FOR A GOOD REASON
GRUNDIG

Owner's Manual

EN

Analogue Cameras

GCA-C2357V	1/4" CCD Vandal Resistant Dome Camera AFZ 3.8~38 mm ICR 28 IR LED 700L ext.

GCA-C2357V.123.1.26.09.2013

Content:

1. Important Safety Instructions

Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product. Incorrectly connecting the power supply may cause explosion, fire, electric shock, or damage to the product. Do not connect multiple products to one single adapter. Exceeding the capacity may cause abnormal heat generation or fire.

Do not place conductive objects (e.g. screwdrivers, coins or any metal items) or containers filled with water on top of the product. Doing so may cause personal injury due to fire, electric shock, or falling objects.

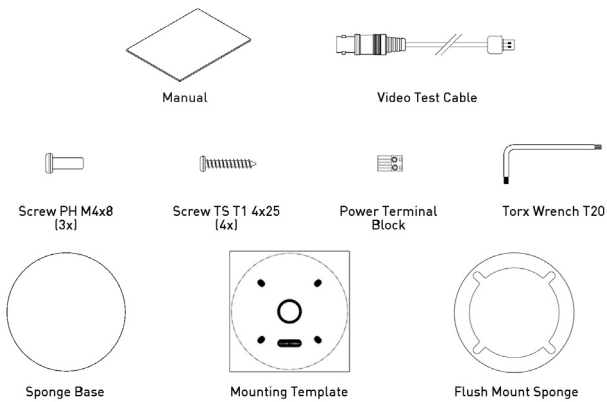
If any unusual smells or smoke comes out of the unit, stop using the product. In this case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.

If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (GRUNDIG is not liable for problems caused by unauthorised modifications or attempted repair.)

To prevent fire or electric shock, do not expose the inside of this device to rain or moisture.

2. Package Contents

These parts are included:



3. Installation

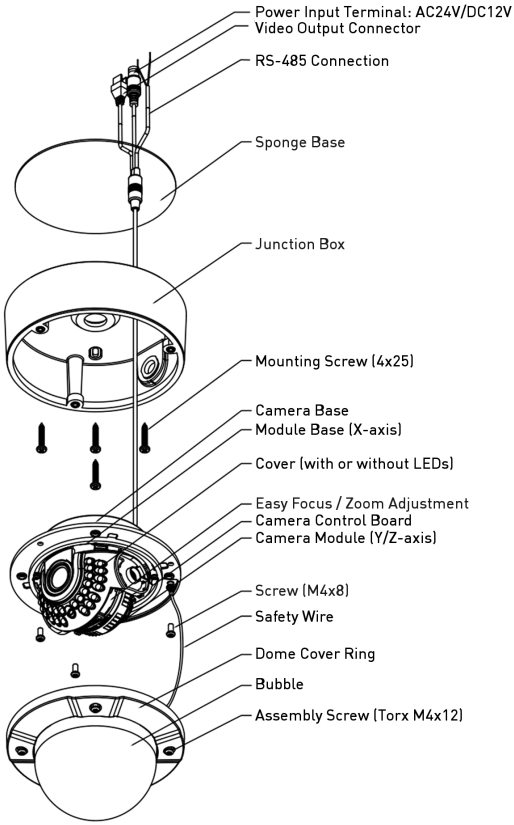
Do not install this product in a location subject to high temperature (over 55°C), low temperature (below -25°C), or high humidity. Doing so may cause fire or electric shock. Keep out of direct sunlight and heat radiation sources. This may cause fire.

Do not install the unit in humid, dusty or sooty locations. Doing so may cause fire or electric shock. Install it in a place with good ventilation.

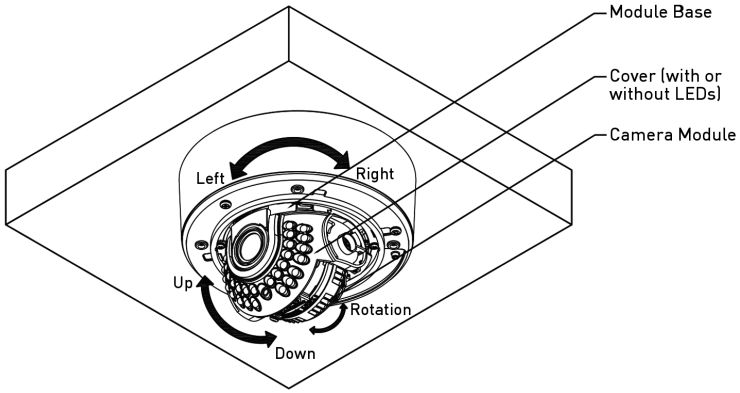
When installing the unit, fasten it securely and firmly. A falling unit may cause personal injury.

