

FOR A GOOD **REASON** **GRUNDIG**

Owner's Manual



Cameras & Domes

GCA-B0005B	1/3" CCD Colour/B&W Camera, WDR, 650L, 230VAC
GCA-B0305B	1/3" CCD Colour/B&W Camera, WDR, 650L, 12VDC/24VAC

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1. Available Versions

The built-in Wide Dynamic Range (WDR) function of the models GCA-B0005B and GCA-B0305B allows getting crystal clear images even in extreme conditions. These Cameras are highly sensitive and have a good low-light performance.

These instructions apply to the following products. For the different properties of the products please refer to the table.

	Supply Voltage	Day/Night	WDR
GCA-B0005B	230 VAC	ICR	✓
GCA-B0305B	12V DC/24V AC	ICR	✓

2. 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.

3. Package Contents

These parts are included:

Camera, Manual, Power Terminal Block, 230V Power cable (only for GCA-B0005B), C/CS Mount Adapter, Back Focus Adjuster

4. Installation

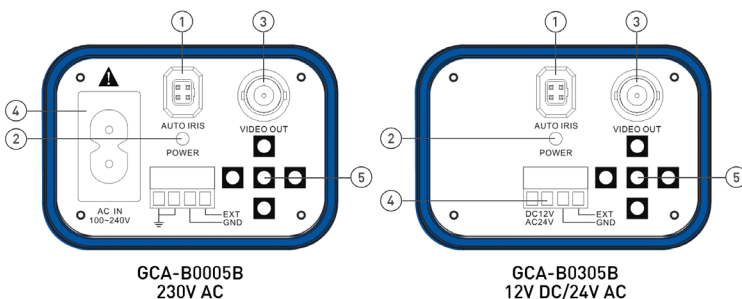
Do not install this product in a location subject to high temperature (over 45°C), low temperature (below 0°C), or high humidity. Doing so may cause fire or electric shock. Keep out of direct sunlight and heat radiation sources. This may cause fire.

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.

4.1. Camera Overview



1. AUTO IRIS Connector: Auto iris lens connector
2. POWER LED: Red light indicates good power connection.
3. VIDEO OUT (BNC Connector): For video output
4. For GCA-B0005B: 230V AC Connector /
For GCA-B0305B: DC 12V/AC 24V Connector
5. OSD Control Keys

4.2. Lens Mounting

Lens Mounting for C/CS Mount Lens Model:

It is possible to attach all CS-Mount lenses with manual or DC controlled iris on the camera. Please remove the camera's plastic covering first and then attach the CS-Mount lens onto the camera. If you would like to use a C-Mount lens, you need a 5 mm C/CS Mount Adapter between the camera and the C-Mount lens, as shown in the illustration below.



C/CS Mount Adapter (on Camera)



Completion

4.3. Back Focus Adjustment

When to adjust the back focus:

Back Focus refers to the distance from the rear lens element to the camera focal plane. It is only required to adjust the back focus only when the focus cannot be adjusted throughout its zoom range.

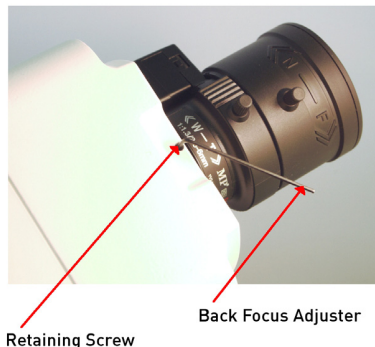
Requirements:

Tools required when carrying out back focus adjustment include:

1. Back focus adjuster (in the package of the camera)
2. Test chart / contrasting object

How to adjust the back focus:

Step 1: Set the camera on a stable mount, with the test chart or object at least 75 feet (23 meters) away (or as far as possible). Please loosen the focus ring's retaining screw with the supplied back focus adjuster.



Step 2: Make sure the iris is wide open. Therefore, it is advised to keep the environment in low light condition. To open the automatic lens completely, please use a neutral density filter. With this filter it is possible to simulate a low light condition so that the lens can open up completely.

Step 3: Adjust the focus to infinite far (∞).

