

**user manual**  
**instrukcja obsługi**



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**NVC-825DN**  
**NVC-860DN**

**NOVUS™**



# user manual

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**NVC-825DN**  
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## TABLE OF CONTENTS

	TABLE OF CONTENTS.....	4
	IMPORTANT SAFEGUARDS AND WARNINGS.....	5
1.	GENERAL.....	7
	FEATURES.....	7
	CONTENTS OF PACKAGE.....	7
2.	SPECIFICATIONS.....	8
3.	VIEW OF CAMERA.....	10
4.	INSTALLATION.....	11
5.	SETTING UP THE SWITCHES.....	17

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Technical modification are subject to change without prior notice. Misprints reserved.

## IMPORTANT SAFEGUARDS AND WARNINGS

### READ AND RETAIN INSTRUCTIONS

Read the instruction manual before operating the equipment. Retain the manual for future reference.

### CLEANING

Turn the unit off and unplug from the power outlet before cleaning. Use a damp cloth for cleaning. Do not use harsh cleansers or aerosol cleaners.

### ATTACHMENTS

Do not use attachments unless recommended by manufacturer as they may affect the functionality of the unit and result in the risk of fire, electric shock or injury.

### MOISTURE

Do not use equipment near water or other liquids.

### ACCESSORIES

Equipment should be installed in a safe, stable location. Any wall or shelf mounting accessory equipment should be installed using the manufacturer's instructions. Care should be used when moving heavy equipment. Quick stops, excessive force, and uneven surfaces may cause the equipment to fall causing serious injury to persons and objects.

### VENTILATION

Openings in the equipment, if any, are provided for ventilation to ensure reliable operation of the unit and to protect it from overheating. These openings must not be blocked or covered.

### POWER SOURCES

The equipment should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied at the installation location, contact your dealer. For equipment designed to operate from battery power, refer to the operating instructions.

### GROUNDING OR POLARIZATION

Equipment that is powered through a polarized plug (a plug with one blade wider than the other) will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. Do not defeat the safety purpose of the polarized plug.

Alternate Warning: If the equipment is powered through a three-way grounding-type plug, a plug having a third (grounding) pin, the plug will only fit into a grounding-type power outlet. This is a safety feature. Do not defeat the safety purpose of the grounding-type plug. If your outlet does not have the grounding plug receptacle, contact your local electrician.



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### **CORD AND CABLE PROTECTION**

Route power cords and cables in a manner to protect them from damage by being walked on or pinched by items placed upon or against them.

### **LIGHTNING**

For protection of the equipment during a lightning storm or when it is left unattended and unused for long periods of time, unplug the unit from the wall outlet. Disconnect any antennas or cable systems that may be connected to the equipment. This will prevent damage to the equipment due to lightning or power-line surges.

### **OVERLOADING**

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

### **SERVICING**

Do not attempt to service the video monitor or equipment yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

This product is carrying the CE-mark in accordance with the related European Directives.

Responsible for CE-marking is Novus Security sp. z o.o.

Any changes or modifications not expressly approved by the Manufacturer can void the user's authority to operate the equipment.

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## **PART 1. Description**

### **1. WIDE DYNAMIC RANGE (WDR)**

SS-II DSP chip built-in SONY allows the camera to find the best Picture conditions in any environment and automatically gives a necessary light level compensation, so you can always obtain the clear picture, the finest detail and perfect light contrast.

### **2. DAY & NIGHT**

The camera provides automatic mode changeover by sensing day or night conditions. It can change color mode in the day condition for optimal color and BW mode in night condition for clear identification.

### **3. HIGH RESOLUTION**

The horizontal resolution of 480TV lines at Color mode can be achieved by using a high density CCD having Double Speed 410,000 pixels SONY CCD, which provides clean, noiseless and reliable pictures.

### **4. FINE PICTURE CONDITION UNDER VERY LOW ILLUMINATION (SENSE UP)**

1/3 high density CCD and digital processor permit high quality pictures to be captured in very low light condition.

### **5. VIDEO/DC/MANUAL Lens Selectable**

The camera accepts 3 types of lenses (VIDEO/DC/MANUAL) and is set with the VIDEO/ELC/DC selection switch.

### **6. ELECTRONIC IRIS**

The electronic iris shutter is automatically controlled at the speed of 1/60~1/10,000sec (NTSC Models), 1/50~1/10,000sec (PAL Models)

### **7. Controlled by OSD menu and RS-485**

You can control the camera using OSD menu and RS-485 jack at a remote place.

### **8. Privacy Zone**

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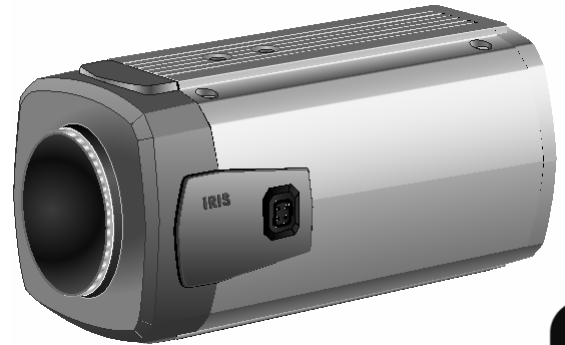
## PART 2: Specification

<b>Signal system:</b>	PAL
<b>CCD Pick-up Element:</b>	2:1 Interlace transfer 1/3 inch Double Scan
<b>Effective pixels:</b>	752(H) x 582(V)
<b>Video output:</b>	Composite: 1.0Vp-p, 75Ω, Unbalanced
<b>Synchronization:</b>	internal
<b>Luminance S/N Ratio:</b>	more than 50dB (AGC off, B/W Mode)
<b>Resolution:</b>	Horizontal 480 TV lines
<b>Sensitivity:</b>	0.1 lux - (Normal Color Mode) 0.1 lux - (Normal BW Mode) 0.001 lux - (DSS Color Mode) 0.0003 lux - (DSS BW Mode)
<b>Lens mount:</b>	C / CS
<b>Electronic Shutter:</b>	1/50 ~ 1/10 000
<b>White balance:</b>	AWB
<b>WDR:</b>	ON (1~15) / OFF selectable
<b>Day &amp; Night:</b>	AUTO / DAY / NIGHT / EXT
<b>AGC:</b>	OFF / LOW / MID / HIGH Selectable
<b>BLC:</b>	ON / OFF selectable
<b>Flickerless:</b>	ON / OFF selectable
<b>Supplied voltage:</b>	NVC-860DN: 220~240VAC NVC-825DN: 24VAC (20V~28V) or 12VDC (10V~15V)
<b>Power consumption:</b>	max. 6W
<b>Operating temperature:</b>	-10°C ~ +50°C (recommendation -5°C ~ +40°C)
<b>Storage temperature:</b>	-20°C ~ +60°C
<b>Dimensions (WxHxD):</b>	124 (L) x 62 (W) x 57 (H) mm
<b>Weight:</b>	NVC-860DN: approx. 560 g NVC-825DN: approx. 430 g