If you want to relocate the already installed product, be sure to turn the power off and then move or reinstall it.

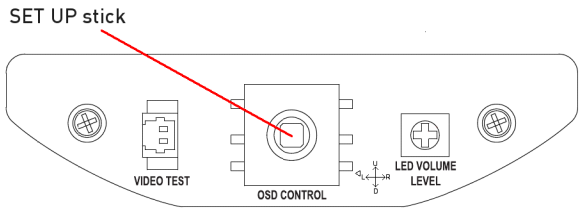
4. Part Names



4.1. 3-Axis Gimbal Adjustment



5. Control Stick



5.1. OSD Control

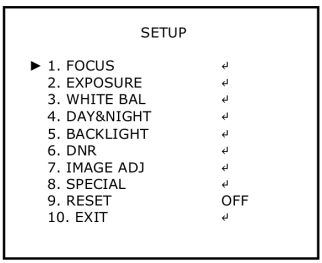
- Pressing the SET UP stick: Accesses the menu mode or confirms the setting.
- UP / DOWN: Chooses the desired menu.
- LEFT / RIGHT: Sets up the value of the selected menu and changes the settings.

5.2. Zoom & Focus Adjustment

- UP / DOWN: Sets the zoom.
- LEFT / RIGHT: Sets the focus.

6. OSD Menu

1. Press the SET UP stick to access the menu mode.
2. Select the desired feature by using UP/DOWN.
3. If there is a setting for this feature on the right side of the screen, use LEFT/RIGHT to switch between the settings and confirm your choice by pressing the stick. If an ENTER arrow (↲) is displayed, press the stick to access the according submenu.
4. In the sub-menus, please press with the stick on RETURN to return to the previous menu.
5. To exit the menu, please press the stick on EXIT in the main menu.



FOCUS: Here you can configure the focus and zoom setting.

EXPOSURE: This function is used to control the light exposure.

WHITE BAL: You can control the white balance under different lighting conditions here.

DAY&NIGHT: This function is used to improve the camera's sensitivity at night or when the brightness level of the ambient environment is low.

BACKLIGHT: You can control the highlight and backlight compensation here.

DNR: This noise reduction function is to decrease the noise which can be generated under low light conditions.

IMAGE ADJ: You can set different picture related settings like mirroring, sharpness, hue and gain.

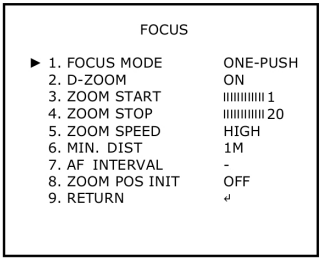
SPECIAL: Configures camera related functions and data.

RESET: This function is for resetting the camera to factory default.

EXIT: Here you can exit the menu.

6.1. FOCUS

Here you can configure the focus and zoom setting.



FOCUS MODE [AUTO, INTERVAL, MANUAL, ONE-PUSH]:
- AUTO: The focus will be permanently on. Increase or decrease the optical zoom (ZOOM) or the digital zoom (D-ZOOM) using the UP and DOWN directions of the SET UP stick. Through enabling D-ZOOM (ON), the digital zoom will be activated once the optical zoom comes to an end. The focus will automatically be adjusted when the lens zooms in or out.

- INTERVAL: The focus will be adjusted according to the time interval set in AF. INTERVAL.
- ONE-PUSH: Focus will be just once automatically adjusted, after the zoom position was changed. Increase or decrease the optical zoom (ZOOM) or the digital zoom (D-ZOOM) using the UP and DOWN directions of the SET UP stick. Press the SET UP stick once the desired image quality is obtained.
- MANUAL: Increase or decrease the optical zoom (ZOOM) or the digital zoom (D-ZOOM) using the UP and DOWN directions of the SET UP stick. Press the SET UP stick once the desired image quality is obtained. The focus can be manually adjusted, independent of the moving zoom.