Step 4: Turn the zoom to the wide angle (telephoto) position, and then focus with the back focus on the subject.

Step 5: Set the zoom to the most extreme wide angle (telephoto) position.

Step 6: Focus on the object with the back focus ring. Check now whether it is possible to adjust the focus with the back focus ring also in the wide angle range.

Step 7: Repeat steps 3 ~ 6 until the focus can be adjusted throughout the zoom range. When using a zoom lens and changing the focal length, the focus does not need to be adjusted again once the back focus adjustment has been completed. This does not apply to vario lenses.

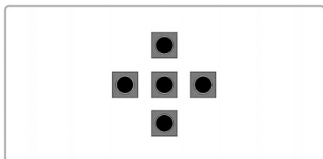
Step 8: Tighten the back focus ring's retaining screw to fix the ring.

4.4. Power Connection

For the camera with 230V power supply, please put the power cable into the camera.
For the camera with 12V DC/24V AC power supply, connect the power terminal block.

5. OSD Control Keys

5.1. OSD Control Keys on Rear Panel



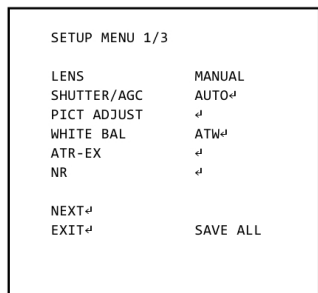
- OK key (in the middle): Accesses the menu mode or confirms the setting.
- UP / DOWN: Chooses the desired menu.
- LEFT / RIGHT: Sets up the value of the selected menu and changes the settings.

5.2. OSD Control Keys on Coax Controller (optional)

- MENU/ON key: Activate the coax controller
- OK key: Accesses the menu mode or confirms the setting.
- UP (\wedge) / DOWN (\vee): Chooses the desired menu.
- LEFT ($<$) / RIGHT ($>$): Sets up the value of the selected menu.
- EXIT: No function

6. OSD Menu

1. Press the OK key and hold it for a while to access the menu mode.
2. Select the desired feature by using the UP/DOWN keys.
3. If there is a setting for this feature on the the right side of the screen, use the LEFT/RIGHT keys to switch between the settings and confirm your choice by pressing the OK key. If an ENTER arrow (\uparrow) is displayed, press OK to access the according submenu.
4. When the settings are completed, go to SAVE ALL and press the OK key to save the settings. If you have not done this and the power is turned off, the changes in the settings will not be kept.
5. In the sub-menus, please press with the OK key on RETURN to return to the previous menu.
6. Please press with the OK key on NEXT or BACK to switch between the SETUP MENU pages.
7. To exit the menu, please press with the OK key on EXIT in the main menu.



LENS: Here you can configure the lens setting.

SHUTTER/AGC: This function is used to control the light exposure.

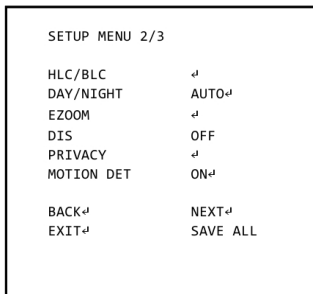
PICT ADJUST: You can set different picture related settings like mirroring, sharpness, contrast, hue and gain.

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

ATR-EX (WDR): This function is used to improve the contrast of the image.

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

NEXT: Choose this option to view the second menu page.



HLC/BLC: You can control the highlight and backlight compensation 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.

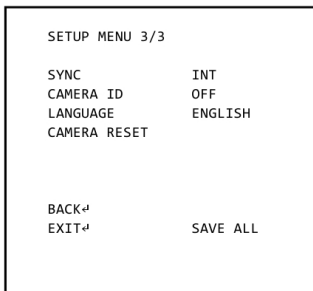
EZOOM: Here you can adjust the Electronic Zoom.

DIS: The Digital Image Stabilisation will set the anti-shake compensation.

PRIVACY: You can mask specific areas in the monitoring area here.

MOTION DET: This function is used to detect moving objects in the monitoring area.

NEXT: Choose this option to view the third menu page.



SYNC: This function refers to the Internal Synchronisation.

