

user's manual
instrukcja obsługi



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NVC-VH200C
NVC-VH300C
NVC-VH200DN
NVC-VH300DN

noVus™

user's manual

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NVC-VH200C
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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.

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.

1. General:

The vandal dome cameras NVC-VH200C, NVC-VH200DN and surface mount vandal cameras NVC-VH300C, NVC-VH300DN feature a 1/3" SONY CCD imager SuperHAD and ExView that provides high-resolution image quality. In case of low light illumination the cameras switch onto black / white mode (only models NVC-VH200DN and NVC-VH300DN). These compact cameras are easily installed in any location and their wide angle of viewing enables the user to monitor broad area. **NOVUS NVC-Vxxx** series vandal dome cameras are highly resistant to mechanical strokes. This product has been carefully inspected through rigid quality control before shipment. With reasonable installation and operation, it will provide year of reliable performance. Considering your investment, we understand you would like to know the full performance capability about the new product. Therefore, we need to recommend that you read the installation and operation manual thoroughly before attempting to install and operate the product.

Please read and observe all instructions and warnings contained in this manual. Retain the original manual for future reference.

FEATURES

- The housings are resistant to mechanical stroke.
- High-performance 1/3" SONY DSP color Super HAD and day / night ExView CCD technology.
- 480 TVL (Color) of resolution for colour cameras (PAL system).
- 480 TVL (Color), 570 TVL (B/W) of resolution for day / night cameras (PAL system).
- 0.6 lx (Color) for colour cameras
- 0.5 lx (Color), 0.01 lux (B/W) for day / night cameras
- Flicker less, BLC, D/N Conversion (Color/BW), AGC, D&N (Auto/Manual), Sync adjustments (only models NVC-VH200DN and NVC-VH300DN)



IMPORTANT: The user of this camera is responsible for checking and complying with local, state, and federal laws and statutes concerning the recording and monitoring of audio signals.

CONTENTS PACKAGE

Installation of the camera must be performed by qualified service personnel in accordance with all local and national electrical and mechanical codes.

Carefully remove the color camera and its accessories from the carton and first please compare the received items with your order list, second check for damaged items. If there is anything missing or damage in evidence, please do not install or operate the product, then contact the dealer for assistance immediately. Never try to service this product by yourself. Opening the covers may expose you to dangerous power voltage or other hazards.

The contents of the package includes:

- | | |
|--------------------------------|-------|
| • Main body | 1 pc. |
| • Power-DC and Video-BNC cable | 1 pc. |
| • Mounting screws kit | 1 pc. |
| • Wrench | 1 pc. |

2. Specifications:

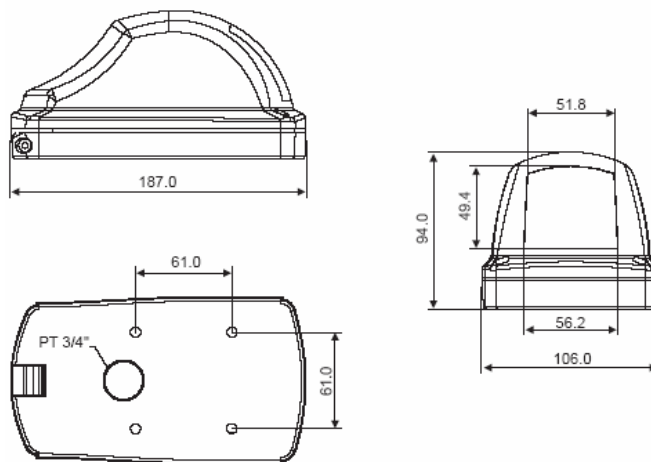
	NVC-VH200C	NVC-VH300C	NVC-VH200DN	NVC-VH300DN
SENSOR INFORMATION AND GENERAL				
Image sensor	1/3" SONY SuperHAD		SONY 1/3" ExView	
Picture element	752 x 582 (effective pixels - PAL)		795 x 596 (effective pixels - PAL)	
Video output	BNC, 1.0 V _{p-p} , 75Ω			
Lens / angle of view	4 ~9 mm / 39.2° ~ 92.4°			
Resolution	480 TVL - colour mode		480 TVL - colour mode 570 TVL - b-w mode	
Minimum illumination	0.6 lx/F=1.2 - colour mode, 50 IRE		0.5 lx /F=1.2 - colour mode, 50 IRE 0.01 lx /F=1.2 - b-w mode, 50 IRE	
S/N ratio	> 46 dB (AGC off)		> 50 dB (AGC off)	
Scanning system	2:1 interlace			
FUNCTION				
Exposure	DC auto iris		DC auto iris/ electronic shutter	
Electronic shutter	Auto: 1/50		Manual: 1/50; 1/100; 1/250; 1/500; 1/1k; 1/2k; 1/4k, 1/10k Auto: 1/50 ~ 1/10k	
AGC	Yes			
BLC	NO		40% center	
Auto iris	Direct control (DC)			
White balance (WB)	NO		ATW / AWB	
Day / night mode conversion	NO		ON / OFF	
Day / night mode selection	NO		Auto / manual	
Sensitivity for near infrared lights	NO		YES	
Sync	Internal with vert phase adjust		Internal / line loch with vert phase adjust	