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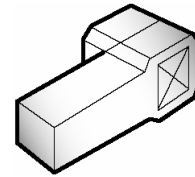
## PART 3: Composition

1. WDR Color Video Camera.....

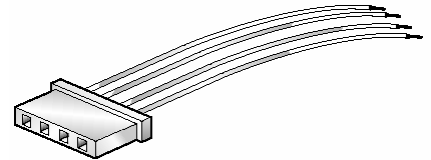


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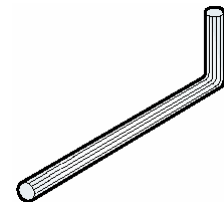
2. Auto Iris lens plug.....



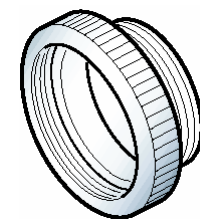
3. Remote plug.....



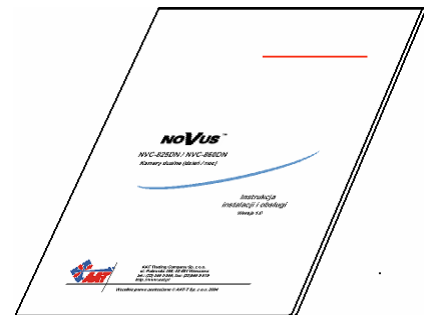
4. L-Wrench.....



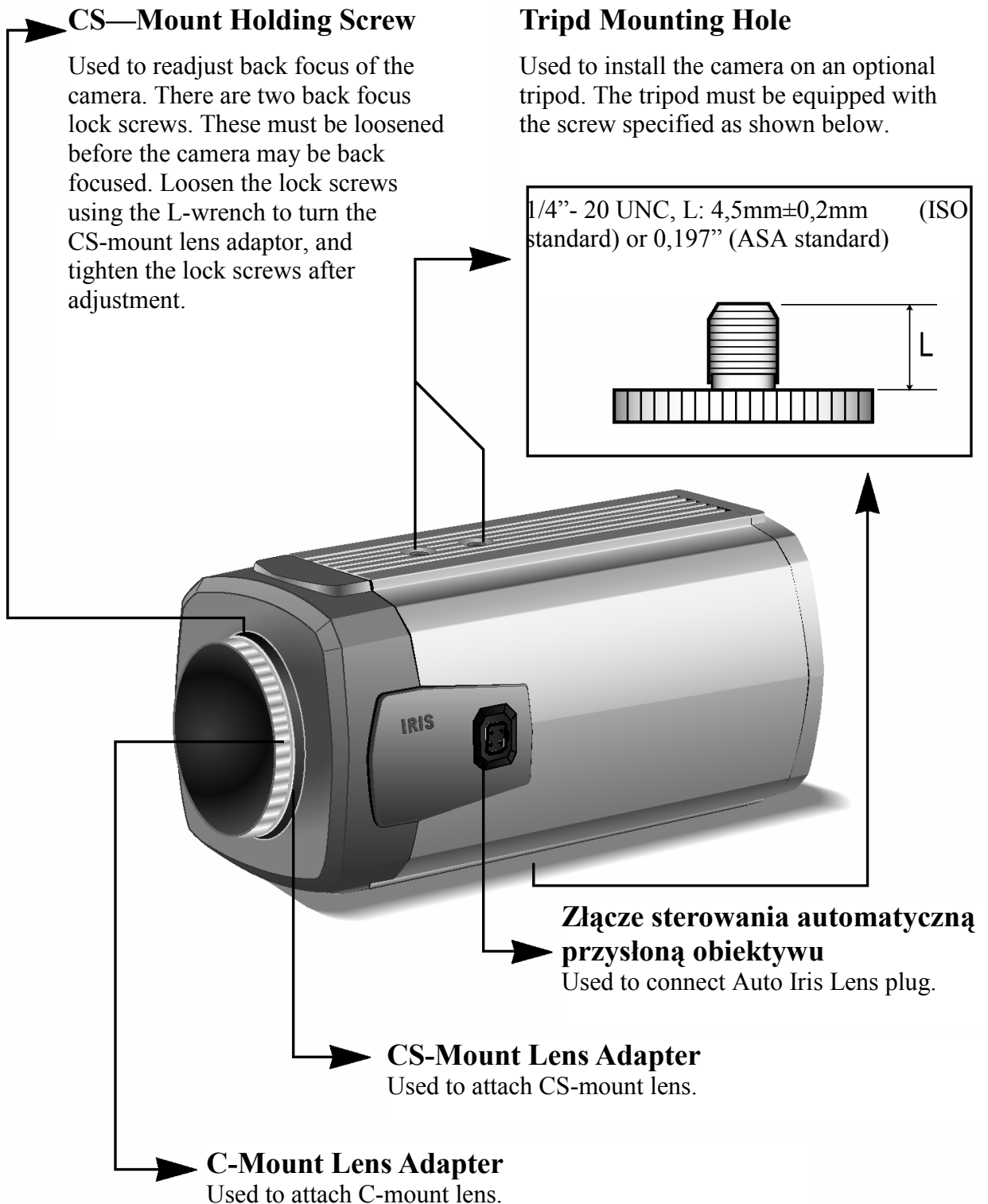
5. C-Mount adapter.....