D-ZOOM [ON, OFF] :
Set the digital zoom to ON or OFF.

ZOOM START [1~8] :
Set the start position of the zoom lens from 1 to 8.

ZOOM STOP [8~120] :
Set the end position of the zoom lens from 8 to 120.

ZOOM SPEED [SLOW, NORMAL, HIGH, QUICK] :
Adjust the zoom speed, choose one of the 4 speed options (SLOW, NORMAL, HIGH, QUICK).

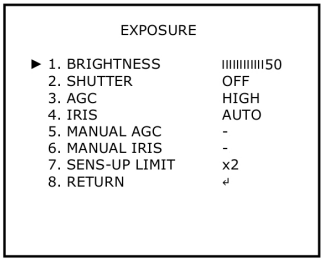
MIN. DIST [10CM, 50CM, 1M, 2M, 3M, 5M, 10M, INF] :
Adjust the minimum object distance, the adjustable range is from 10cm to endless (INF).

AF INTERVAL [3 SEC ~ 255 SEC] :
Please see FOCUS MODE > INTERVAL.

ZOOM POS INIT [ON, OFF] :
The camera moves to the set ZOOM position when the power is turned on and an initial ZOOM position has been set.

6.2. EXPOSURE

This function is used to control the light exposure.



BRIGHTNESS [0~100] :
Sets the value of auto exposure operations. As the value increases, the screen gets brighter.

SHUTTER [x265, x128, x64, x32, x24, x16, x14, x12, x10, x8, x6, x4, x2, AUTO, OFF, FLK, 1/250, 1/500, 1/1000,1/2000, 1/5000, 1/10000, 1/20000, 1/50000, 1/100000] :
Control the image brightness by adjusting the shutter speed.

AGC (Auto Gain Control) [HIGH, MANUAL, OFF, LOW, MEDIUM] :
This function is used to create brighter images.
- HIGH: Wide range gain value adjustment.
- MANUAL: Select the gain value range under MANUAL AGC (-3dB~28dB).
- OFF: Disabled.
- LOW: Narrow range gain value adjustment.
- MEDIUM: Medium range gain value adjustment.

IRIS [AUTO, MANUAL] :
- AUTO: The iris is automatically activated upon illumination.
- MANUAL: This option is used for manual iris configuration. Select a value from 0 to 255 under MANUAL IRIS.

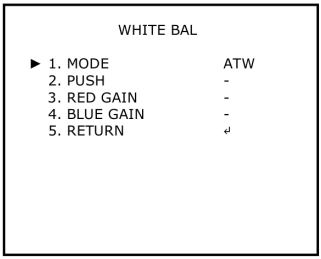
MANUAL AGC:
Please see AGC > MANUAL.

MANUAL IRIS:
Please see IRIS > MANUAL.

SENS-UP LIMIT [OFF, x1~x256] :
This feature ensures clear images at night or under low light conditions.

6.3. WHITE BAL (White Balance)

This function is used to control the white balance under different lighting conditions. Adjusting the setting calibrates the camera for correct and natural colour rendering.



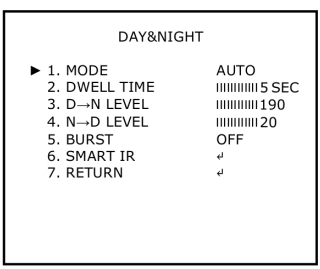
MODE [ATW, AWB, AWC→SET, INDOOR, OUTDOOR, MANUAL] :
- ATW: Select this mode when the colour temperature is between 1,800˚K and 10,500˚K.
- AWB: This function is used to search for colours that match the ambient environment well. Select this mode when the colour temperature is between 3,000˚K and 7,000˚K.

- INDOOR: Select this mode when the colour temperature is about 3,100˚K (indoor light).
- OUTDOOR: Select this mode when the colour temperature is about 5,100˚K (outdoor light).
- AWC→SET: To find the optimal luminance level for the current environment, point the camera towards a sheet of white paper and press the SET UP stick. If the environment changes, re-adjust this setting.
- MANUAL: Select this option to fine-tune the White Balance manually. Set the White Balance first by using the ATW or the AWC mode. After that switch to MANUAL mode, fine-tune the White Balance and then press the SET UP stick.

