VBC464 Manual

Set up and user manual for the VBC464 camera

CE

Before You Begin
Read these instructions before installing or operating this product.

Note: This installation should be made by a qualified service person and should conform to local codes.
This manual provides installation and operation information. To use this document, you must have the following minimum qualifications:

- A basic knowledge of CCTV systems and components

- A basic knowledge of electrical wiring and low-voltage electrical connections

Intended use

Only use this product for its designated purpose; refer to the product specification and user documentation.

Customer Support

For assistance in installing, operating, maintaining and troubleshooting this product refer to this document and any other documentation provided. If you still have questions, please contact Norbain Technical Support and Sales:

- Norbain Ltd
  210 Wharfedale Road, IQ Winnersh, Wokingham, Berks
  RG41 5TP

  +44 118 912 5000

Note: You should be at the equipment and ready with details before calling Technical Support.

Conventions Used in this Manual

Boldface or button icons highlight command entries. The following **WARNING, CAUTION** and **Note** statements identify potential hazards that can occur if the equipment is not handled properly:

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* **WARNING:**
Improper use of this equipment can cause severe bodily injury or equipment damage.

** Caution:
Improper use of this equipment can cause equipment damage.

Note: Notes contain important information about a product or procedure.

RoHS Announcement

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly "lead-free" and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste.

CE Mark

This apparatus is manufactured to comply with the radio interference. A Declaration of Conformity in accordance with the following EU standards has been made. The manufacturer declares that the product supplied with this document is compliant the provisions of the EMC Directive 2004/108/ EC, the CE Marking Directive 93/68 EEC and all associated amendments.

* This symbol indicates electrical warnings and cautions.
** This symbol indicates general warnings and cautions.

NORBAIN SD LTD reserves the right to make changes to the product and specification of the product from time to time without prior notice.

WARNING
To reduce the risk of fire or electric shock, do not insert any metallic objects through the ventilation grills or other openings on the equipment.

CAUTION

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

IMPORTANT SAFEGUARDS

1. **READ AND RETAIN INSTRUCTIONS**
   Read the instruction manual before operating the equipment.
   Retain the manual for future reference.
2. **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.
3. **ATTACHMENTS**
   Do not use attachments unless recommended by manufactured as they may affect the functionality of the unit and result in the risk of fire, electric shock or injury.
4. **MOISTURE**
   Do not use equipment near water or other liquids.
5. **ACCESSORIES**
   Equipment should be installed in a safe, stable location. Any wall or shelf mounting accessory equipment should be installed using the manufacture'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.
6. **VENTILATION**
   Openings in the equipment, if any, are provided for ventilation to ensure reliable operation of the unit and to protect if from overheating. These openings must not be blocked or covered
7. **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.
8. **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.
9. **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 places upon or against them.
10. **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.

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

12. 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.

13. DAMAGE REQUIRING SERVICE
Unplug the equipment from the wall outlet and refer servicing to qualified service personnel under the Following conditions:

A. When the power supply cord or the plug has been damaged.
B. If liquid has spilled or objects have fallen into the Unit.
C. If the equipment has been exposed to water or other liquids.
D. If the equipment does not operate normally by following the operating instructions, adjust those controls that are covered by the operating instructions as Improper adjustment for other controls may result in damage to the unit.
E. If the equipment has been dropped or the casing is damaged.
F. When the equipment exhibits a distinct change in performance.

14. REPLACEMENT PARTS
When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer or that have the same characteristics as the original part.
Unauthorized substitutions may result in fire, electric shock, or other hazards.

15. SAFETY CHECK
Upon completion of any service or repairs to the equipment, ask the service technician to perform safety checks to verify that the equipment is in proper operating condition.

16. FIELD INSTALLATION
The installation of equipment should be made by a qualified service person and should conform to all local codes.

17. CAUTION - THESE SERVICING
INSTRUCTIONS ARE FOR USE BY QUALIFIED SERVICE PERSONNEL ONLY. TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT PERFORM ANY SERVICING OTHER THAN THAT CONTAINED IN THE OPERATING INSTRUCTIONS UNLESS YOU ARE QUALIFIED TO DO SO.

18. Use certified/Listed Class 2 power source only

CE COMPLIANCE STATEMENT

TABLE OF CONTENTS

INTRODUCTION

Camera Model Features:

The camera provides high-quality images using SONY 1/3" CCD and digital Signal process LSI.