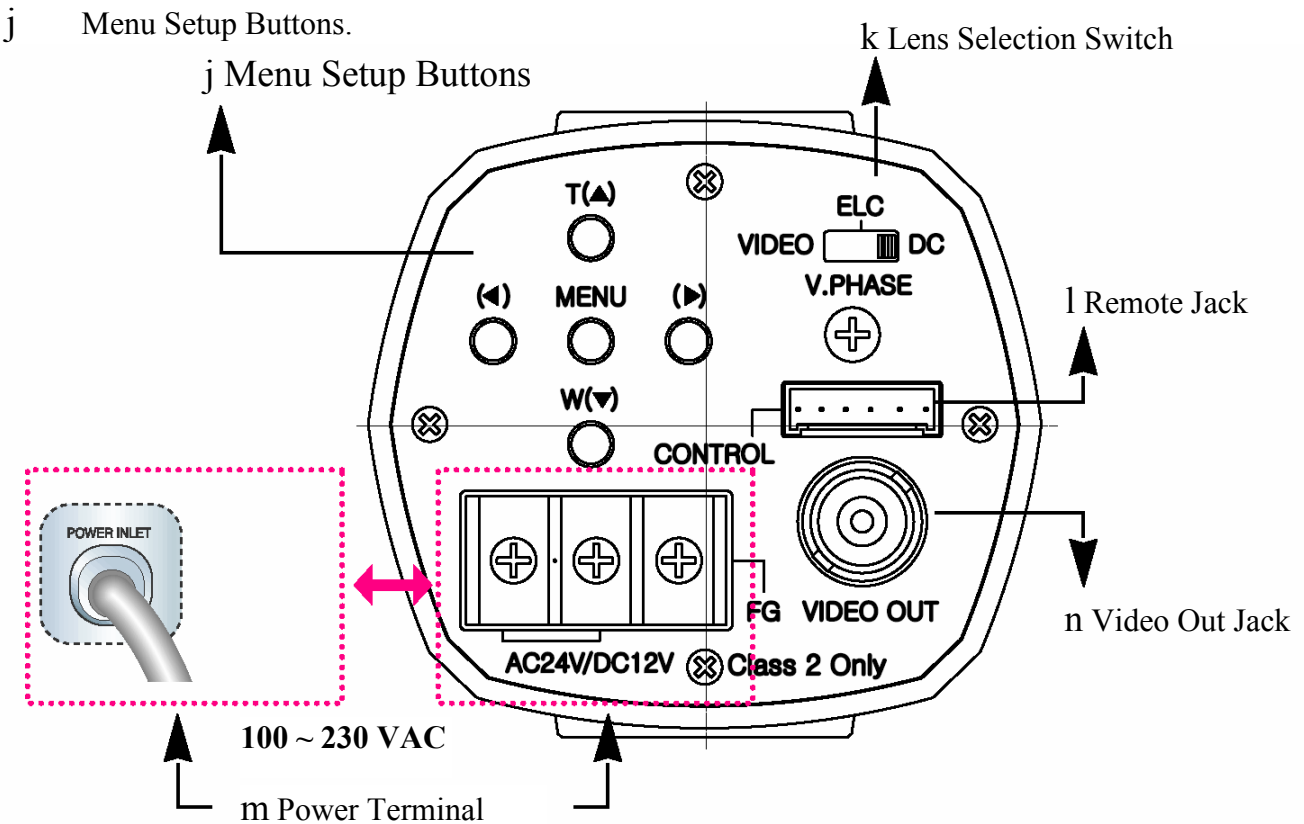
6. Instruction Manual.....



## Part 4: Name and function (Front)



**Part 5: Name and function (back)**



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- MENU Buttons : Used to access menu mode. Also used to escape menu mode.
- UP/DOWN Buttons : Used to choose the desired menu item. It also moves the cursor up or down in the menu screen.
- LEFT/RIGHT Buttons : Used to change the parameter of the selected menu item. It also moves the cursor the left or right in the menu screen.

**k** Lens Selection Switch.  
Used to choose DC or VIDEO or ELC according to the type of your Lens.

**l** Remote Jack.  
Used to connect remote plug.

**m** Power terminal.

- Used to connect an AC 24V or DC 12V power source.
- Used to connect a DC 12V power source.
- Used to connect an AC 100V~AC 240V power source.

**n** Video Out Jack.  
Used to connect an external video monitor in jack.

## Part 6: Installation:

### Warning

Entire installation process of NVC-525DN / NVC-560DN Dual Day/Night cameras should be carried out by (or proceed under supervision of):

- qualified service personnel
- or authorized security systems installers.

Installation process must comply with obliging norms/regulations.

Before connecting camera to the power cable you must be absolutely certain that the power voltage is disconnected.

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### Connect the lens with camera (use conversion ring if necessary).

The lens is not supplied with this camera. Purchase a lens suitable for your environment. This camera accepts the auto iris, manual and fixed lens and both C-and CS-mount lens.

Before mounting a lens, please check whether it is a C-mount or CS-mount lens. The back focus is set for the CS-mount lens at the factory.

Notes:

If the lens is marked with fingerprints or other marks, the image quality might drop significantly. It is recommended to use a high quality lens to improve the image quality under low illumination conditions. We recommend using DC Auto Iris Lens.

Remove the protective cap, and attach the lens to the camera by turning clockwise.

a) Mounting a CS-Mount lens

After removing the protecting cap, attach the lens into the camera by turning clockwise.



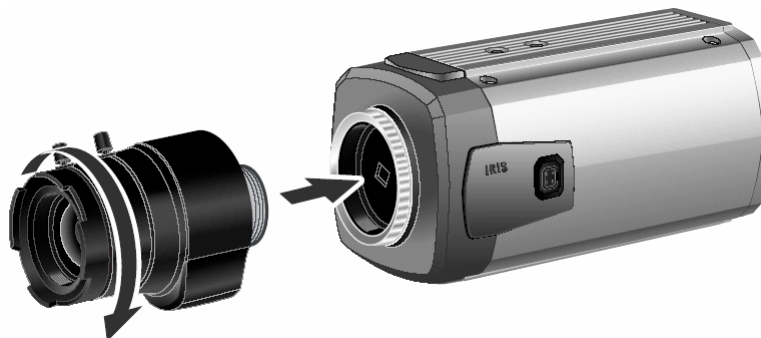
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b) Mounting a C-Mount lens

- Attach the C-Mount lens adapter by turning clockwise.