CAMERA ID: Here you can assign a unique name or title to the camera.

LANGUAGE: Here you can choose your preferred language.

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

BACK: Choose this option to view the previous menu page again.

EXIT: Here you can exit the menu.

SAVE ALL: Choose this option to save all changes in the settings.

HIGH LUMINANCE

- MODE [AUTO IRIS, SHUT+AUTO IRIS] :

When choosing AUTO IRIS, the electronic shutter is fixed, and the exposure is controlled using the mechanical iris. When choosing SHUT+AUTO IRIS, the auto exposure is controlled by using the electronic shutter in middle-bright light conditions, and using the mechanical iris in high-bright light conditions.

- BRIGHTNESS [000~255] :

Sets the value of auto exposure operations. As the value increases, the screen gets brighter.

LOW LUMINANCE

- MODE [OFF, AGC, AGC->SLOW, SLOW->AGC, AGC->SLOW->AGC] :

When choosing AGC, the auto exposure is controlled by using AGC. When choosing

SLOW, the auto exposure is controlled by using the slow shutter mode.

When choosing AGC->SLOW, the auto exposure is controlled by using AGC for higher low lux values and by using slow shutter mode for lower low lux values.

When choosing SLOW->AGC, the auto exposure is controlled by using slow shutter mode for higher low lux values and by using AGC for lower low lux values.

When choosing AGC->SLOW->AGC, the auto exposure is controlled by using AGC for higher and lower low lux values and by using slow shutter mode for midlow low lux values.

To take pictures of fast moving objects, AGC is to be preferred over SLOW to reduce motion blur. If shooting static objects, SLOW is to be preferred over AGC to reduce noise.

- BRIGHTNESS [x0.25, x0.50, x0.75, x1.00] :

Sets the value of auto exposure operations. As the value increases, the screen gets brighter.

MANUAL SETUP	
MODE	SHUT
SHUT	1/53 (S)
AGC	6 (DB)
RETURN	

MANUAL:

Here you can set the SHUTTER value and the AGC value.

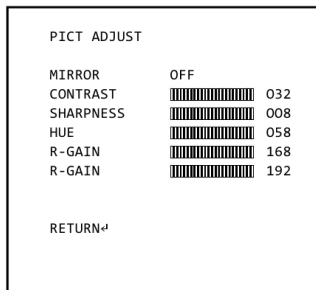
- MODE [SHUT, SLOW, WDR+SHUT] : If choosing SHUT, auto exposure control is exercised in the middle and high brightness areas using the electronic shutter. When choosing SLOW, auto exposure control is exercised in the low brightness areas using the slow shutter. In WDR+SHUT mode, two signals are generated by the CCD, each with a different exposure level (long time exposure level and short time exposure level).

- SHUT [For SHUT/WDR+SHUT: 1/53, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 / For SLOW: 2, 4, 8, 16, 32, 64, 128, 256] : Choose the desired value.

- AGC [6, 12, 18, 24, 30, 36, 42, 44.8] : As the AGC value increases, the overall screen gets brighter but the level of noise is also increasing.

6.3. PICT ADJUST (Picture Adjustment)

When selecting \leftarrow , the following submenu will appear.



MIRROR [OFF, V-FLIP, H-FLIP, HV-FLIP] :
This function is used to inverse the camera picture, in vertical, horizontal and horizontal/vertical direction.

CONTRAST [000~063] :
This function is used to adjust the contrast of the image (the difference between light and dark areas on the screen).

SHARPNESS [000~015] :
This function is used to adjust the sharpness of the displayed image.

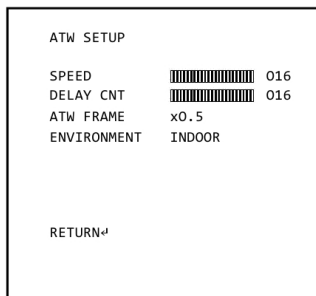
HUE [000~100] :
This function is used to adjust the colour tone of the displayed image.

R-GAIN [000~255] :
This function is used to adjust the saturation of the displayed image for the colour Red.

