

## Pro Series Heavy Duty 1000 Line Bullet Cameras

**PRO1000B3**  
3~12mm, 250' IR

**PRO1000B6**  
6~50mm, 325' IR

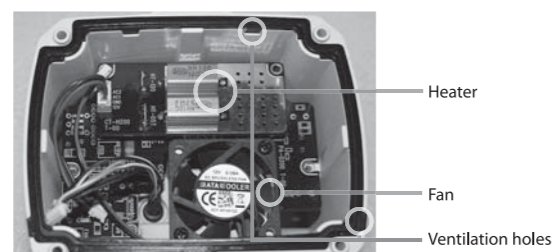


### PRODUCT FEATURES

- 1000 Line Resolution Sony IMX-238 Sensor
- True Wide Dynamic Range (Double Scan WDR)
- Operating Temperature of -40° using Built-in Heater & Fan
- Heavy Duty Ventilated Housing to Eliminate Condensation
- Hinged Style Back Box for Easy Installation & Cable Management
- True Day/Night: 3~12mm or 6~50mm Lens w ICR Filter

Northern★ ◆ 3625 Cincinnati Avenue, Rocklin, CA 95765 ◆ 855-388-7422 ◆ www.northernvideo.com

### Configuration



### Quick installation

**01** Open the box and check the contents

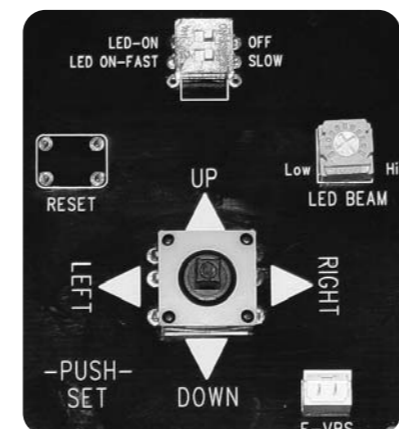


01. 12VDC Adapter 02. Video Test Cable 03. Allen Wrenches [x2] 04. Junction Box hinge screw & nut  
05. Camera/Bracket mounting screw 06. Mounting screws & anchors [x4] 07. Junction Box caps  
08. Camera & Mounting arm 09. Junction Box 10. Junction Box mounting gasket