- Attach the lens to the camera by turning clockwise.



## Installing Auto Iris Lens

- a) Peel approximately 8mm from the end of the lens cable outer cover.

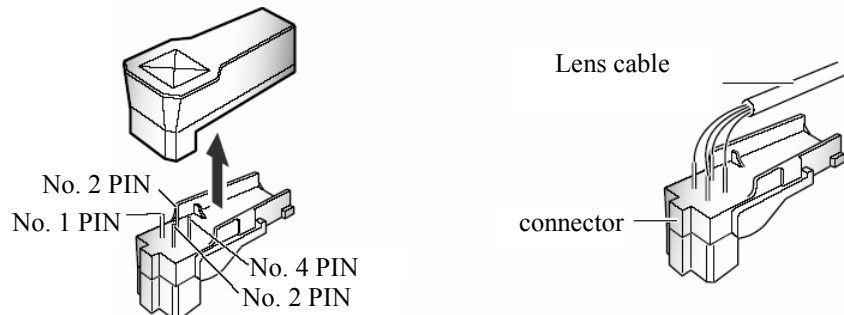


- b) Peel approximately 2mm from the end of the cable inner cover.



- c) Remove the cover from the iris lens plug supplied, and solder the lens cable to the plug as shown below.

Number of PIN	Video type	DC type
1	Power source (red)	Damping (-)
2	N.C.	Damping (+)
3	White (Video signal)	Drive (+)
4	Black (GND)	Drive (-)



- d) Remove the protective cap, and attach the lens to the camera by turning clockwise.

- e) Connect the lens plug to the auto iris connector on the right side of the camera.



- f) Set the DC/ VIDEO/ ELC selection switch to DC or VIDEO or ELC according to the type of the lens.

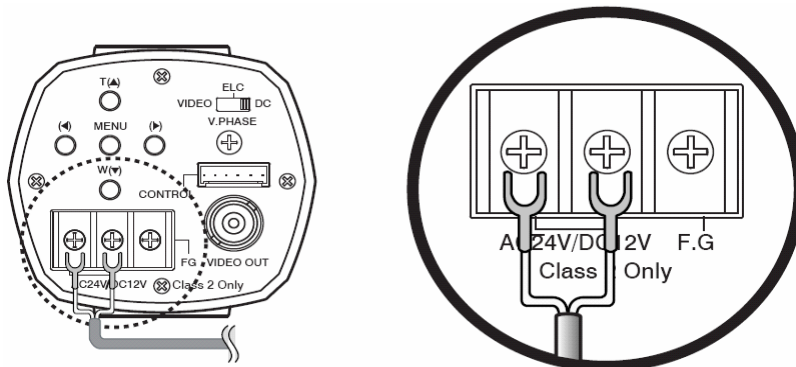
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## Connecting the Power

Each model has different power specification, please check the name of the model and power specification before connecting to power source. Please refer to the sticker identifying the model, which is attached on the product, for power specification.

NVC-860DN needs 100 ~230 VAC power supply.

NVC-825DN needs 24 VAC / 12 V DC power supply.



## NVC-825DN

The wire is not polarized. Use AC 24 V Power source or DC 12 V DC Power source.

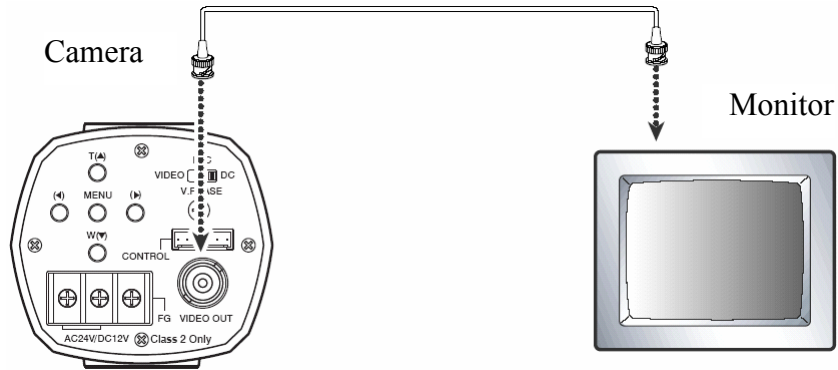
### NOTES:

- Be sure to connect power after all the installation is done.
- Note that AC adaptor is not supplied with camera.
- Use only AC 24V/DC12V UL listed class 2 power supply.
- Do not use power sources other than that specified.

## Connecting to Monitor

Connect the VIDEO out jack to the monitor video in jack.

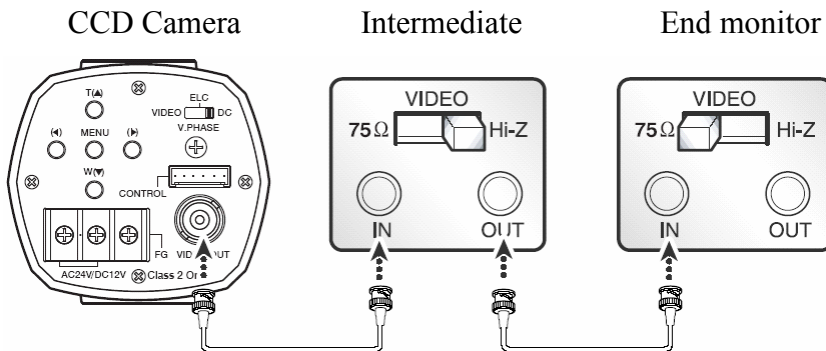
**UWAGA:** Kabel wizyjny należy podłączać po wyłączeniu zasilania urządzeń!



As the connecting method varies with the instruments, refer to the manual supplied with the instrument.

Connect the cable after power is turned off.

Set the 75Ω/ Hi-Z selection switch as shown below if you have an intermediate device.



Please see the below table and choose the proper cable for the installation.