B-GAIN [000~255] :
This function is used to adjust the saturation of the displayed image for the colour Blue.

6.4. 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. Adjust the functions PUSH, ANTI CR, PUSH LOCK or select a submenu (MANUAL, ATW, USER1, USER2).



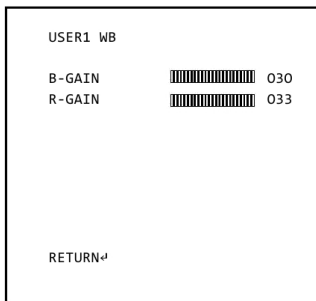
ATW:

In this mode, the camera automatically tracks changes in the colour temperature, and adjusts the white balance according to the ambient conditions.

- SPEED [000~255] : Sets the speed of searching for White Balance when the colour temperature changed.
- DELAY CNT [000~255] : This sets the delay time of searching for White Balance, when the colour temperature changed.
- ATW FRAME [x0.5, x1.0, x1.5, x2.0] : Adjust ATW by increasing or decreasing the colour temperature.
- ENVIRONMENT [INDOOR, OUTDOOR] : Choose INDOOR when the camera is installed indoors (this is mainly for sodium vapor lamps or indoor lighting conditions, it means ATW is set to Low Colour Temperature/warm) or choose OUTDOOR when the camera is installed outdoors (this is mainly for sunlight conditions, it means ATW is set to High Colour Temperature/cool).

PUSH:

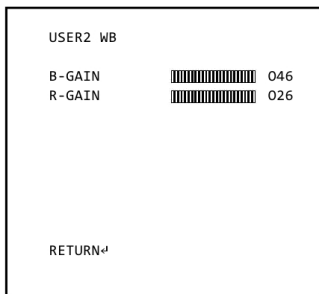
Adjusts the white balance regardless of the ambient conditions.



USER1:

This mode is the fixed outdoor gain mode and is fitted for outdoor lighting conditions.

- B-GAIN: Adjusts the White Balance for the colour Blue.
- R-GAIN: Adjusts the White Balance for the colour Red.



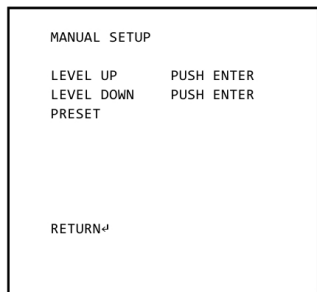
USER2:

This mode is the fixed fluorescent light gain mode and is fitted for indoor lighting conditions.

- B-GAIN: Adjusts the White Balance for the colour Blue.
- R-GAIN: Adjusts the White Balance for the colour Red.

ANTI CR:

With this function you can minimise the problems related to colour rolling caused by the flickering of fluorescent lights.



MANUAL:

This function allows the white balance to be adjusted manually.

- LEVEL UP: Keep pressing with the OK key on PUSH ENTER to increase the white balance level. An increased level produces a strong blue tone on the screen.
- LEVEL DOWN: Keep pressing with the OK key on PUSH ENTER to decrease the white balance level. A decreased level produces a strong red tone on the screen.

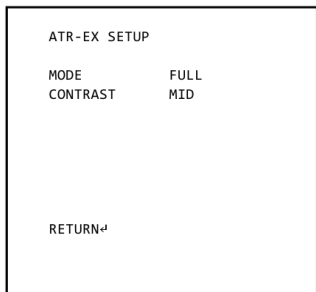
- PRESET: When pressing on PRESET with the OK key, a predefined setting will be set.

PUSH LOCK:

This mode is set to the current white balance conditions and keeps its value. Select this mode and then press the OK key. If there is a change in location or light source, please repeat this procedure.

6.5. ATR-EX (Adaptive Tone-Curve Reproduction) / WDR

When both low-luminance and high-luminance areas exist in the same picture, this function can improve the visibility of the entire picture by providing a tone-curve correction. When selecting ↵, the following submenu will appear.