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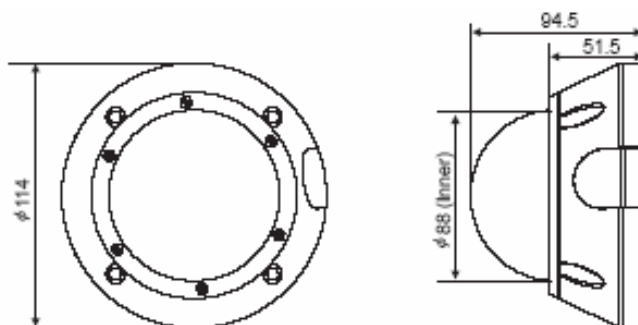
MECHANICAL		
Dimension [mm]:	see below	
Housing	Vandal resistant, powder coated aluminum camera housing with stel bracket for camera, 2.5 mm thick impact resistant (lexan) glass	
Water resistance	IP 66	
Weight	about 0,83 kg	
POWER		
Power source	12 DC $\pm 10\%$	24 VAC $\pm 10\%$, 50 Hz ± 1 Hz 12 DC $\pm 10\%$
Consumption	max 2.4W	max 3.5W
ENVIRONMENTAL		
Operating temperature	$-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$	
Humidity	96% (non-condensing)	

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The dimensions of the camera NVC-VH300C i NVH-300DN



The dimensions of the camera NVC-VH200C i NVH-200DN



3. Camera connections:

Warning

Entire installation process of 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.

Warning

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

Connect video output of the camera (VIDEO OUT) - to an appropriate monitor video input (VIDEO IN) using standard 75 Ohm coaxial cable.

As the connecting method varies with different display units, refer to the display unit manufacturer's user's manual.

Warning: Before proceeding with next step, make sure not to use power supply providing voltage higher than maximum allowed. Connecting inappropriate voltage to this camera might result in damaging this unit.

Important Notice

FIRST - connect all cameras in the system to a power supply
 SECOND - connect the power supplier to a power source

Connect the power connector of the camera to a appropriate power supply

As voltage may drop according to the length of electric cord as shown in table below, camera may malfunction if too long output line of adaptor is connected to the camera.

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

* Voltage for camera operation: DC 12V ± 10%

* Voltage drops on above table are subject to change accordingly to types of electric cords used and other environmental conditions.

Notes:

Be sure to connect power after all the installation is done.

Note that AC adaptor is not supplied with camera.

Use only 24 V AC / 12 V DC UL listed class 2 power supply.

Copper wire size (AWG)	#24 (0.22mm ²)	#22 (0.33mm ²)	#20 (0.52mm ²)	#18 (0.83mm ²)
Resistance (Ω/m)	0.078	0.050	0.030	0.018
Voltage Drop (V/m)	0.028	0.018	0.011	0.006

4. Instalation:

1. Base instalation of the cameras: NVC-300C & NVC-300DN.

CAUTION: When installing the camera outdoors, the following instructions must be followed closely.