NOTE:
The White Balance may not work properly under the following conditions. If that is the case, select the AWC mode (automatic mode).
1. When the colour temperature of the environment surrounding the subject is out of the control range (e.g. clear sky or sunset).
2. When the ambient illumination of the subject is dim.
3. When the camera is directed towards a fluorescent light or is installed in a place where the illumination changes dramatically, the White Balance operation may become unstable.

6.4. DAY&NIGHT

This function is used to improve the camera's sensitivity at night or when the brigthness level of the ambient environment is low.



MODE [AUTO, COLOR, BW, EXTERNAL] :
- AUTO: This mode switches to ‘Colour’ in a normal environment, but switches to ‘B/W’ mode when the ambient illumination is low. To set up the switching time for AUTO mode, press the SET UP stick. In B/W mode, you can turn the BURST signal ON or OFF.

- COLOR: The picture will be always displayed in colour.
- BW: The picture will be always displayed in black & white. In BW mode, you can turn the BURST signal ON or OFF.
- EXTERNAL: Day and Night can be distinguished by the external output.

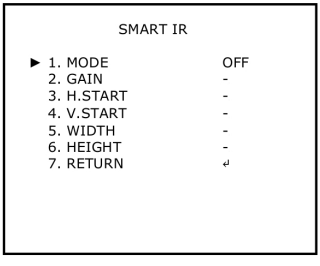
DWELL TIME [0SEC~60SEC] :
You can select here the duration of the change from day to night mode and night to day mode.

D→N LEVEL [0~255] :
Adjust the DAY→NIGHT switch level from 0~255 by moving the SET UP stick to the left or right direction.

N→D LEVEL [0~255] :
Adjust the NIGHT→DAY switch level from 0~255 by moving the SET UP stick to the left or right direction.

BURST:
In BW mode, you can turn the BURST signal ON or OFF.

SMART IR:
This option controls the IR LED (bright portion base), saturation is not expected.
When selecting ↵, the following submenu will appear.



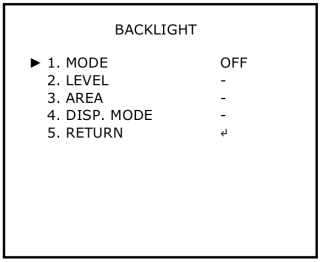
- MODE [ON, OFF] :
Activate the SMART IR function by selecting ON.
- GAIN [1~100] :
The gain can be adjusted from 1 to 100.

- H. START (0~14): Here you can set the starting position of the area from the side.
- V. START (0~14): Here you can set the starting position of the area from the top.
- WIDTH (0~15): Here you can set the horizontal size of the area.
- HEIGHT (0~15): Here you can set the vertical size of the area.

NOTE:
When the SMART IR setting is ON, the functions D-WDR, HSBLC, and BLC cannot be used in B/W mode, but only in colour mode.

6.5. BACKLIGHT

This function is used for backlight and highlight compensation.

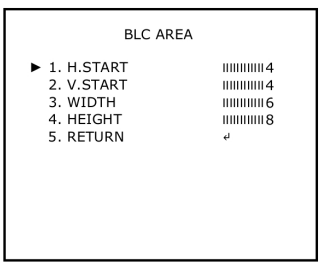


MODE [OFF, D-WDR, BLC, HSBLC] :
- OFF: Deactivated.
- D-WDR: This function provides intelligent light level control to overcome even strong backlight conditions.

- BLC: BLC is used to counterbalance the screen image by increasing the brightness so that a subject which appears dark due to a strong backlight can be displayed in more detail.
- HSBLC (Highlight Suppression Back Light Compensation): This function is used to surpress or mask a strong light source (for example, headlights of cars during night-time) so that other subjects can be seen in more detail.

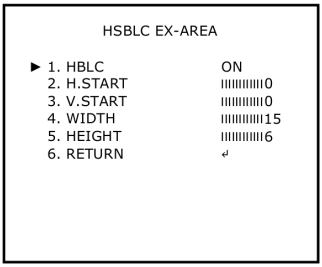
LEVEL:
Depending on which option you have chosen under MODE, you can set different levels here. For BLC Mode, you can choose a compensation level from LOW, MIDDLE or HIGH. For HSBLC mode, you can set the sensitivity trigger level between 0 and 100. For D-WDR mode, you can set the WDR level between 0 and 15.