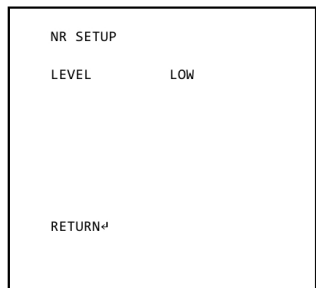
MODE [FULL*, NORMAL, LIGHT] :
This improves the visibility of bright areas.

CONTRAST [LOW, MIDLOW, MID,
MIDHIGH, HIGH] :
This improves the visibility of dark areas.

* When set to FULL, the real WDR function is activated.

6.6. NR (Noise Reduction)

When selecting ➤, the following submenu will appear.



LEVEL [OFF, LOW, MIDLOW, MID,
MIDHIGH, HIGH] :
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.

6.7. HLC/BLC

When selecting ➤, the following submenu will appear.

HLC (High Light Compensation) [OFF, ON, AUTO] :
This function is used to suppress or mask a strong light source (for example, headlights of cars during night-time) so that other subjects can be seen in more detail. The AUTO setting only functions for extremely bright light. As standard setting it is recommended to use ON.

CLIP LEVEL [000~255]:
Here you can set how dark the mask for strong light shall be.

SCALE [000~015]:
Here you can set the brightness of the other subjects in the picture.

BLC (Back Light Compensation) [-, ON, OFF]:

Please set first ATR-EX to NORMAL, afterwards it is possible to adjust the 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.

6.8. 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.

DAY/NIGHT		
BURST	OFF	
DELAY CNT	████████████████████	010
DAY→NIGHT	████████████████████	048
NIGHT→DAY	████████████████████	080
IR OPT	OFF	
IR LED	OFF	
EXTON	OFF	
RETURN↵		

AUTO [BURST, DELAY CNT, DAY→NIGHT, NIGHT→DAY, IR OPT, IR LED, EXTON] :

This mode automatically switches the video signals between COLOR and B/W when the according ambient illumination/brightness is reached.

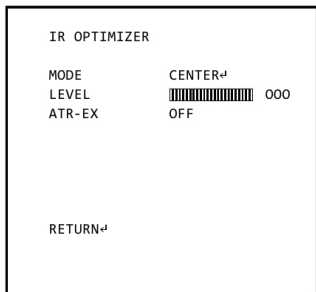
- BURST: Set this option to ON to output a burst signal in B/W mode.
- DELAY CNT: Sets the delay time for switching between COLOR and B/W mode.
- DAY→NIGHT: Sets the brightness level for switching from COLOR to B/W mode.
- NIGHT→DAY: Sets the brightness level for switching from B/W to COLOR mode.

ATTENTION:

The following functions IR OPT, IR LED and EXTON are only available for these Cameras if you connect the external Day & Night connector to an LED board.

- IR OPT [OFF, ON] :

Set IR OPT (IR OPTIMIZER) to ON to control the screen overexposure caused by the camera's bright LED light (optional) in dark ambient conditions. When choosing ON, the following submenu will appear where you can adjust the settings for the IR OPTIMIZER.

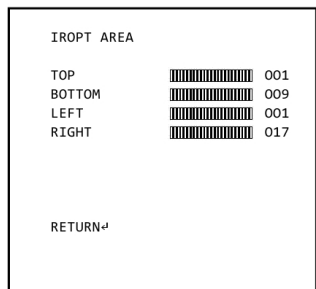


- MODE (AUTO, CENTER): Choose CENTER if the subjects which can cause overexposure are located near the centre of the monitored area. Choose AUTO if the subjects which can cause overexposure are scattered on the monitored area.

- LEVEL (000 ~ 031): Sets the reference level of the IR OPTIMIZER. If the value is too high, the screen may be overexposed.

- ATR-EX (ON, OFF): The ATR-EX (Adaptive Tone Reproduction) function provides gradation compensation to improve the contrast of subjects whose gradation has been lost in cases where, for instance, both low-luminance areas and high-luminance areas exist in the same picture.

The ATR-EX function improves the visibility of the entire picture by providing the optimum gradation compensation for the image in one field based on the luminance information.