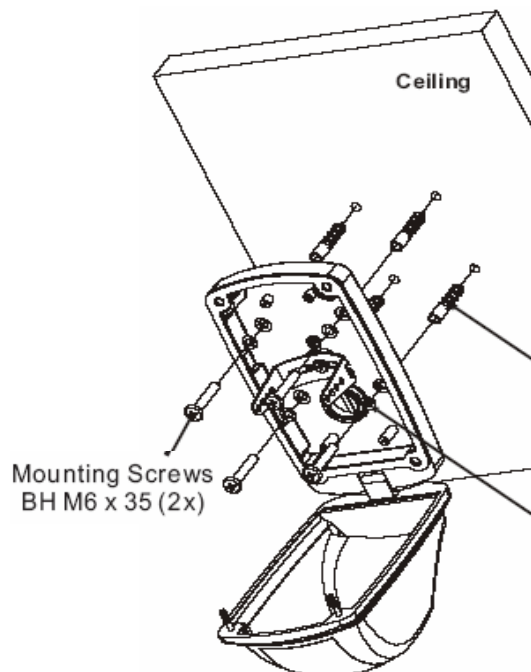
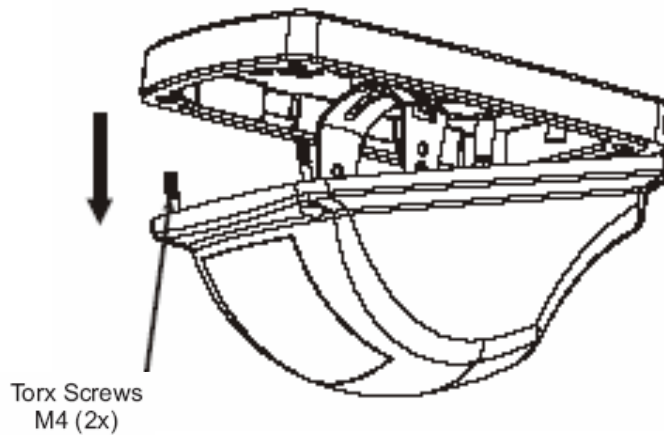
Loosen the four torx screws located midway up the front of the housing. Leave the screws intact in the front portion.

Drill holes for the four mounting screw anchors. Insert the screw anchors and attach the housing to the screw anchors.

Warp the conduit fitting threads with Teflon tape before installing them. (Teflon tape is not supplied.) - **Surface type**

Use silicone sealant around the rubber grommet to protect it against waterintrusion. - **Ceiling type**

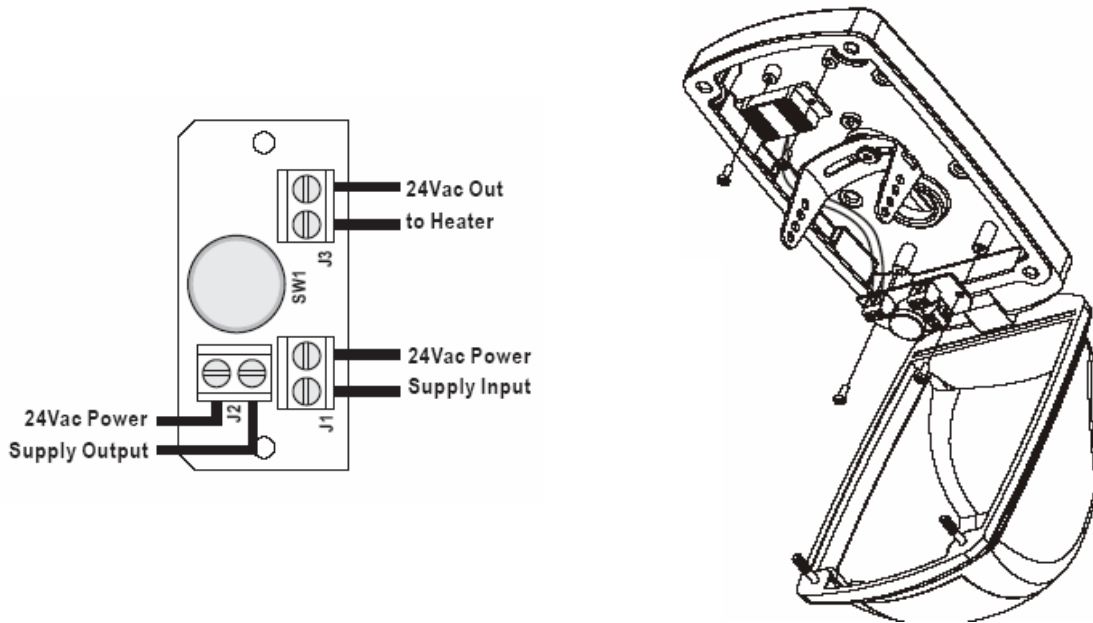
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2. Heater kit installation of the cameras: NVC-300C & NVC-300DN (optionally).