AREA:
When choosing BLC under MODE, you can enter the AREA sub-menu by pressing the SET UP stick. The following sub-menu will then appear.



Here you can set the area of the BLC.
> H. START (0~14): Here you can set the starting position of the area from the left.
> V. START (0~14): Here you can set the starting position of the area from the top.
> WIDTH (0~15): Here you can set the horizontal size of the area.
> HEIGHT (0~15): Here you can set the vertical size of the area.

When choosing HSBLC under MODE, you can enter the AREA sub-menu by pressing the SET UP stick. The following sub-menu will then appear.

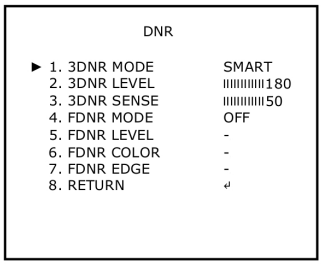


Here you can set the area of the HSBLC.
> HBLC (ON, OFF): You can turn the HBLC ON or OFF.
> H. START (0~14): Here you can set the starting position of the area from the left.
> V. START (0~14): Here you can set the starting position of the area from the top.
> WIDTH (0~15): Here you can set the horizontal size of the area.
> HEIGHT (0~15): Here you can set the vertical size of the area.

DISP. MODE [NIGHT, ALL DAY] :
When HSBLC is chosen, you can set here when this function should be activated.
- ALL DAY: HSBLC will always be on.
- NIGHT: HSBLC will only be active in night mode.

6.6. DNR (Digital Noise Reduction)

This function is used to improve the picture quality by filtering the noise which is generated under low bright light conditions. You can set different levels here.



3DNR MODE [OFF, ON, SMART] :
- OFF: Deactivated.
- ON: The compensation proportion will be adjustable from 0 to 255 under 3DNR LEVEL.
- SMART: The DNR level will be automatically changed, depending on the movement. The compensation proportion is adjustable from 0 to 255 under 3DNR LEVEL.

3DNR LEVEL [0~255] :
Please see SMART and ON under 3DNR MODE.

3DNR SENSE [0~100] :
When SMART is set under 3DNR MODE, you can set here a level between 0 and 100.

FDNR MODE [MANUAL, AUTO, OFF] :
Here you can set the FDNR (Fog Digital Noise Reduction) to OFF, MANUAL or AUTO. The FDNR function improves the clarity of the image taken in poor conditions such as fog, smoke, rain or snow.

FDNR LEVEL [0~31 or 0~10] :
If MANUAL is set under FDNR MODE, you can set here a level between 0 and 31. If AUTO is set under FDNR MODE, you can set here a level between 0 and 10.

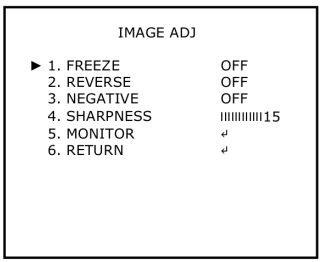
FDNR COLOR [0~10] :
If FDNR MODE is set to MANUAL, you can set here the colour level of FDNR from 0 to 10.

FDNR EDGE [0~10] :
If FDNR MODE is set to MANUAL, you can set here the edge enhancement of FDNR from 0 to 10.

NOTE:
If the 3DNR function is used, the cancellation of the noise will be excellent. The higher the compensation proportion is raised, the better the effect of noise cancellation will be, but a ghost effect may also occurr.

6.7. IMAGE ADJ

This function is used to adjust the picture that is displayed on the screen.



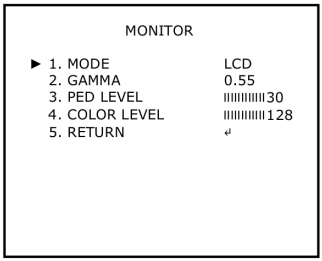
FREEZE [OFF, ON] :
The FREEZE function allows to hold the image of the camera.

REVERSE [OFF, H-REV, HV-REV, V-REV]:
Mirrors the video signal horizontally, vertically, or both.

NEGATIVE [OFF, ON] :
This function is used to invert the colours in the picture.

SHARPNESS [0~31] :
This function is used to adjust the sharpness of the displayed image.

MONITOR:
Here you can adjust a few settings regarding the monitor you use.
When selecting ↵, the following submenu will appear.