Cable	RG-59/U	RG-6/U	RG-11/U	RG-15/U
	3C/2V	5C/2V	7C/2V	10C/2V
Max. length of cable	250 m	500 m	600 m	800 m

## Remote jack

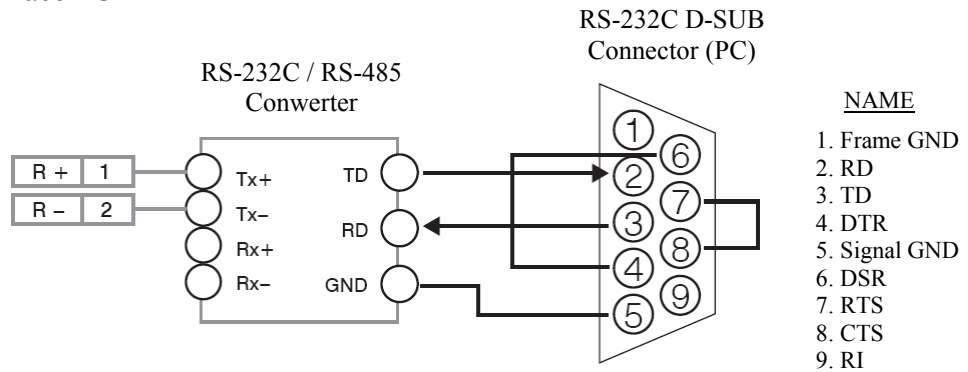


No	Function
1	R + (RS-485)
2	R - (RS-485)
3	DAY / NIGHT OUTPUT „H”
4	GND
5	DAY / NIGHT INPUT (EXT) „L”

### 1. Remote Input Jack RS-485

It is a terminal that controls the function of the camera at long distance.

- Interface PC

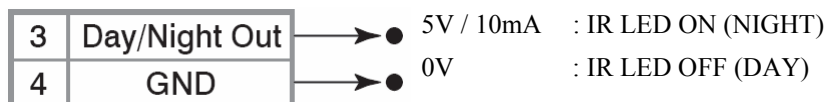


- DVR Interface (RS-485 Communication)



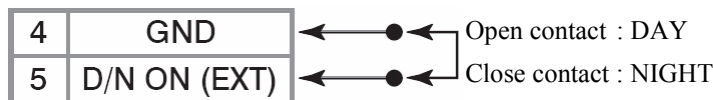
### 2. DAY / NIGHT OUTPUT

It is the function that can turn on external IR LED Lamp by detecting the sensitivity on CDS when the Day / Night mode is set "Auto" on the OSD menu of the camera.



### 3. DAY / NIGHT EXTERNAL INPUT

It is the function that can be switched to DAY Mode or NIGHT Mode by receiving the Day/Night on/off signal from external light sensor or IR LED LAMP. When Day / Night Mode is set " External" on the OSD menu of the Camera.



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## Part 7: Configuration of The Menu

### A. MENU

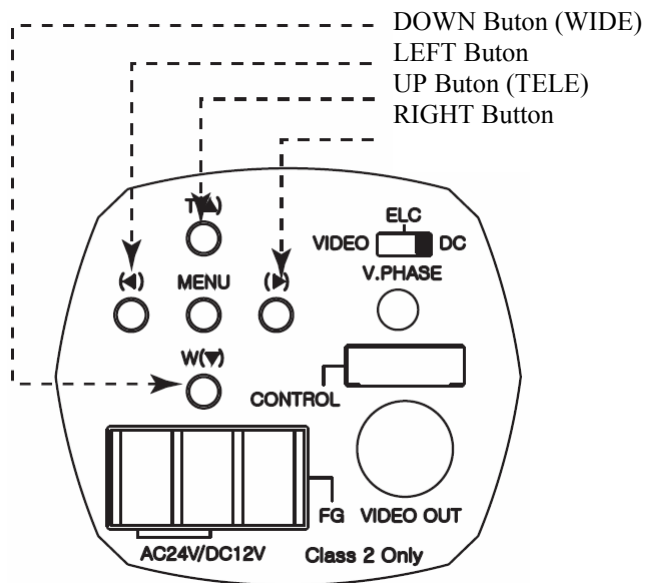
GENERAL	CAMERA ID	000 ~ 255
	ZONE LABEL	SET
	NEGA/POSI	POSI/NEGA
	SHARPNESS	0 ~ 15
	MIRROR	NORMAL, MIRROR, VERTICAL, ROTATE
	FREEZE	ON, OFF
	INITIAL	ON, OFF
	EXIT	
AWB	WB MODE	AUTO, HOLD, USER
	RED CONT	NOT USE (AUTO, HOLD), 1~255 (USER)
	BLUE CONT	NOT USE (AUTO, HOLD), 1~255 (USER)
	PUSH AUTO	NOT USE (AUTO, USER), OFF/PUSH (HOLD)
	INITIAL	ON, OFF
	EXIT	
AE	BRIGHTNESS	0 ~ 60
	FLICKERLESS	ON (x120), OFF
	SHUTTER SPD	X250, x500, x1000, x2000, x4000, x10000
	AGC MAX SET	AGC OFF, LOW, MID, HIGH
	MAX FLD SET	OFF, 2~20 FLD, 40 FLD, 80 FLD, 160 FLD
	INITIAL	ON, OFF
	EXIT	
D & N	D/N MODE	AUTO, DAY, NIGHT, EXT
	LEVEL	0 ~ 200
	FILTER DLY	0 ~ 15 SEC
	INITIAL	ON, OFF
	EXIT	
WDR	WDR MODE	ON, OFF
	WDR LEVEL	0 ~ 15
	BACK LIGHT	ON, OFF
	BLC LEVEL	0 ~ 15
	INITIAL	ON, OFF
	EXIT	

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PRIVACY	AREA	1 ~ 4
	MASK	ON, OFF
	START X	
	END X	
	START Y	
	END Y	
	INITIAL	ON, OFF
	EXIT	
DISPLAY	CAMERA ID	ON, OFF
	ZONE LABEL	ON, OFF
	VERSION	
	INITIAL	ON, OFF
INITIAL	OFF STATE	
EXIT		