Features:

- High resolution and high performance 1/3" SONY Super HAD CCD Technology.
- 580TVL (Colour), 600TVL (B/W) of resolution
- 6-50mm Varifocal lens (f1.4)
- 1.5 Lux (Colour), 0 Lux (IR LED ON)
- Auto electronic shutter [1/50 - 1/100,000] and manual electronic shutter modes
- 72 x 850nM LED's provide illumination up to 60M
- OSD (On Screen Display) - via provided plug in joystick
- 3D-DNR (Dynamic Noise Reduction)
- D-WDR (Digital Wide Dynamic Range)
- AGC (Auto Gain Control)
- Colour & B&W switching by photocell
- Auto and manual white balance modes
- Selectable BLC zone or HSBLC (Peak White Inversion zone)
- 8no Privacy Zones
- 4no Motion Detection zones with 5vTTL output
- Mirror, D-Zoom, Nega/Posi, Sharpness, D&N, Rotation, Freeze
- Externally adjustable focus & zoom
- Cable managed bracket suitable for wall or ceiling mounting.
- IP66 weatherproof housing
- Operates on 12vDC (-10 ~ +15%) or 24VAC (+/-10%) 7.0W
- Use Certified / Listed Class 2 power source only

CONTENTS OF 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 colour camera and its accessories from the carton and verify that they were not damaged in shipment.

The content of the package includes:

CAMERA   SUNSHIELD   Allen Key   Screw driver

SUNSHIELD-BOLT   SCREWS   REMOTE CONTROLLER
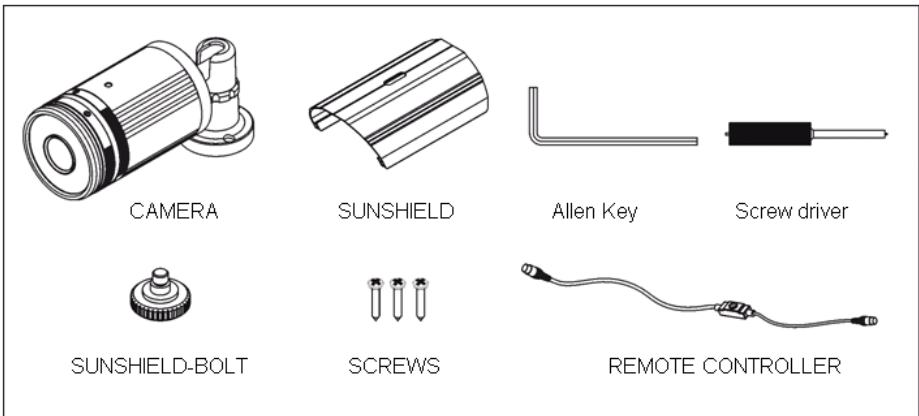
CAMERA DIMENSIONS

UNIT : mm

90°

267.1

147

Ø88

: ZOOM IN/OUT
: FOCUS CONTROL
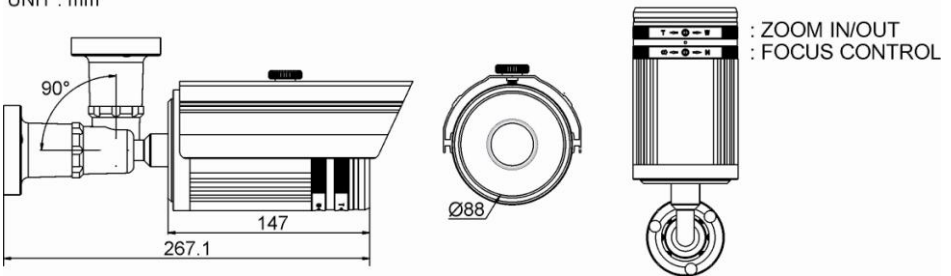
WATER INGRESS PREVENTION
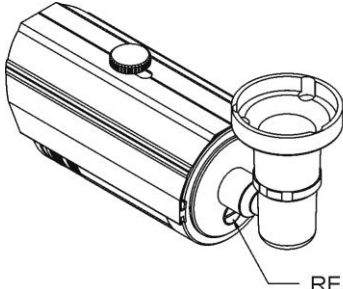
After using the REMOTE CONTROL and lock completely the REMOTE CONTROL PORT CAP.