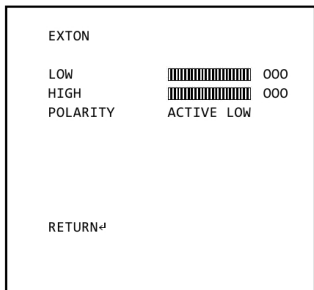
If you choose CENTER as MODE in the IR OPT submenu, a submenu will appear where you can adjust the size/location of the IR OPT area.

- IR LED [OFF, FIX, DAY/NIGHT] :

This function is not available in this camera model.

- EXTON [OFF, ON] :

Here you can activate the EXTON function to activate the external Day & Night connector on the rear panel of the camera. When ON is chosen, the connector is active and the following submenu will appear where you can adjust the settings for the EXTON function. Depending on the external device you are connecting to the camera for controlling the Day/Night switching of the camera, you have to make the following adjustments.



- LOW (000 ~ 255): Set the parameter from 000 to 255 (depending on the difference between low and high current flow of the external device) to adjust the sensitivity for switching to Low Mode.

- HIGH (000 ~ 255): Set the parameter from 000 to 255 (depending on the difference between low and high current flow of the external device) to adjust the sensitivity for switching to High Mode.

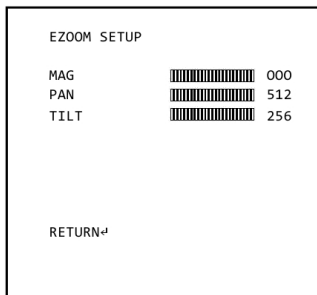
- POLARITY (ACTIVE LOW, ACTIVE HIGH): Choose ACTIVE LOW or ACTIVE HIGH to set in Day Mode the LEDs to OFF and in Night Mode the LEDs to ON. If chosen wrong, it is the other way round. (This depends on the set polarity, and whether high current flow means "night" and low current flow means "day" in the external device or the other way round.)

COLOR:

If set to COLOR, the camera will be fixed to COLOR mode regardless of the ambient conditions.

6.9. EZOOM

When selecting ➤, the following submenu will appear.



When you enter this submenu, the Electronic Zoom can be adjusted (in/out/left/right/top/bottom).

- MAG [000 ~ 255]: Here you can choose how far the camera zooms in.

- PAN [000 ~ 1023]: Here you can move the zoom picture to the left or right.

- TILT [000 ~ 511]: Here you can choose the top and bottom position of the zoom picture.

6.10. DIS

DIS [ON, OFF]:

The Digital Image Stabilisation will set the anti-shake compensation.

6.11. PRIVACY

PRIVACY	
AREA SEL	1/15
MODE	OFF
POSITION	-
COLOR	-
TRANSP	-
MOSAIC	-
RETURN	

When selecting \leftarrow , a submenu will appear where you can set the privacy masks and their colours. This function is used to mask specific areas within the frame of the camera.

AREA SEL [1/15 ~ 15/15] :

Select a mask out of the 15 mask areas and set the options below for the selected mask.

MODE [ON, OFF] :

Select ON to activate the setting for the selected mask area.

POSITION :

Here you can adjust the size and form of the mask area. Push OK to select a corner of the mask area and adjust it with the direction keys. Repeat this procedure for each corner of the mask area. Press OK again to leave this setting.

COLOR [BLACK, RED, GREEN, BLUE, YELLOW, CYAN, MAGENTA, WHITE] :

Choose one of 8 colours for the mask areas.

TRANSP [0.00, 0.5, 0.75, 1.0] :

Choose one of 4 transparency levels for the mask areas.

MOSAIC [OFF, ON] :

Set the mosaic function for the mask areas to OFF or ON. The mosaic will be shown in the mask areas when TRANSP is set to lower than 1.00.

6.12. MOTION DET (Motion Detection)

MOTION DET [ON, OFF] :

This function is used to detect moving objects in the monitored area. There are 4 predefined boxes representing the areas that can be monitored for motion.

When choosing ON, the following submenu will appear where you can adjust the settings for the MOTION DET function.

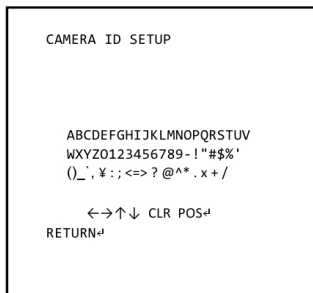
6.13. SYNC

This camera model is set to fixed INT (Internal Synchronisation).