- MODE [LCD, CRT] :
> LCD: Select this option when you use an LCD monitor.
Then you can adjust the gamma, pedestal level and blue/red gain setttings.
> CRT: Select this option when you use a CRT monitor.
Then you can adjust the gamma, pedestal level and blue/red gain setttings.

- GAMMA [0.05~1.00] :
Adjust the GAMMA level between 0.05 and 1.00.

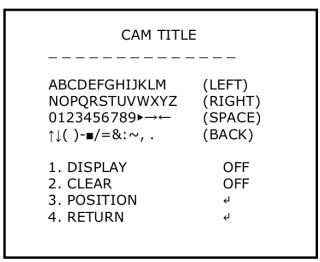
- PED LEVEL [0~63] :
Adjust the PED level between 0 and 63.

- COLOR LEVEL [0~255] :
Adjust the saturation level between 0 and 255.

6.8. SPECIAL

This menu is for configuring various camera settings.
To enter the submenus of the functions, select ↵ on the right.

6.8.1. CAM TITLE



This menu is used to assign a unique name to a camera. You can enter up to 20 alphanumeric or special characters for the CAM TITLE.
Using the four directions of the SET UP stick, switch between the characters. Press the SET UP stick to make a desired figure.

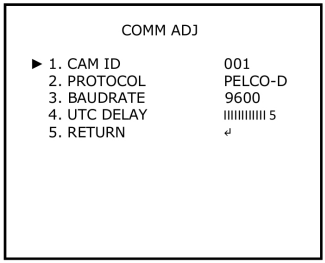
DISPLAY [OFF, ON] :
Select ON if you want to display the camera title in the picture/on the screen.

CLEAR [OFF, ON] :
Select ON if you need to delete the letters.

POSITION:
Select ↵ and press the SET UP stick to be able to move the display position of the CAMERA ID. To exit this setting, press the SET UP stick.

6.8.2. COMM ADJ

This function is for setting up the communication information.



CAM ID [000-255] :
Choose a desired ID for this camera.

PROTOCOL [VISCA, LG-NEW, SAMSUNG, PELCO-D, ALL] :
Set up the protocol. When you choose ALL, you can use all protocols.

BAUDRATE [2400, 4800, 9600, 19200, 38400] :
Choose a desired value for the baudrate.

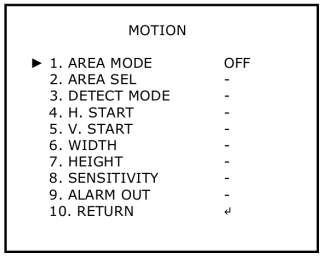
UTC DELAY [0-255]:
Here you can set a time interval for the input of the UTC signal.

6.8.3. LANGUAGE

The language is set to ENG (English).

6.8.4. MOTION

This function is used to detect moving objects in the monitored area.



AREA MODE [OFF, ON] :
Select ON to be able to set and activate the motion detection areas.

AREA SEL [AREA 1~4] :
Select a monitoring area out of the 4 monitoring areas and set the options below for the selected monitoring area.

DETECT MODE [ON, OFF] :
Select ON to activate the selected monitoring area.

H. START [0~240] :
Here you can set the starting position of the area from the left.

V. START [0~128] :
Here you can set the starting position of the area from the top.

WIDTH [0~240] :
Here you can set the horizontal size of the area.

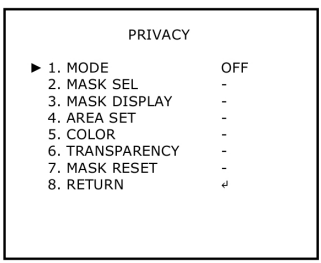
HEIGHT [0~128] :
Here you can set the vertical size of the area.

SENSITIVITY [0~100] :
Here you can set the sensitivity of the motion detection. When the value is high, even small movements can be detected.

ALARM OUT [OFF, OSD&AREA, AREA, OSD] :
- OFF: Deactivated.
- OSD&AREA: When motion is detected, "MD" will blink in the top right corner of the screen, and also the detection area will be displaying the motion on the screen by a flickering yellow block.
- AREA: When motion is detected, the detection area will be displaying the motion on the screen by a flickering yellow block.
- OSD: When motion is detected, "MD" will blink in the top right corner of the screen.