REMOTE CONTROL PORT CAP

NOTE: The remote control port cap is a primary seal – failure to refit this correctly will invalidate the warranty.

CAMERA FIXING
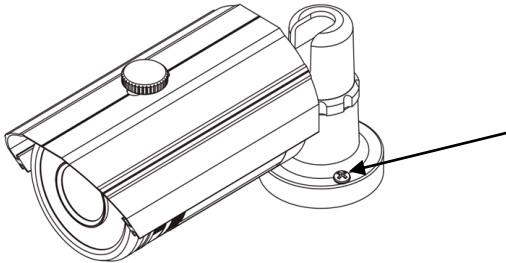
Use the 3 location holes around the base of the bracket to secure the camera to a wall or ceiling using fixing suitable to the type of surface

POWER

The camera can operate on either 12vDC or 24vAC. The internal power circuit is a half wave rectifier, so if using 12vDC to power the camera it is polarity conscious and the correct +/- ports must be obeyed otherwise damage to the camera may occur. If using 24vAC then the polarity conscious rule does not apply this can be and connected to either way.

RED – 12VDC / WHITE - 0VDC in 12V applications

CAMERA ADJUSTMENT

The VBC464 camera is supplied with a remote control set up tool. To connect the remote control to the camera, first remove the Remote control port cap at the rear of the camera:

REMOTE CONTROL PORT CAP
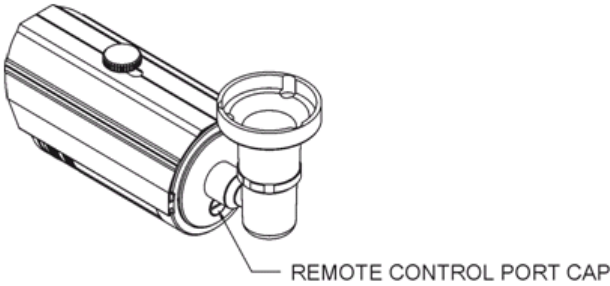
Connect the remote control using the 6 pin din connector end to the socket within the camera:
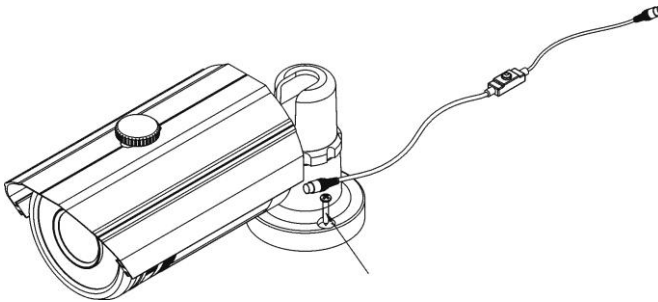
Connect the BNC to a set up monitor to view the picture and On Screen Menus**.**

All OSD operation is via the tact switch on the plug in controller

To Enter the menus press the button on the remote control.

To Navigate the menus, move the button left/Right/Up and Down, press the button to Enter.