6.14. CAMERA ID

CAMERA ID [ON, OFF] :

When choosing ON, the following submenu will appear where you adjust the settings for the CAMERA ID.



This menu is used to assign a unique name to a camera. You can enter up to 52 alphanumeric or special characters for the CAMERA ID. Select POS and press the OK key to be able to move the display position of the CAMERA ID.

Steps for programming the Camera ID:

1. Turn on the CAMERA ID mode and enter the submenu.
2. Using the four direction keys, switch between the characters. Press the OK key to make a desired figure.
3. Press CLR if you need to delete letters.

6.15. LANGUAGE

The camera supports 7 different languages. Select your preferred language from the list.

6.16. CAMERA RESET

All settings will be restored to factory default.

6.17. NEXT / BACK

When you select NEXT, the next main menu page will be shown. When you select BACK, the previous main menu page will be shown.

6.18. EXIT

Exits the menu without saving any changes in the settings.

6.19. SAVE ALL

Saves the changes in the settings.

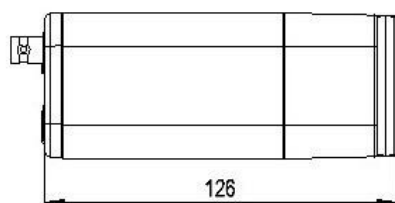
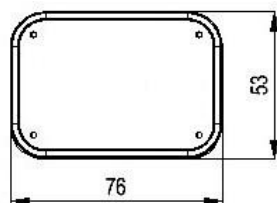
Specifications GCA-B0005B

Image Sensor	1/3" CCD Sony 960H Super 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	On/Off/Auto/Ext, IR-cut filter removable (ICR)
Sensitivity Colour	0.001 Lux (50IRE) @ F1.2
Sensitivity B&W	0.001 Lux (50IRE) @ F1.2
S/N Ratio	>52dB (AGC off)
Lens Mount	C/CS mount with adaptor
Lens Drive Type	Auto iris (DC)
Sens Up	Off ~ x512, auto
Motion Detection	On/Off
Number of Privacy Zones	15 ea
Wide Dynamic Range	Normal / Light / Full
High Speed Shutter	1/50 ~ 1/100.000 sec, auto
BLC	BLC / HLC / off
AGC	Off, On (x0.25/x0.5/x0.75/x1)
Digital Noise Reduction (DNR)	Low/Midlow/Mid/Midhigh/High/Off (2D/3D)
Digital Image Stabilization (DIS)	Off/On
Additional Features	H/V Reverse, High Light Compensation, E-Zoom
OSD	Yes (DE,EN,ES,FR,RU,PT,JP)
Camera ID	52 character, 2 lines
White Balance	ATW/PUSH/Anti CR/Manual/User 1/User 2
Control	Coaxial
Video Outputs	1 CVBS, 1Vpp, BNC
Humidity	less than 90%
Operating Temperature	-10°C ~ +45°C
Supply Voltage	100 ~ 240 VAC, 50/60Hz
Power Consumption	3 W
Weight	0.4 kg
Dimensions (wxhxd)	76 x 53 x 126 mm

Specifications GCA-B0305B

Supply Voltage	12 VDC/24 VAC
Power Consumption	3 W
Weight	0.4 kg
Dimensions (wxhxd)	76 x 53 x 126 mm

Dimensions



EC Declaration of Conformity

GCA-B0005B 1/3" CCD Colour/B&W Camera, WDR, 650L, 230VAC
GCA-B0305B 1/3" CCD Colour/B&W Camera, WDR, 650L, 12VDC/24VAC

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

EC EMC Directive 2004/108/EC
Low Voltage Directive 2006/95/EC

Applied harmonised standards and technical specifications:

EN 61000-3-2
EN 61000-3-3
EN 61000-6-1
EN 61000-6-3
EN 60950

ASP AG

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Remscheid, 14.06.2012



GRUNDIG

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CEO