6.8.5. PRIVACY

This function is used to mask specific areas within the frame of the camera.

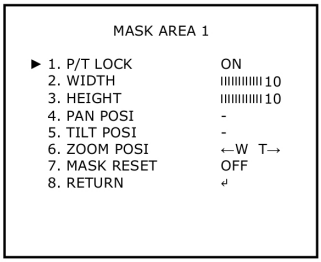


MODE [OFF, ON] :
Select ON to be able to set and to activate the privacy areas.

MASK SEL [AREA1~8] :
Select a mask out of the 8 mask areas and set the options below for the selected mask.

MASK DISPLAY [ON, OFF] :
Select ON to activate the setting for the selected mask area.

AREA SET:
Here you can adjust the size and form of the mask area.
When selecting ↵, the following submenu will appear.



- P/T LOCK [ON, OFF] : Choose OFF to be able to change the vertical/horizontal position of the mask area under TILT POSI and ZOOM POSI.

- WIDTH [0~80] : Here you can set the width of the mask area.

- HEIGHT [0~60] : Here you can set the height of the mask area.

- PAN POSI [-200~200] : If P/T LOCK is set to OFF, you can set here the horizontal position of the mask area.

- TILT POSI [-220~220] : If P/T LOCK is set to OFF, you can set here the vertical position of the mask area.

- ZOOM POSI: Here you can zoom in the picture, the mask size will be changed accordingly.

- MASK RESET [ON, OFF] : When choosing ON, the mask will be minimised to a certain size and will be dragged to the middle of the screen.

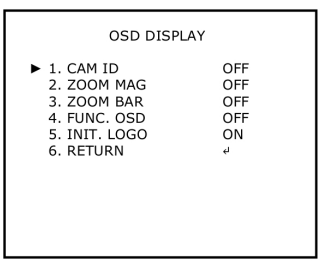
COLOR [0~15] :
Choose one of the 16 colours for the mask areas.

TRANSPARENCY [0~3] :
Choose one of the 4 transparency levels for the mask areas.

MASK RESET [ON, OFF] :
When choosing ON, the mask will be minimised to a certain size and will be dragged to the middle of the screen.

6.8.6. OSD DISPLAY

This function is for determining what information will be displayed on the screen.



CAM ID [ON, OFF] :
The RS-485 address will be displayed.

ZOOM MAG [ON, OFF] :
In case of lens operation, the zoom magnification level will be displayed for 5 sec.

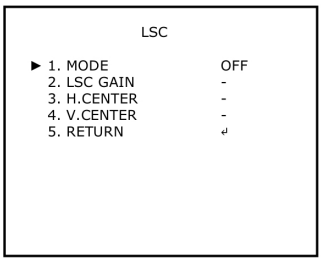
ZOOM BAR [ON, OFF] :
In case of lens operation, the zoom bar will be displayed for 5 sec.

FUNC. OSD [ON, OFF] :
In case of lens operation, the zoom/focus operation status will be displayed as "ZF" for 5 sec.

INIT. LOGO [ON, OFF] :
When ON is selected, the firmware version will be displayed when the camera is turned on.

6.8.7. LSC

This function is for compensating the quantity of light differences of the center of the lens and the periphery.



MODE [ON, OFF] :
Turn the lens shading compensation ON or OFF.

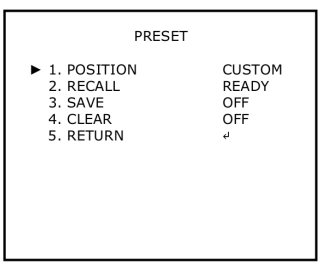
LSC GAIN [0~255] :
The lens shading compensation gain is adjustable from 0 to 255.

H. CENTER [-128~127] :
Choose the horizontal center level for the lens shading compensation. If you change the value of H. CENTER and V. CENTER, the center point will be moved.

V. CENTER [-128~127] :
Choose the vertical center level for the lens shading compensation. If you change the value of H. CENTER and V. CENTER, the center point will be moved.

6.8.8. PRESET

This function is used for a quick and easy setup according to the installation environment.



POSITION [IR MODE, INDOOR, OUTDOOR, LOW LIGHT, HALL WAY, CUSTOM, SPEED DOME] :
Here you can choose one of the 7 possible preset modes. Please refer to the table below that shows the settings for the preset modes.