RET – takes you back a step in the OSD
END – saves changes and exits OSD

OSD MENU TREE

<MAIN MENU>

LENS
EXPOSURE
WHITE BALANCE
DAY / NIGHT
3DNR
SPECIAL
ADJUST
RESET
EXIT

<LENS>

DC

<EXPOSURE>

SHUTTER
BRIGHTNESS
AGC
SENSE-UP
BLC
D-WDR
RETURN

<WHITE BAL>

AWB
AWC→SET
MANUAL
INDOOR
OUTDOOR
ATW

<DAY&NIGHT>

AUTO
B/W
COLOUR

<3DNR>

LEVEL
RETURN

<SPECIAL MENU>

CAMERA TITLE
D-EFFECT
RS485
MOTION
PRIVACY
SYNC
LANGUAGE
RETURN

<ADJUST>

SHARPNESS
BLUE
RED
RETURN

<RESET>

FACTORY
RETURN
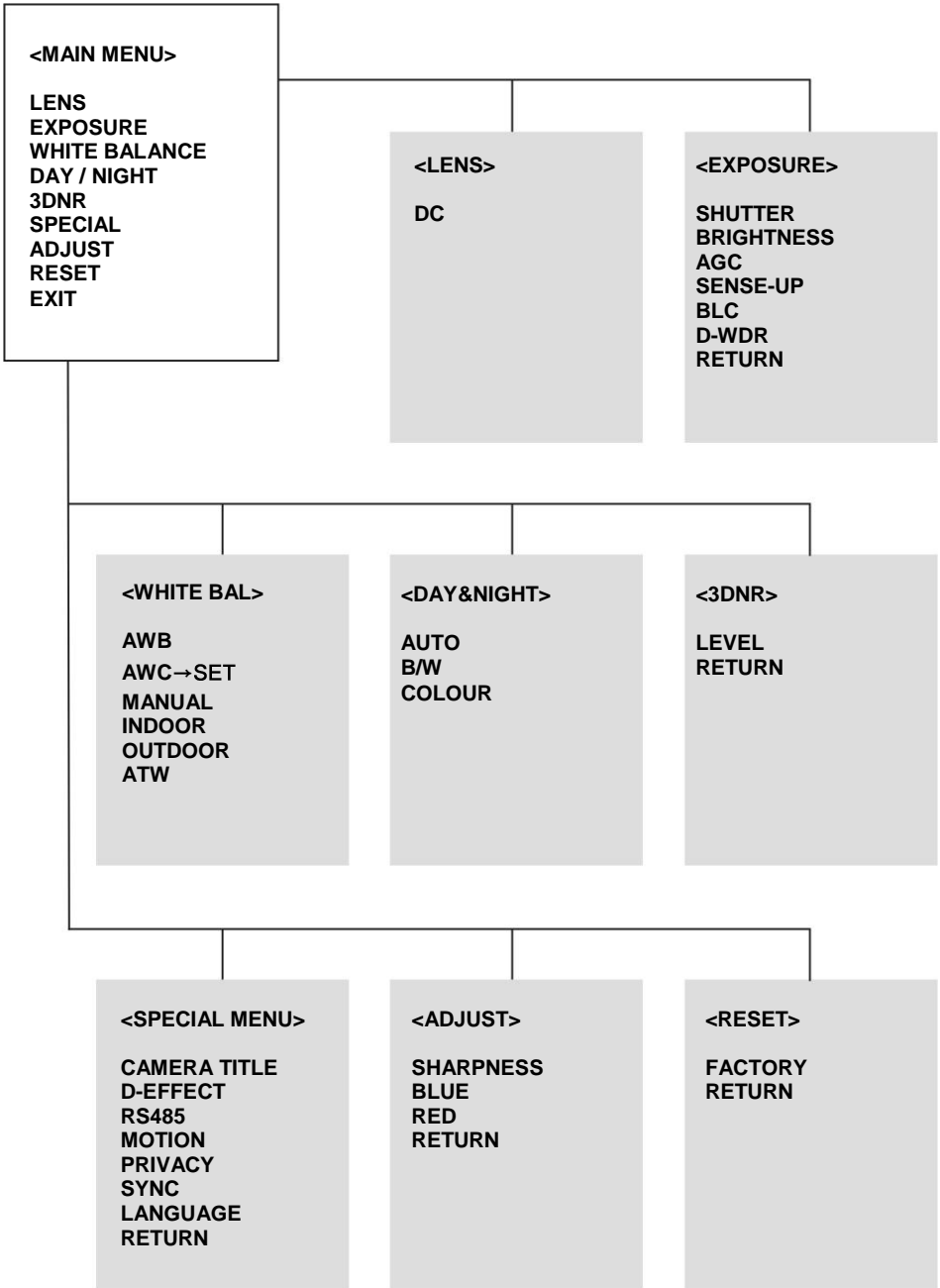
OSD Settings

<ins>\<LENS></ins>
<ins>DC LENS</ins>
Brightness   Adjust brightness level (0 ~ 100)

```
► 1. LENS        DC↵              LENS
  2. EXPOSURE    ↵
  3. WHITE  BAL  AWB         ► BRIGHTNESS ▥▥▯▥▥ 50
  4. DAY NIGHT   AUTO↵         RETURN      RET↵
  5. 3DNR        ON ↵
  6. SPECIAL     ↵
  7. ADJUST      ↵
  8. RESET       ↵
  9. EXIT        ↵
```
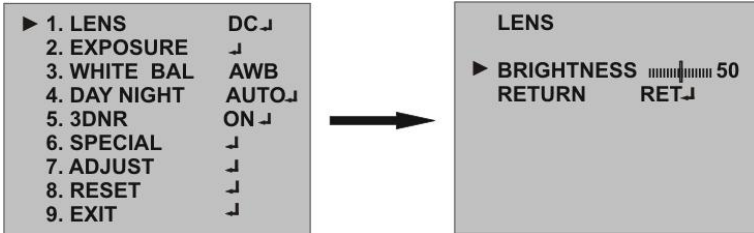
<ins>\<EXPOSURE></ins>
<ins>SHUTTER</ins>
x256, x128, x64, x32, x16, x8, x4, x2, 1/50, FLK, 1/250, 1/500, 1/2000,
1/5000, 1/10000, 1/100000
 (FLK – Flickerless reduces screen flickering caused by out of phase lighting frequency)