**B. SETTING UP THE MENU**

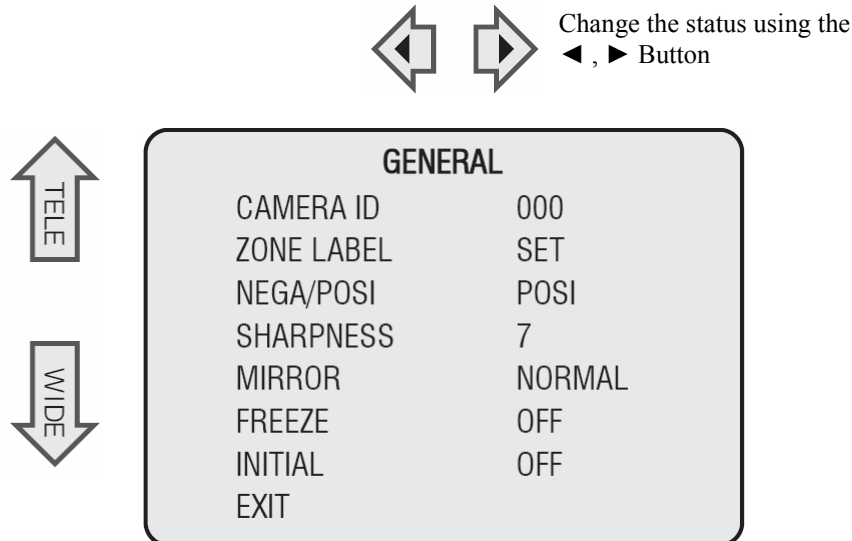
Use five setup Menu buttons on Rear side of the camera.



## Part 8: Settings of The Menu

### A. GENERAL

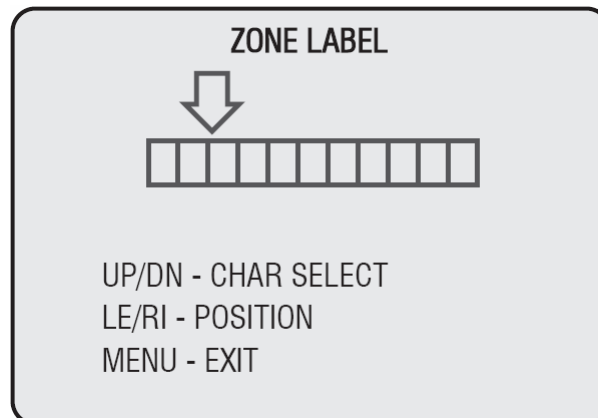
Press the MENU button to access the GENERAL mode.



#### 1. CAMERA ID

- Set 'CAMERA ID' to the desired mode using LEFT( ) or RIGHT( ) button.
- Press the MENU button to display the 'GENEURL' and move the arrow indicator to 'CAMERA ID' using the T or W button.
- If the 'CAMERA ID' feature is set to 'ON', the name will be displayed on the monitor. (Main 'DISPLAY' MENU)

#### 2. ZONE LABEL



- You can enter up to 10 characters.
- Move the cursor to character-enter location by using the LEFT( ) or RIGHT( ) button.
- Select the desired character by using T , W button.
- The factory default characters are: A~Z,a~z,0~9,~,!,#,\*,-,+/,;,:,?,",\_,( ),&,% ,▲,▼,▶,◆.
- EXIT : RETURN to GENERAL MENU
- If the 'DISPLAY MENU' feature is set to 'ZONE LABEL - ON', the name will be displayed on the monitor.

**3. NEGA/POSI**

Select Nega/Posi

**4. SHARPNESS**

Adjust the Sharpness of the screen.

**5. MIRROR**

- NORMAL : Deactivation
- MIRROR : Reverse turn Left or Right
- VERTICAL : Reverse turn Up or Down.
- ROTATE : Rotate the Screen to 180

**6. FREEZE**

Used when paused Video is needed.

**7. INITIAL**

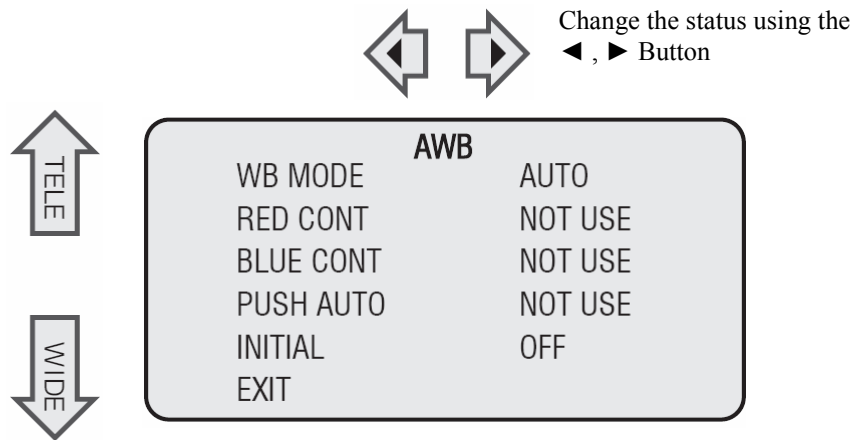
INITIAL GENERAL MODE

**8. EXIT**

RETURN to MAIN MENU

## B. AWB

Press the MENU button to access the AWB mode.



### 1. AUTO

Set 'AUTO' to the desired mode using LEFT( ) or RIGHT( ) button.  
WB is automatically set up between 2500~9500.

### 2. HOLD

Set 'HOLD' to the desired mode using LEFT( ) or RIGHT( ) button.  
If PUSH AUTO is selected as 'ON', it fixes up the value setting the current WB.

### 3. USER

Set 'USER' to the desired mode using LEFT( ) or RIGHT( ) button.  
WB gains can be set by using RED CONT, BLUE CONT

### 4. INITIAL

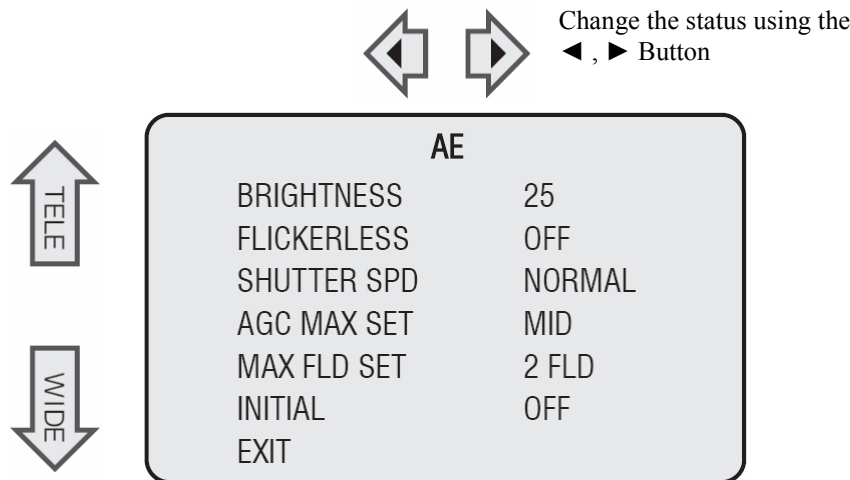
INITIAL AWB MODE

### 5. EXIT

RETURN to MAIN MENU

C. AE

Press the MENU button to access the AE mode.

