES ON/OFF] Automatic Electronic Shutter
- [AGC ON/OFF] Auto Gain Control Switch
- [DC LEVEL] DC Iris Lens Level Control
- [FOR SERVICE] Interface connector. This connector is used for service.