Preset Settings :

POSITION	FOCUS	SENS-UP LIMIT	DAY/NIGHT	SMART IR	BACKLIGHT	3DNR
INDOOR	ONE-PUSH	X2	AUTO	OFF	OFF	ON(200)
OUTDOOR	ONE-PUSH	X4	AUTO	OFF	OFF	SMART(180)
LOW LIGHT	ONE-PUSH	X16	AUTO	OFF	OFF	ON(250)
HALL WAY	ONE-PUSH	X4	AUTO	OFF	BLC	SMART(180)
SPEED DOME	AUTO	OFF	AUTO	OFF	OFF	SMART(180)
IR MODE	ONE-PUSH	X2	EXTERNAL	ON(50)	OFF	SMART(180)

RECALL:
First you need to load the settings for the preset mode that you selected under POSITION. Move the SET UP stick in the right direction and wait until CALLED is displayed. Then the settings for the selected preset mode are loaded.

SAVE [ON, OFF] :
When CUSTOM is selected under POSITION, you can make the settings for your own customised mode and then you can save here your settings when you select ON.

CLEAR [ON, OFF] :
When CUSTOM is selected under POSITION, you can clear here the settings that were made for the CUSTOM mode when you select ON.

6.9. RESET

All settings will be restored to factory default.

6.10. EXIT

Exits the menu setting.

Specifications GCA-C2357V	
Image Sensor	1/4" CCD Sony 960H Ex-view HAD II
Scanning System	PAL, 50Hz, 625L (V), 2:1 Inter Line Transfer
Pixels - Effective	976(H) x 582(V)
Resolution	650 (H) lines colour, 700 (H) lines b&w
Col/B&W	Auto, Color, Removable IR-Cut Filter (ICR)
Sensitivity Colour	0.9 lux(50IRE)@F1.8 (SensUp=0, AGC Off), 0.00001 lux 15IRE (SensUpx256) F1.8
Sensitivity B&W	0 Lux LED IR on
Shutter Speed	AUTO, OFF, FLK, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000, 1/20000, 1/50000, 1/100000
S/N Ratio	>52 dB
Lens Focal Length	3.8 ~ 38 mm
Viewing Angle	50°(W) ~ 5.5°(T)
Zoom Ratio	x 10
Lens Drive Type	Auto iris (DC)
Iris F-Number	F= 1.8 ~ 360
IR LED	28 pcs.
Optical Wavelength	850 nm
Max. IR Distance	30/45 m (according to scene reflexion)
Digital Zoom	Off/1 ~ 12x
Sens Up	Off ~ x256, auto
Motion Detection	On/ Off/ Sensitivity/ 4 Area setting
Number of Privacy Zones	8
BLC	BLC, HSBLC, OFF, d-WDR
Digital Noise Reduction (DNR)	OFF/ON/SMART (level 0~255)
Reverse	Off/ H-REV/ V-REV/ HV-REV
OSD	Yes
Camera ID	20 character
White Balance	ATW, AWB, AWC-SET, MANUAL, INDOOR, OUTDOOR
Presettings	CUSTOM, SPEED DOME, IR MODE, INDOOR, OUTDOOR, LOW LIGHT,HALL WAY
Protection Rating	IP66
Video Outputs	1 CVBS 1 Vpp (BNC) & 1 test monitor out
Additional Features	Image: Freeze, Negative
Accessories included	Multi-Language Manual, Template, Cable for Service Monitor, Screws
Humidity	less than 90%, non condensing
Operating Temperature	-25°C ~ +55°C
Supply Voltage	12 VDC / 24 VAC

Power Consumption	7.8 (LED on) W
Weight	1.14 kg
Dimensions (wxhxd)	99 x 223.5 mm

Dimensions

EC Declaration of Conformity

GCA-C2357V 1/4" CCD Vandal Resistant Dome Camera AFZ 3.8~38 mm ICR 28 IR LED 700L ext.

It is hereby certified that the products meet the standards in the following relevant provisions:

EC EMC Directive 2004/108/EC

Applied harmonised standards and technical specifications:

EN 55022: 2010
EN 61000-3-2: 2006 + A1: 2009 + A2: 2009
EN 61000-3-3: 2008
EN 50130-4: 2011

ASP AG

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Remscheid, 26.09.2013

GRUNDIG

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CEO