<ins>AGC</ins>
OFF/ LOW / MID / HIGH

<ins>SENSE-UP</ins>
Low-speed shutter control is defaulted to AUTO, this can be set to the following
options, the larger the number the more integration is applied to the picture:
OFF - AUTO x2, x4, x8, x16, x32, x64, x128, x256
(Note that this will only work when the shutter speed is set at 1/50 and AGC is set to
low / mid / high)

<ins>BLC</ins>
OFF / BLC / HSBLC

Both BLC and HSBLC have a definable 7 x 7 area (max) in the 8 x 8 grid of
where to apply (One single block of segments can be set e.g. 2x1, 2x3, 4x4
etc)
BLC – helps to reduce the silhouette effect when the target is against a bright
background
HSBLC (Peak White Inversion) – reduces high illumination (e.g. vehicle
headlights) and inverts the white signal to black

BLC MODE

GAIN	Low / Mid / High
DEFAULT	Restore BLC back to factory settings
LEFT / RIGHT	Adjust location on screen (0 ~ 7)
WIDTH	Adjust size of area (0 ~ 8)
TOP / BOTTOM	Adjust location on screen (0 ~ 7)
HEIGHT	Adjust size of area (0 ~ 8)

1. LENS	DC⏎		EXPOSURE			BLC	
► 2. EXPOSURE	⏎		SHUTTER	1/60		► GAIN	MIDDLE
3. WHITE BAL	AWB		BRIGHTNESS	▭▭50		DEFAULT	⏎
4. DAY NIGHT	AUTO⏎		AGC	HIGH		LEFT/RIGHT	▭ 2
5. 3DNR	ON ⏎		SENSE-UP	AUTO⏎		WIDTH	▭ 4
6. SPECIAL	⏎		► BLC	BLC⏎		TOP/BOTTOM	▭ 3
7. ADJUST	⏎		D-WDR	OFF		HEIGHT	▭ 3
8. RESET	⏎		RETURN	RET⏎		RETURN	RET⏎
9. EXIT	⏎						

HSBLC MODE   (Peak White Inversion)

LEVEL	Brightness of light before PWI occurs (0 ~ 8)
DEFAULT	BLC back to factory settings
LEFT / RIGHT	Adjust location on screen (0 ~ 7)
WIDTH	Adjust size of area (0 ~ 8)
TOP / BOTTOM	Adjust location on screen (0 ~ 7)
HEIGHT	Adjust size of area (0 ~ 8)

D-WDR

Wide Dynamic Range setting enables a widely contrasting scene of view to provide a balanced picture.
OFF / INDOOR / OUTDOOR

<WHITE BAL>

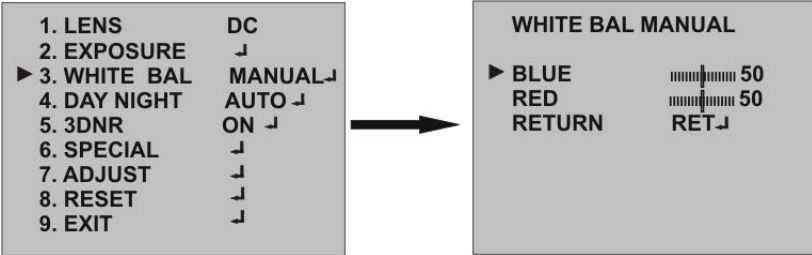Allows accurate reproduction of White by controlling the R.G.B. level

AWB	Wide range auto white balance mode.
AWC->SET	Please press the ENTER button while the camera is directed at a piece or while paper to obtain the optimum state under current illumination. If the environment including the light source is changed, you have to adjust the white balance again.