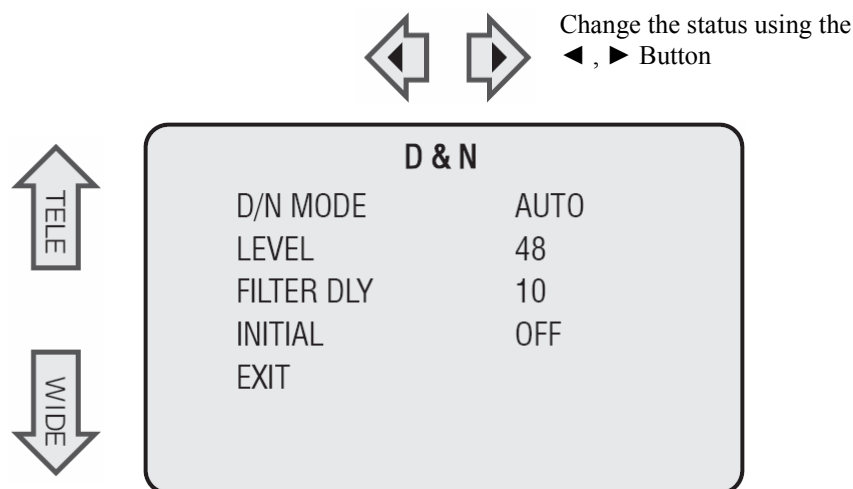


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1. **BRIGHTNESS**  
Set 'BRIGHTNESS' to the desired mode using the LEFT( ) or RIGHT( ) button.  
0~60 BRIGHTNES Levels can be adjusted.
2. **FLICKERLESS**  
Set 'FLICKERLESS' to the desired mode using the LEFT( ) or RIGHT( ) button.  
OFF : Deactivation  
ON : 1/100(PAL Models), 1/120(NTSC Models)
3. **SHUTTER SPD**  
Set 'SHUTTER SPD' to the desired mode using LIFT( ) or RIGHT( ) button.  
NORMAL : Deactivation  
X250 : 1/250 sec, X500:1/500 sec, X1000:1/1000 sec, X2000:1/2000 sec,  
X4000 : 1/4000 sec, X10000:1/10000 sec
4. **MAX AGC SET**  
Set 'AGC MAX SET' to the desired mode using LIFT( ) or RIGHT( ) button.  
AGC OFF : Deactivation  
LOW : Gain is increased or decreased from 0 to 10dB automatically according to the illumination.  
MID : Gain is increased or decreased from 0 to 20dB automatically according to the illumination.  
HIGH : Gain is increased or decreased from 0 to 30dB automatically according to the illumination.
5. **MAX FLD SET**  
Set 'MAX FLD SET' to the desired mode using LIFT( ) or RIGHT( ) button.  
OFF, 2 FLD ~ 20 FLD, 40 FLD, 80 FLD, 160 FLD
6. **INITIAL**  
INITIAL AE MODE
7. **EXIT**  
RETURN to MAIN MENU

**D. D & N**

Press the MENU button to access the D & N mode.



Your camera provides automatic mode changeover by CDS sensing day or night conditions. It changes to Color mode in day condition for optimal color and to BW mode in night condition for clear identification.

**1. D/N MODE**

Set 'D/N MODE' to the desired mode using the LEFT( ) or RIGHT( ) button.

AUTO : DAY & NIGHT AUTO Mode / DAY : Only Day

NIGHT : Only NIGHT / EXT : External Interface (IR LED)

**2. LEVEL**

Set 'LEVEL' to the desired mode using the LEFT( ) or RIGHT( ) button.

(15 : 40Lux, 28 : 30Lux, 48 : 20Lux, 88 : 10Lux, 128 : 5Lux, 200 : 1Lux)

This level is setting up the turning point of the filter. For example, if the user set up the level to 48, the filter will be switched at 20Lux. The level can be chosen from 0 to 200. Please set up the level higher when you install this camera into the housing (example : Level 128).

**3. FILTER DLY**

Set 'FILTER DLY' to the desired mode using the LEFT( ) or RIGHT( ) button.

According to user's need, the turning delay time of 0~15 seconds can be given.

**4. INITIAL**

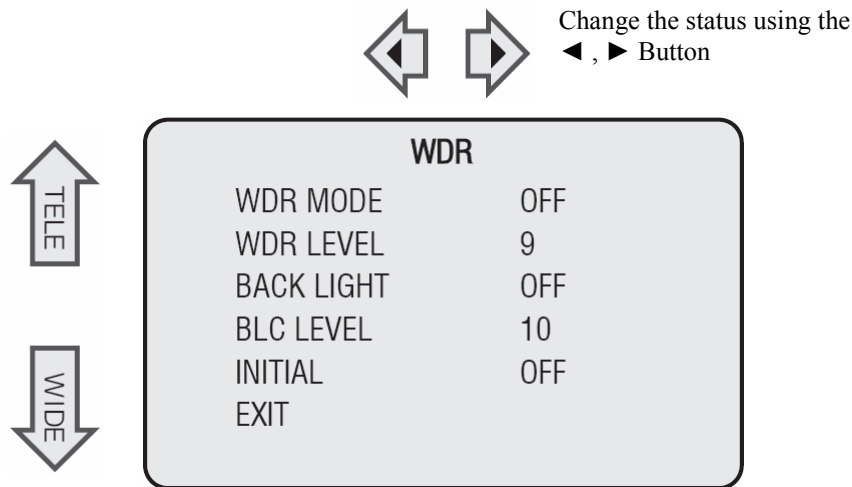
INITIAL D & N MODE

**5. WYJŚCIE (EXIT)**

RETURN to MAIN MENU.