Use the following drawings to install the camera the heater kit in the housing.

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Heater (if applicable)	
Power supply	24 V AC or 12 V DC
Consumption	20 W
Heater ON	at 41 °F (5°)
Heater OFF	at 59 °F (15°)

3. Base installation of the cameras: NVC-200C & NVC-200DN.

CAUTION: When installing the camera outdoors, the following instructions must be followed closely.

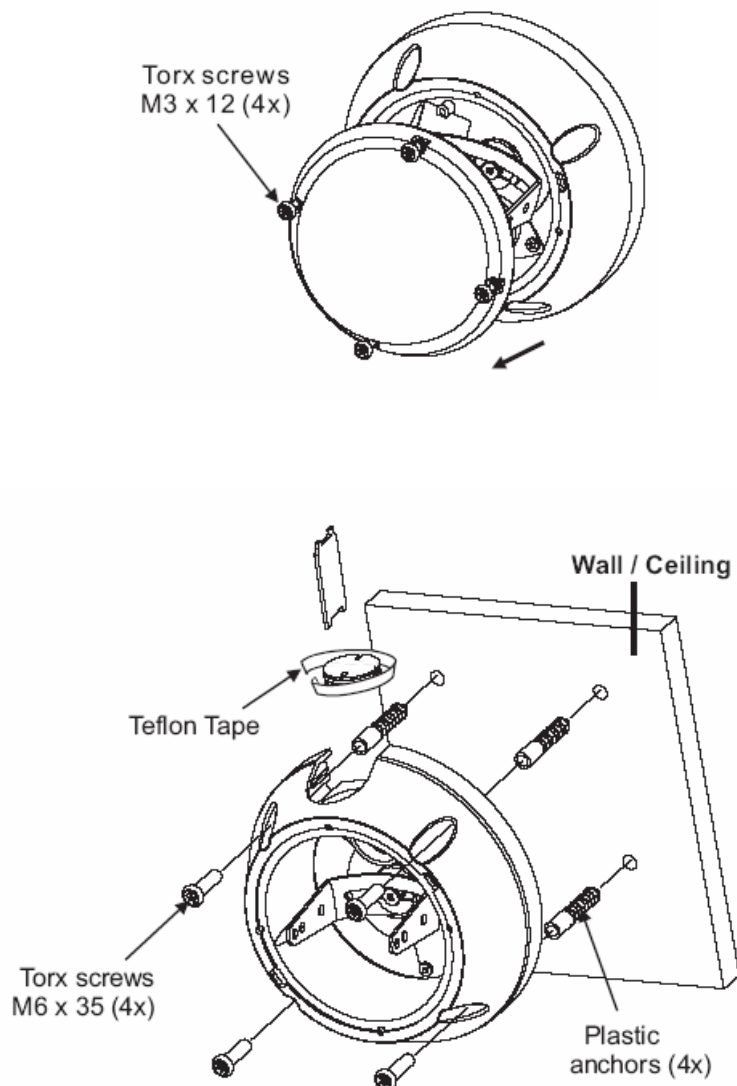
Loosen the four torx screws located midway up the front of the housing. Leave the screws intact in the front portion.