**02** Bracket adjustment



**04** Accessing the control panel

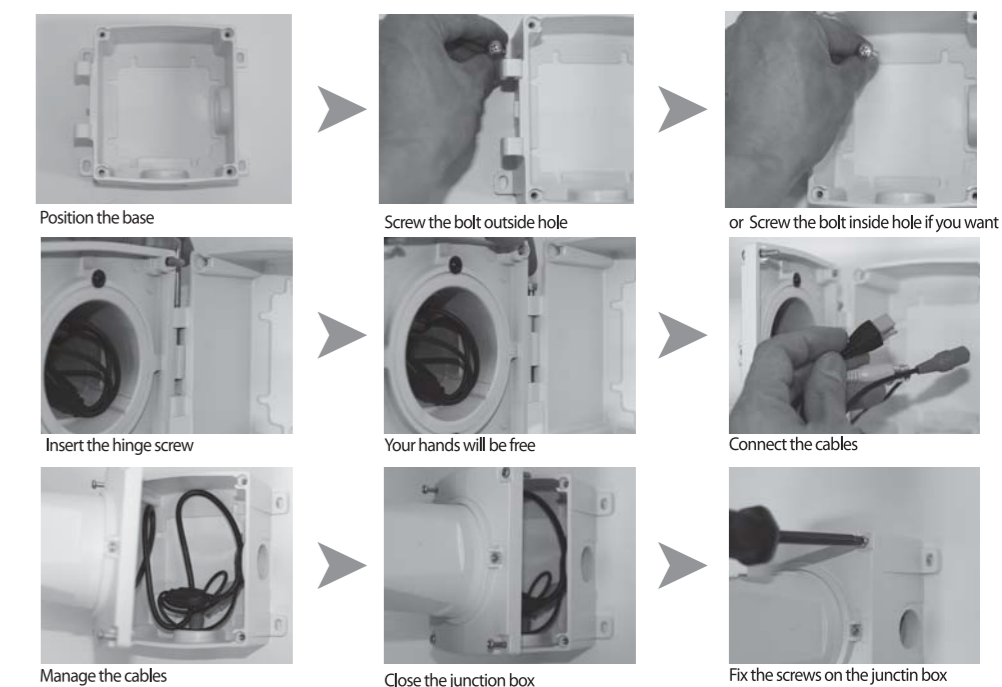


- 1.LED-ON/OFF : You can turn on/off IR LEDs
- 2.LED ON-FAST/SLOW:  
FAST: LED on at 3 lux  
SLOW: LED on at 1 lux  
More detail setting available on the OSD menu
- 3.LED BEAM Low/Hi :When focused over 20m distances, Hi mode is recommended
- 4.Joy stick: PUSH-SET-OSD ( On Screen Display)
- 5.E-VBS: Extra video for Test Monitor

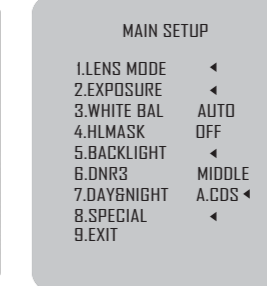
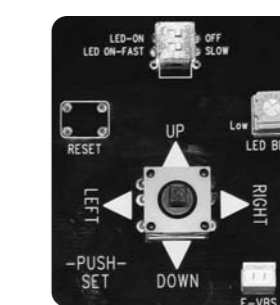
### SPECIFICATION

MODEL	PRO1000B3	PRO1000B6
Main Chipset	Sony IMX238 / X-Gen IV	
Image Sensor	1/3" Sony 1.3 MegaPixel CMOS	
Effective Pixels	1296 (H) x 1041 (V)	
Resolution	1000 TV Lines Color	
OSD (On Screen Display)	Yes - Hatch Style	
True Wide Dynamic Range	Yes - Double Scan WDR ( LOW / MIDDLE / HIGH)	
Digital Noise Reduction	Yes - 2D + 3D DNR (OFF / LOW / Middle / HIGH)	
Video Output	1.0Vp-p / 75 OHM	
Lens Type - True Day Night	3~12mm	6~50mm
IR Cut Filter	Yes - Mechanical	
Sense-Up	Yes - OFF, 2x ~60x	
Minimum Illumination	0.002 Lux Color (F1.2/50IRE/DSSx60) 0.002 Lux B/W (F1.2/50IRE/DSSx60)	
IR LED (850nm) / Range	100pc / 250 foot	100pc / 325 foot
S/N Ratio	550 (db) / AGC Off	
Electronic Shutter	AUTO / MANUAL - 1/30 ~ 1/60,000 sec / FLICKER	
Iris Mode	ALC (Auto Iris Control) ELC (Electric Iris Level Control)	
Gain Control	On, Off, 0~20 Adjustable	
White Balance	Auto / Auto-Ext / PRESET / MANUAL	
Sync System	Internal	
Scanning System	Progressive Scan	
Video System	NTSC	
Gamma	γ = 0.45 Approx	
Back Light Compensation	OFF / WDR / BLC	
HLMASK (High Light Mask)	OFF / ALL / DAY / NIGHT	
Day / Night	A.CDS, A.AGC, Color, B/W	
Digital Zoom	Yes 1x~10x	
Mirror Mode	Yes - Horizontal & Vertical	
Power Range	12VDC/24VAC Dual Voltage Power (Separate Leads)	
Power Requirement	Camera Only: 200mA Max / LED-Fan-Heater On 1.5Amp	
Recommended Power	2Amp Power Supply Recommended	
Dimensions (Camera Only)	5.5" (W) x 4.5" (H) x 9.5" (D)	
Weight	Approx. 10lb	
Operating Temp	-40°F ~ 130°F	
Weatherproof Rating	IP66	