## E. WDR

Press the MENU button to access the D & N mode.



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### 1. WDR MODE

Set 'WDR MODE' to 'ON/OFF' using the LEFT( ) or RIGHT( ) button.

### 2. WDR LEVEL

Set 'WDR LEVEL' to the desired mode using LEFT( ) or RIGHT( ) button.  
0~15 Ranged and adjust the brightness in WDR Mode.

### 3. BACK LIGHT

Set 'BACK LIGHT' to 'ON/OFF' using the LEFT( ) or RIGHT( ) button.

### 4. BLC LEVEL

Set 'BLC LEVEL' to the desired mode using LEFT( ) or RIGHT( ) button.  
0~15 Ranged and adjust BLC Gain.

### 5. INITIAL

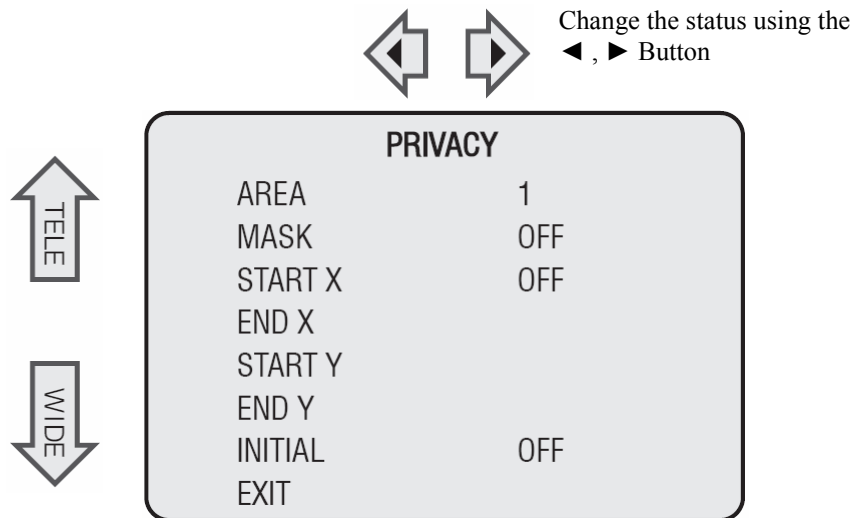
INITIAL D & N MODE

### 6. EXIT

RETURN to MAIN MENU

## F. PRIVACY

Press the MENU button to access the PRIVACY mode.



### 1. AREA

Set 'AREA' to the desired mode using LEFT( ) or RIGHT( ) button.  
Total 4 categories can be designated.

### 2. MASK

Set 'MASK' to the desired mode using LEFT( ) or RIGHT( ) button.  
Marks the area on the screen in state of 'ON'

### 3. START X

Set 'START X' to the desired mode using LEFT( ) or RIGHT( ) button.  
Indicates the starting point of X axis.

### 4. END X

Set 'END X' to the desired mode using LEFT( ) or RIGHT( ) button.  
Indicates the ending point of X axis.

### 5. START Y

Set 'START Y' to the desired mode using LEFT( ) or RIGHT( ) button.  
Indicates the starting point of Y axis.

### 6. END Y

Set 'END Y' to the desired mode using LEFT( ) or RIGHT( ) button.  
Indicates the ending point of Y axis.

### 7. INITIAL

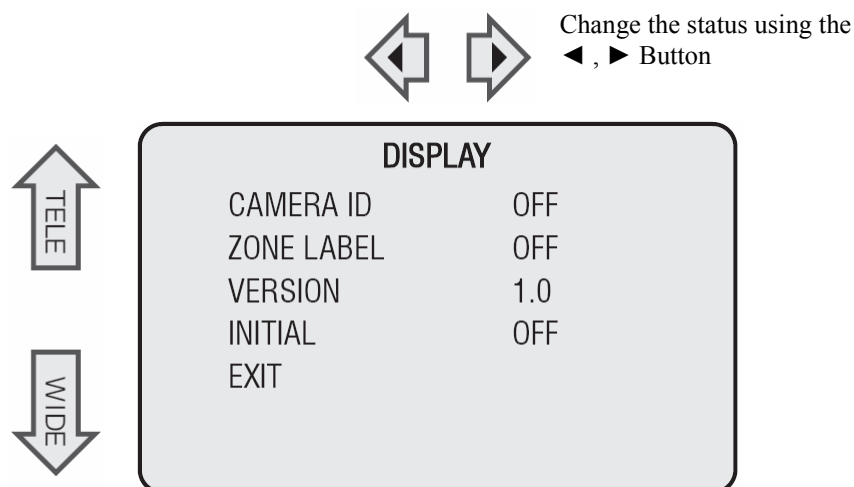
INITIAL PRIVACY MODE

### 8. EXIT

RETURN to MAIN MENU

## G. DISPLAY

Press the MENU button to access the DISPLAY mode.



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- 1. CAMERA ID**  
MONITOR DISPLAY ON/OFF
- 2. ZONE LABEL**  
MONITOR DISPLAY ON/OFF
- 3. VERSION**  
CAMERA VERSION
- 4. INITIAL**  
INITIAL DISPLAY MODE.
- 5. EXIT**  
RETURN to MAIN MENU.

## Part 9: Troubleshooting

If you have trouble operating your camera, refer to the following table. If the guidelines do not enable you to solve the problem, contact an authorized technician.

Problem	Solutions
Nothing appears on the screen.	Check that the power cord and line connection between the camera and monitor are fixed properly. Check that you have properly connected VIDEO cable to the camera VIDEO output jack.
The image on the screen is dim.	Is lens stained with dirt? Clean your lens with soft, clean cloth. Set the monitor to proper condition. If the camera is exposed to too strong light, change the camera position. Adjust the lens' focus properly.
The image on the screen is dark.	Adjust the contrast feature of the monitor. If you have an intermediate device, set the 75Ω/ Hi-z properly. Adjust DC Level, VR Level properly.
The camera is not working properly, and the surface of the camera is hot.	Check that you have properly connected the camera to an appropriate power source.
The image on the screen flickers.	Is the camera facing to direct sunlight or fluorescent lighting? Change the camera position.

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## NOTES

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## **NOTES**

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