Drill holes for the four mounting screw anchors. Insert the screw anchors and attach the housing to the screw anchors.

Wrap the conduit fitting threads with Teflon tape before installing them. (Teflon tape is not supplied.) - **Surface type**

Use silicone sealant around the rubber grommet to protect it against water intrusion. - **Ceiling type**

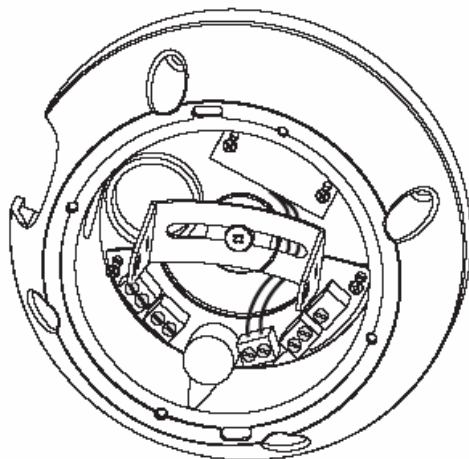
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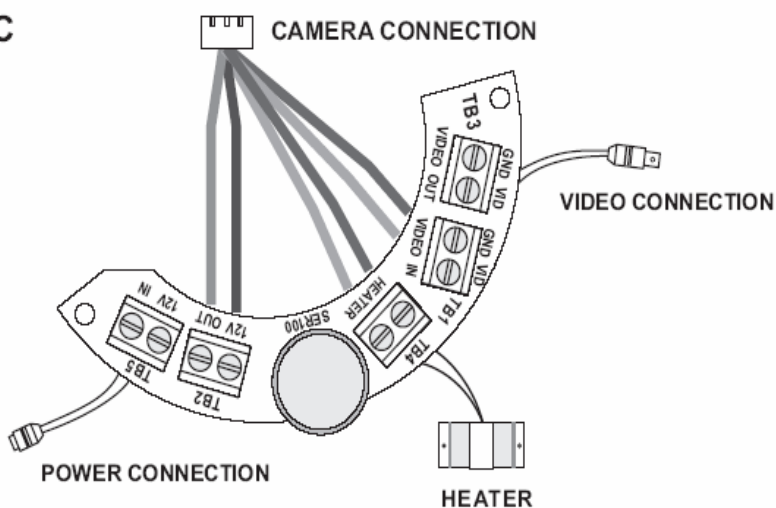
4. Heater kit installation of the cameras: NVC-200C & NVC-200DN (option).

Use the following drawings to install the camera the heater kit in the housing.

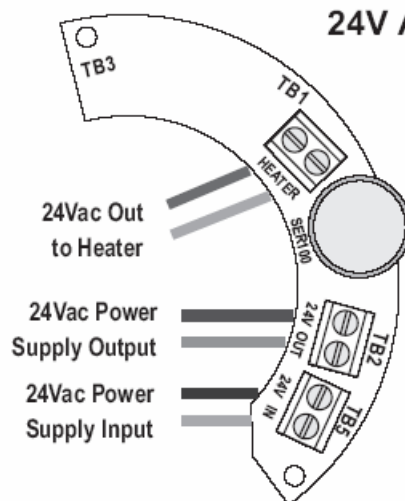
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12V DC