**03** Installation



**05** Menu setting

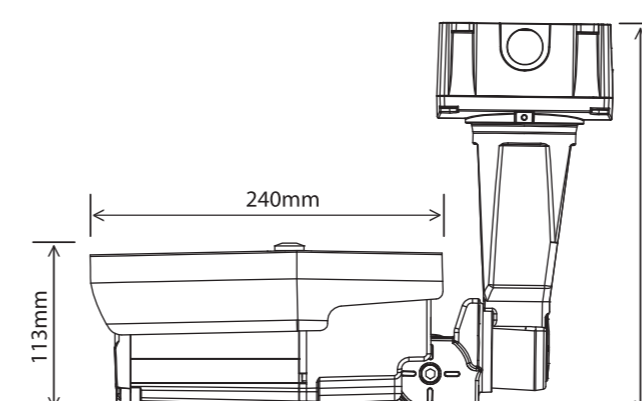
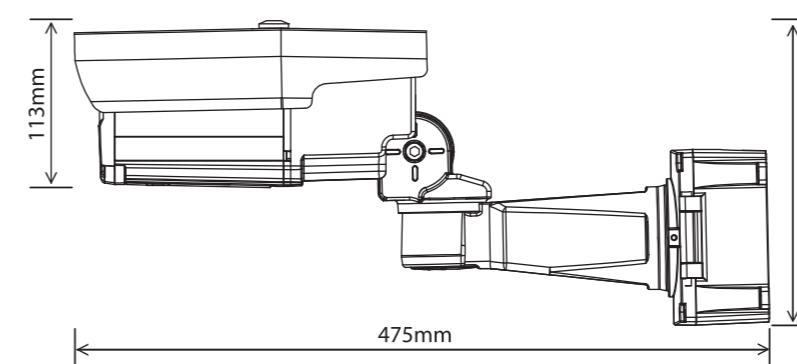


- \* Push the SET button > menu open  
\* Icon ◀ has sub menus. Press the set button to enter sub menus.  
1. Up and Down : Move Cursor  
2. Left and Right : Value  
3. Left and Right > Push > Menu > Value  
4. END : Push > Return

### Menu Configuration

MAIN SETUP	
LENS MODE	· FOCUS ADJ · D-ZOOM · ZOOM STATUS
EXPOSURE	· BRIGHTNESS · LENS MODE · SHUTTER · SENS-UP · AGC
WHITE BAL	· AUTO · AUTOext · PRESET · MANUAL
HLMASK	· OFF · ALL · DAY · NIGHT
BACKLIGHT	· OFF · BLC · WDR
DNR3	· OFF · LOW · MIDDLE · HIGH
DAY&NIGHT	· A.CDS · A.AGC · COLOR · B/W
SPECIAL	· IMAGE ADJ · INTELLIGENT · SYSTEM · PRIVACY · CAM TITLE · COMM ADJ · RESET MODE
EXIT	

**06** Dimension



**07** Caution

Please follow below instructions for safe use.

Information  
Read this user guide carefully before any installation for safe operation of product.

WARNING : Indicating the possibility of serious injury or death.

### WARNING

1. Do not disassemble the unit by yourself. When there is problem with the unit please contact after-sale service center or the shop where you bought.
2. Use only regulated power source.
3. Do not disassemble or re-model the camera, it could cause fire, electric shock or other hazards.

If the product is to be put out of operation definitively, take it to a local recycling plant for a disposal which is not harmful to the environment.