MANUAL	Manual mode - user can change R and B Gain manually
RED GAIN	Adjust RED value (0 ~ 100)
BLUE GAIN	Adjust BLUE value (0 ~ 100)

```
1. LENS        DC
2. EXPOSURE    ┘
► 3. WHITE  BAL  MANUAL┘        WHITE BAL MANUAL
4. DAY NIGHT   AUTO ┘
5. 3DNR        ON ┘          ► BLUE      |||||||||| 50
6. SPECIAL     ┘               RED       |||||||||| 50
7. ADJUST      ┘               RETURN    RET┘
8. RESET       ┘
9. EXIT        ┘
```

INDOOR	Set the colour temperature to 3200ºK
OUTDOOR	Set the colour temperature to 6300ºK
ATW	Set the colour temperature 2500 ºK to 9500 ºK

<DAY&NIGHT>

COLOUR	Forces the camera into permanent colour mode
B/W	Forces the camera into permanent monochrome mode
AUTO	Switching between Colour & monochrome images are determined by the photocell and also switches IR LEDS on and removes IR cut filter.

In **AUTO** mode the switching points can be adjusted if required:

S Level – switching from colour to mono (1~100). The higher the number the darker it needs to be before it switches over to monochrome – Lower Lux)
E Level – switching from mono to colour (1~100). The lower the number the lighter it needs to be before it switches back to colour – Higher Lux)

```
1. LENS        DC
2. EXPOSURE    ┘
3. WHITE  BAL  AWB          DAY NIGHT AUTO
► 4. DAY NIGHT  AUTO┘
5. 3DNR        ON ┘        ► DELAY      |||||||||| 5
6. SPECIAL     ┘            S-LEVEL    |||||||||| 50
7. ADJUST      ┘            E-LEVEL    |||||||||| 30
8. RESET       ┘            RETURN     RET┘
9. EXIT        ┘
```
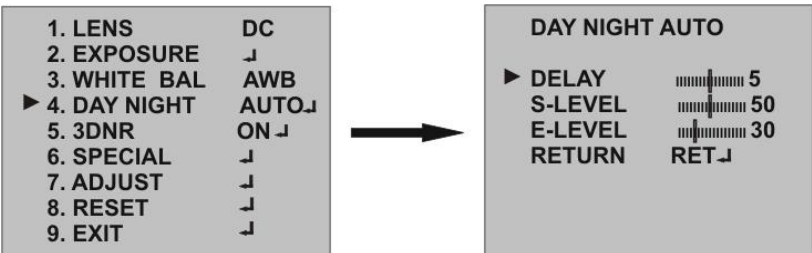
B/W mode – whist set in permanent monochrome mode you can also remove the colour burst, which reduces image noise

```
1. LENS          DC
2. EXPOSURE      ⏎
3. WHITE  BAL    AWB
▶ 4. DAY NIGHT   B/W ⏎
5. 3DNR          ON ⏎
6. SPECIAL       ⏎
7. ADJUST        ⏎
8. RESET         ⏎
9. EXIT          ⏎
```

```
DAY NIGHT B/W

▶ BURST      OFF
  RETURN     RET⏎
```
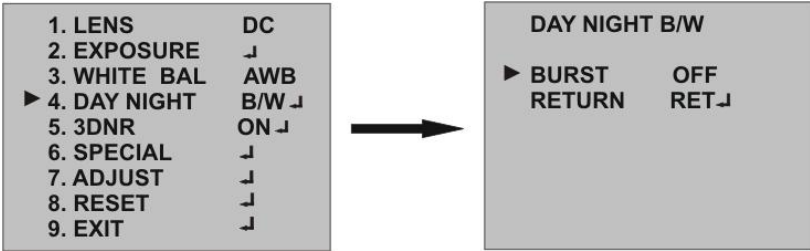
<3DNR>
Reduces noise within the picture when AGC is active
OFF / ON
    ON   Adjust 3DNR level (0 ~ 100)
(Note that this will only work when AGC is in LOW / MID / HIGH setting)

```
1. LENS          DC
2. EXPOSURE      ⏎
3. WHITE  BAL    AWB
4. DAY NIGHT     AUTO⏎
▶ 5. 3DNR        ON ⏎
6. SPECIAL       ⏎
7. ADJUST        ⏎
8. RESET         ⏎
9. EXIT          ⏎
```

```
3DNR

▶ LEVEL      ▮▮▮▮▮|▮▮▮▮▮  50
  RETURN     RET⏎
```
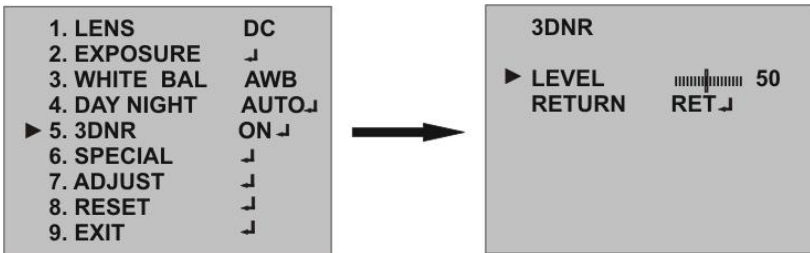
<SPECIAL>
CAM TITLE

```
A ——— CAM TITLE
      0123456789
      ABCDEFGHIJK
      LMNOPQRSTUV
B ——— WXYZ ▶→←↑↓()
      ‾–_▮/=&:~,"

C ——— ←→ CLR POS END
```