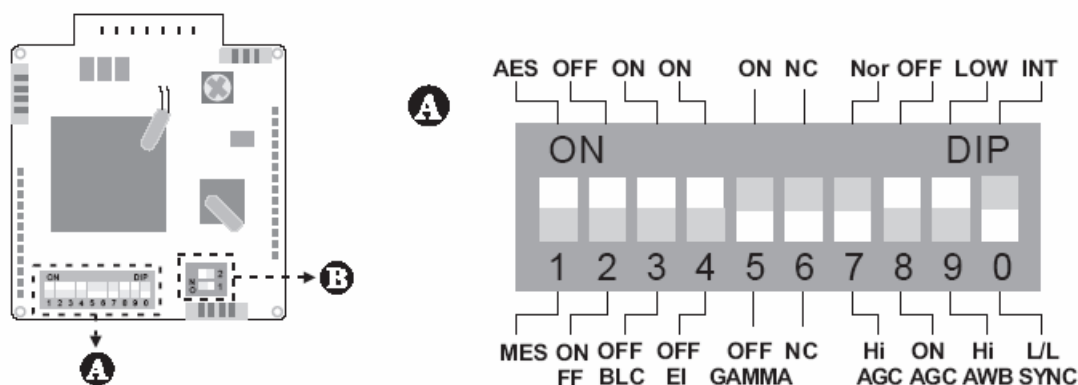


24V AC



Heater (if applicable)	
Power supply	12 V DC or 24 V AC
Consumption	20 W
Heater ON	at 41 °F (5°)
Heater OFF	at 59 °F (15°)

5. Setting up the switches and potentiometers:



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1. SHTR Switch (Aes/Mes)

This switch allows the user to choose between auto exposure and manual exposure. Position the switch toward the front of the camera for auto exposure, whereby the exposure is performed by the electronic iris and AGC control. Position the switch toward the back of the camera for manual exposure, whereby the shutter speed can be set by the shutter adjust.

*Manual Exposure (Sw1 = Manual Exposure)

Switch Position				Shutter Speed	Switch
SW1	SW2	SW3	SW4		Sw 1 2 3 4
MES	up	up	up	1/50	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	down	up	up	1/120	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	up	down	up	1/250	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	down	down	up	1/500	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	up	up	down	1/1000	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	down	up	down	1/2000	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	up	down	down	1/4000	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
MES	down	down	down	1/10000	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

2. Flickerless Switch (off/on)

(SW1=Auto Exposure) This function is used for removing flicker, when camera signal format does not coincide with power source frequency being used.

3. BLC Switch (on/off)

(SW1=Auto Exposure) This on/off switch controls backlight compensation. When set to ON, the camera will automatically try to maintain proper exposure in the specific area even if the lighting level changes.

4. E/I (on/off)

(SW1=Auto Exposure) When set to the ON position, the electronic iris switch automatically varies the camera's shutter to mimic auto-iris control, allowing fixed or manual iris lenses to be used in a wider range. When this switch is set to ON, turn the F/F switch OFF.

5. Gamma Switch (on/off)

The gamma correction switch allows .45 correction for non-linearity gain response in the monitor when set to ON. When set to OFF, there is no gamma correction

6. NC

7. AGC Select Switch (Normal/Hi)

AGC Normal: AGC Middle Gain.

AGC High: AGC Max Gain.

Only AGC Switch (Function, s/w No. 8Pin) ON.

8. AGC Switch (off/on)

The auto gain control switch allows the video signals to maintain a constant level. This switch is useful when using the camera at low-light levels and when lighting levels change over time. For best low light conditions, this switch should set to ON.

9. AWB Switch (Low/Hi)

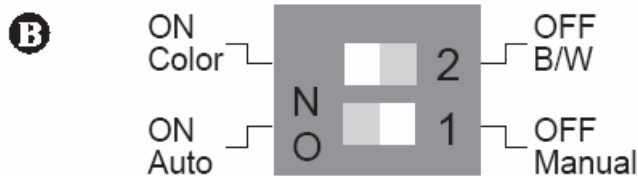
This camera have two white balance setting.

ATW (auto tracing white balance) -The camera automatically aim to maintain white objects as white even if the light color changes. Switch Position "Low".

AWB (auto white balance) -Quick ATW. Switch Position "Hi".

10. Sync Select Switch (int/LL)

Use this switch to set the camera synchronization mode internal (int) or Line Lock (LL).



11. D/N Mode Selection (Auto/Manual)

Auto: D/N mode converse automatically. (AGC must set to ON)

Manual: User can select mode with D/N Conversion Switch.

(Function Pin 2)

12. D/N Conversion Switch (Color/BW)

D/N Color: Only Color.

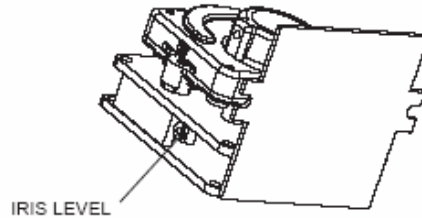
D/N B/W: Only B/W.