Made in Korea



## Menu details

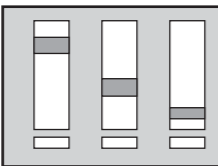
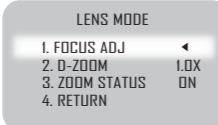
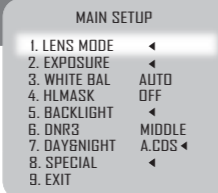
### 1. LENS MODE

Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

\* OSD button is used for zoom and focus before its OSD menu opens.  
\* You can control above functions through RS-485 communication or COAX communication also.

1. FOCUS ADJ : This function will help you to make focus easier.  
After fixing the camera, when you adjust the focus lever, an orange bar means camera is not focused.  
A green bar means the camera is in focus.  
The smaller green bar is, the better focus.
2. D-ZOOM : Digital Zoom available. Range : 1.0X ~ 10X
3. ZOOM-STATUS : Turn on/off digital zoom ratio digits.



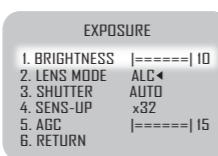
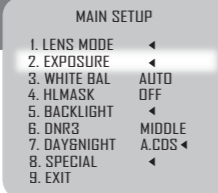
### 2. EXPOSURE

Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

#### ◉ EXPOSURE

1. BRIGHTNESS : Adjust brightness.  
Range : 0 ~ 20.
2. LENS MODE : Choose iris control method (ALC/ELC)  
ALC(Auto iris Level Control) : INDOOR -> For indoor use  
OUTDOOR -> For outdoor use  
DEBLUR -> Suppress blurred image from fast movement  
ELC(Electric iris Level Control): For fixed iris lens(NORMAL/DEBLUR)
3. SHUTTER : Adjust shutter operation. (AUTO / MANUAL / FLICKER)  
AUTO : NORMAL / DEBLUR  
MANUAL : 1/25(1/30) ~ 1/60,000  
FLICKER : ANTI-FLICKER MODE
4. SENS-UP (Digital Slow Shutter) : It will make sense up by enhancing available light.  
Range : OFF,X2-(NTSC: X60, PAL:X50)
5. AGC : Auto Gain Control for brighter images. You can choose max. of AGC value.  
Range : 0 ~ 20.



### 3. WHITE BALANCE

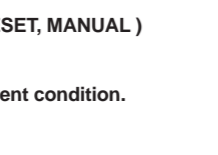
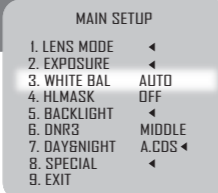
Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

Use the White Balance function to adjust the screen color (AUTO, AUTOext, PRESET, MANUAL)  
AUTO : Under normal condition.  
AUTOext : When color temperature is lower than normal condition.  
PRESET : If you push SET button, it will fix the white balance value under current condition.  
MANUAL : You can adjust color temperature manually.

#### ◉ MANUAL

1. KELVIN : It sets the standard of color temperature.  
You can choose LOW, MIDDLE and HIGH.
2. R-GAIN : You can adjust gain for RED color. Range : 0 ~ 20.
3. B-GAIN : You can adjust gain for BLUE color. Range : 0 ~ 20.



### 4. HIGH LIGHT MASK

Push the menu button, MAIN SETUP will appear as right.

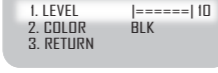
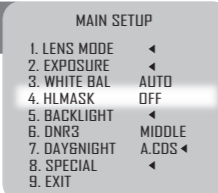
“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

You can choose High Light Mask mode.  
OFF -> Not working.  
ALL -> Always working day / night.  
DAY -> Working only day time.  
NIGHT -> Working only at night.

#### ◉ HLMASK

1. LEVEL : You can set the lighting level for HL Mask to start working.  
Range : 0 ~ 20.
2. COLOR : You can choose the masking color.  
Black, White, Yellow, Cyan, Green, Magenta, Red and Blue.

\* Setting value is same for ALL, DAY and NIGHT modes.



### 5. BACKLIGHT

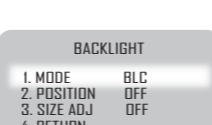
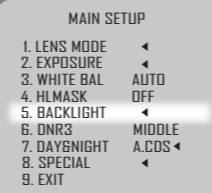
Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

#### ◉ BACKLIGHT

1. MODE : Select back light compensation (OFF, BLC, WDR).  
If you change the model, the sub-menu will be also changed.  
OFF : Normal condition.  
BLC : Set the window by POSITION, SIZE ADJ.  
\*\*\* WDR : WIDE DYNAMIC RANGE. You can set WEIGHT to LOW / MIDDLE / HIGH.

\* When you change POSITION / SIZE, press SET KEY and change by using LEFT / RIGHT / UP / DOWN buttons.  
After finishing the setting, you can save it by press SET KEY.

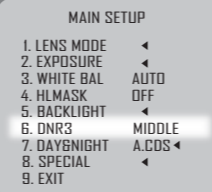


### 6. DNR3

Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

- ◉ DNR3 : You can choose level of 2D + 3D DNR.  
Range : OFF, LOW, MIDDLE and HIGH.



### 7. DAY&NIGHT

Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

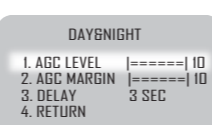
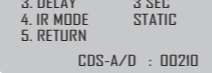
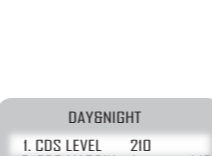
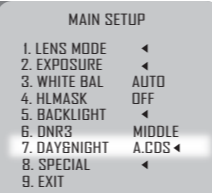
- ◉ DAY&NIGHT : You can choose Day&night mode.  
Range : A.CDS, A.AGC, COLOR and BW.

#### ◉ A.CDS(DAY&NIGHT)

1. CDS LEVEL : You can adjust the changing time from night to day.  
The bigger value, the later it will change to night.
2. CDS MARGIN : It is a gap between day-night change level and night-day change.  
Range : 0 ~ 20.
3. DELAY : You can set the time until day mode changes to night mode.  
Range : 1 ~ 10 SEC.
4. IR MODE : You can use smart IR LED function.  
STATIC : LED lightning is always same. (Anti-saturation level setting is sub-menu.)  
ANTI-SATURATION : 0 ~ 20  
(The bigger value, the less saturation but surrounding area is getting dark.)  
\*\*\* SMART : It prevents the image from being whiteout by strong IR lighting.

#### ◉ A.AGC(DAY&NIGHT)

1. AGC LEVEL : You can adjust AGC level to change day mode to night mode.  
Range is 0 ~ 20.
2. AGC MARGIN : It is a gap between day-night change level and night-day change.  
Range is 0 ~ 20.
3. DELAY : You can set the time until day mode to night mode.  
Range is 1 ~ 10 SEC.



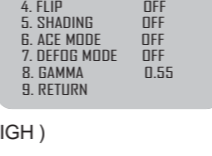
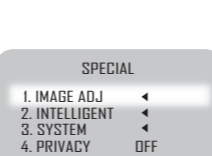
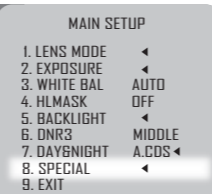
### 8. SPECIAL

Push the menu button, MAIN SETUP will appear as right.

“◀” on menu means that you can go to sub-menu.  
You can go to up and down by UP,DOWN buttons.  
You can change the value by LEFT,RIGHT buttons.

#### ◉ IMAGE ADJ

1. COLOR GAIN : You can adjust the color GAIN.  
Range is 0 ~ 20.
2. SHARPNESS : You can adjust sharpness of picture.  
Range is 0 ~ 20.
3. MIRROR : It is a mirror image (horizontal).
4. FLIP : Flips top and bottom of picture (vertical).
5. SHADING : It is amending lens characteristic.  
You can adjust SHADING WEIGHT.
6. ACE MODE (Adaptive Contrast Enhancer) : Enhances the contrast.  
OFF / LOW / MIDDLE / HIGH
7. DEFOG MODE : Remove the fog or smog to make image clear.  
AUTO : Adjust correct WEIGHT automatically.  
MANUAL : Adjust correct WEIGHT manually (LOW / MIDDLE / HIGH)
8. GAMMA : Set the GAMMA.  
Range is 0.45 ~ 0.65.