When D/N Manual Mode. (Function, s/w No. 1Pin)

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13. Iris Adjustment Pot (Potentiometer)

This control allows the user to adjust the level of the auto iris when DC lens is mounted on the camera.

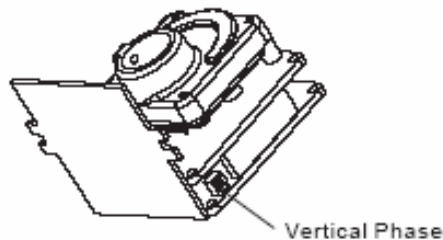


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14. Vertical phase adjustment

Phase adjustment is used in a multi-camera system when power is supplied from a different source, causing the camera to be out of phase. This affects auto-switching of the cameras by causing a vertical flip or roll during the switch interval. The vertical phase adjustment allows the camera's line lock sync to be adjusted from 0 to 360 degrees with reference to the zero line crossing of the AC power source.

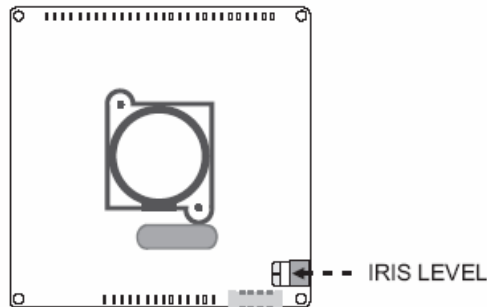
- Ensure that all cameras are powered from the same electrical source and wired in a similar fashion.
- Adjust the phase control on the camera until there is no vertical flip or roll on the monitor when using an auto switcher.



6. Adjustment Potentiometers for colour cameras:

1. DC Auto iris adjustment

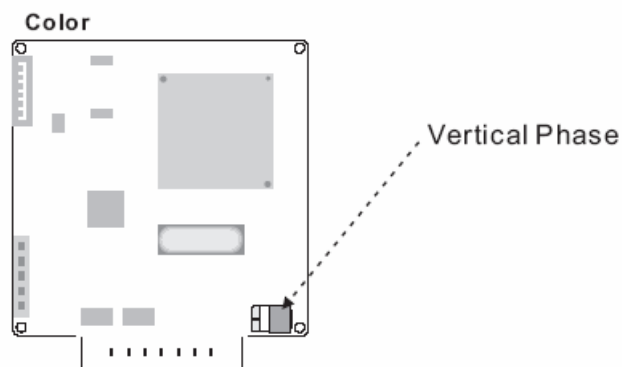
This control allows the user to adjust the level of the auto iris when DC lens is mounted on the camera.



2. Vertical phase adjustment

Phase adjustment is used in a multi-camera system when power is supplied from a different source, causing the camera to be out of phase. This affects auto-switching of the cameras by causing a vertical flip or roll during the switch interval. The vertical phase adjustment allows the camera's line lock sync to be adjusted from 0 to 360 degrees with reference to the zero line crossing of the AC power source.

- Ensure that all cameras are powered from the same electrical source and wired in a similar fashion.
- Adjust the phase control on the camera until there is no vertical flip or roll on the monitor when using an auto switcher.



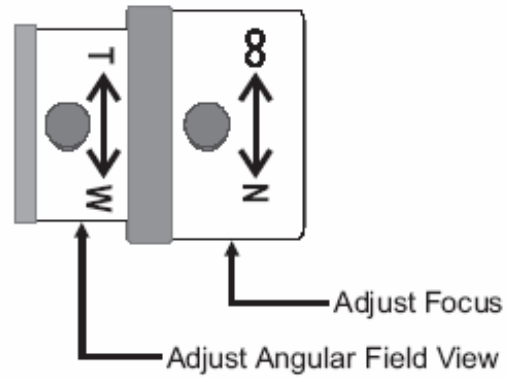
7. Lens adjustment:

Field of view:

Adjust setting from Telephoto (T) to wide (W) field of View.

Focus:

Adjust lens focus from near to infinity.



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