#### ◉ INTELLIGENT : Motion detection and Quick Zoom Menu.

##### 1. MOTION : Setting the sensitivity of movement.

1-1. DET. SETTING : Motion Detection sensitivity adjustment menu

- 1-1-1. SENSITIVITY : Sensitivity adjustment. Range 0 ~ 20.
- 1-1-2. OBJ. KEEP LV : Motion detection time adjustment.  
Range 0 ~ 60.  
The bigger value is, the longer it will keep.
- 1-1-3. MOTION EST. : Estimating the motion which may occur. Range 0 ~ 20.  
The high value is, the faster it estimates.
- 1-1-4. SIGNAL OUT : Signal output on/off when motion is detected

1-2. WINDOW TONE : Window Tone adjustment menu  
Range is 0 ~ 6.

1-3. ZONE NUMBER : You can select the zones for the motion detection.  
Range is 0-3 (total 4 areas)

1-4. WINDOW USE : You can turn on/off the motion detection for the selected areas.

1-5. POSITION : Press SET KEY and Left, Right, Up, Down to adjust the window position.

1-6. SIZE ADJ : Press SET KEY and Left, Right, Up, Down to adjust the size.

##### 2. ALARM : Alarm on/off adjustment and alarm sensitivity.

- 2-1. SHAKING : Alarm output when camera is shaken. ON/OFF
- 2-2. SHAK SCALE : Sensitivity for camera shaking detection. Range 0 ~ 20.
- 2-3. BRIGHT CHG. : Alarm output when the brightness is changed. ON/OFF
- 2-4. BRIGHT SCL : Sensitivity for brightness change. Range 0 ~ 20.  
The value is smaller, the more sensitive.

##### 3. QUICK ZOOM : Zoom movement setting when motion is detected.

- 3-1. MOVING : Zoom in/out for set frames. Range 0 ~ 240.
- 3-2. ZOOM IN : Zoom in for set frames. Range 0 ~ 240.
- 3-3. STANDBY : Keeping the full screen for set frames. 0 ~ 240.
- 3-4. SYNCHRONOUS : Zoom in/out only for set time regardless of motion detection. ON/OFF.
- 3-5. TRACKING : Zoom in/out by tracking the object. ON/OFF.
- 3-6. REPEAT : Zoom in/out repeating for the areas where zoom in is already done. ON/OFF.

#### ◉ SYSTEM

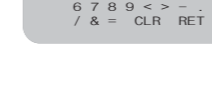
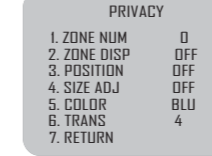
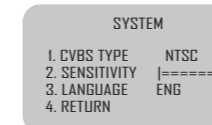
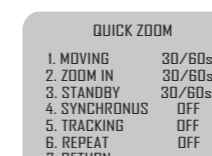
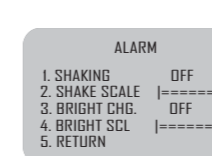
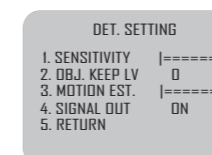
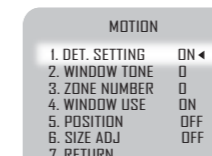
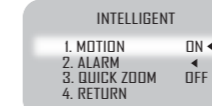
1. CVBS TYPE : Video output type.  
NTSC , PAL
2. PEDESTAL : Setup level for video signal. Range 0 ~ 20.
3. LANGUAGE : You can select the menu language according to your requirements.

#### ◉ PRIVACY : You can mask certain areas on the screen

1. ZONE NUM : Masking zone number. It is from 0 ~ 15.  
Total 16 areas.
2. ZONE DISP : You can display each PRIVACY zone one by one.  
ON / OFF
3. POSITION : Adjust window position.  
After pushing SET KEY, you can move the window by left, right and up, down buttons.
4. SIZE ADJ : Adjust window size. ON/OFF  
After pushing SET KEY, you can move the window by left, right and up, down buttons.
5. COLOR : You can choose zone color.  
(Black, White, Yellow, Cyan, Green, Magenta, Red, Blue)
6. TRANS : You can choose transparency ratio.  
Range is 0 ~ 4.

#### ◉ CAM TITLE

1. DISPLAY : You can display the camera title on screen.  
ON / OFF.
2. TITLE : If you push SET button, you can go to editing mode.  
Move the cursor by pressing UP/DOWN, LEFT/RIGHT buttons  
place the cursor on the letter you want, and push SET button.  
The letter you choose will be shown on text line.  
If you push SET button on CLR, one letter will be erased.  
If you push SET button on RET, setting will be finished.

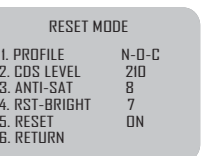
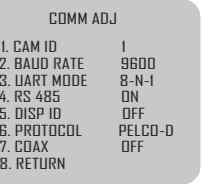


#### ◉ COMM ADJ

1. CAM ID : You can make camera ID for RS485 / COAX communication.  
Range is 1 ~ 255.
2. BAUD RATE : Baud rate for RS485 / COAX communication.  
2400, 4800, 9600, 19200.
3. UART MODE : You can set the data format for RS485 / COAX communication.  
8-N-1 : data bit 8, parity None, STOP bit 1  
8-O-1 : data bit 8, parity ODD, STOP bit 1  
8-E-1 : data bit 8, parity EVEN, STOP bit 1
4. RS485 : ON / OFF RS485 communication.  
You should set it OFF when you do not use RS485 communication.
5. DIPS ID : Camera address will be displayed when you use RS485 / COAX communication.
6. PROTOCOL : Protocol for RS485 / COAX communication.  
PELCO-D, PELCO-P, D-MAX protocols are available.
7. COAX : You can turn on / off coaxial communication.  
You should set it OFF if you do not use RS485 communication.

#### ◉ RESET MODE : \*\* RESET MODE is for factory use only. Don't change it.

1. PROFILE : Set the RESET condition according to camera type.  
Do not change it. (Manufacturer's menu)
2. CDS LEVEL : Set CDS LEVEL for RESET
3. ANTI-SAT : Set ANTI-SATURATION value for RESET
4. RST-BRIGHT : Set BRIGHTNESS value for RESET
5. RESET : Push SET button and hold until PUSH message appears.  
If it is properly done, all the camera values will be changed to factory default.



## 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.

#### The DAY/NIGHT menu does not work.

- ▶ Check that AGC of EXPOSURE SETUP menu is 'OFF'.

#### The SENS-UP function does not work.

- ▶ Check that AGC of EXPOSURE SETUP menu is 'OFF'.
- ▶ Check that SHUTTER of EXPOSURE SETUP menu is 'FLICKER' or 'MANUAL'.

#### 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 BNC cable to the camera.

#### The image on the screen is dim.

- ▶ Is the lens stained with dirt? Clean your lens with a soft, clean cloth.
- ▶ Check the monitor and DVR settings.
- ▶ If the camera is exposed to very strong light, change the camera position.

#### 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.

#### 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.

#### Color is not correct.

- ▶ Check the setting of WHITE BAL SETUP menu.

#### The screen flickers continually.

- ▶ Check that the camera is not pointing at the sun.

#### The camera is out of focus.

- ▶ Check that you have properly adjusted the zoom/focus adjustment lever on the lens.