15 character camera name/title allocation
←:   Move to left
→:   Move to right
CLR: Erase all characters.
POS: Move the Position of title
END: Save and End

D-EFFECT

FREEZE	Select the real or still mode
MIRROR	Reverse the screen in 3 different modes (OFF / MIRROR / V FLIP / ROTATION)
D-ZOOM	D-Zoom (x2~x32) / Adjust PAN / TILT
GAMMA	Adjust the luminance in 0.05 decrements (0.05~1.00)
NEGA / POSI	Select the negative or positive mode.

MOTION

AREA SELECT	Select MD area number
AREA DISPLAY	Select MD ON/OFF
LEFT / RIGHT	Adjust the location of the MD area with boundary LEFT and RIGHT
WIDTH	Adjust width of MD area (0 ~ 100)
TOP / BOTTOM	Adjust the location of the MD area with boundary TOP and BOTTOM (0 ~ 100)
HEIGHT	Adjust height of MD area (0 ~ 100)
SENSITIVITY	Adjust sensitivity of MD area (0 ~ 40)
MOTION VIEW	If ON a green trace will appear around the movement

```
1. LENS        DC↵              SPECIAL                     MOTION
2. EXPOSURE    ↵              1.CAM TITLE  ON↵           ► AREA SELECT   AREA1
3. WHITE  BAL  AWB            2.D-EFFECT   ↵               AREA DISPLAY    ON
4. DAY NIGHT   AUTO↵          3.RS485      ↵               LEFT/RIGHT      |||||||| 8
5. 3DNR        ON↵          ► 4.MOTION     ON↵             WIDTH           ||||||||| 32
► 6. SPECIAL   ↵              5.PRIVACY    OFF             TOP/BOTTOM      ||||||| 4
7. ADJUST      ↵              6. SYNC      INT             HEIGHT          |||||||| 24
8. RESET       ↵              7.LANGUAGE   ENGLISH         SENSITIVITY     ||||||||| 40
9. EXIT        ↵              8.RETURN     RET↵            MOTION VIEW     OFF
```
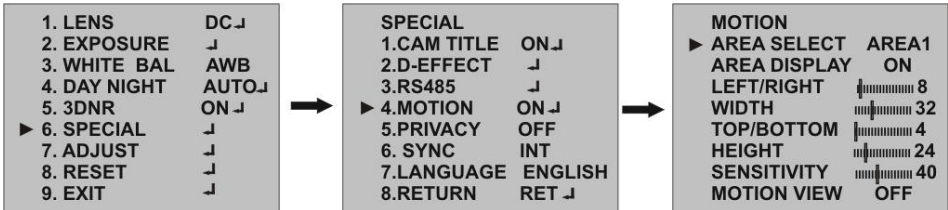
(Note – Once motion detection is enabled the 5vTTL output becomes active and can then be connected to switching/recording devices. Black – 0V / Blue – 5VTTL)

PRIVACY

AREA SELECT	Select MASK area number (1~8)
AREA DISPLAY	Select MASK ON/OFF
LEFT / RIGHT	Adjust the location of the MASK area with boundary LEFT and RIGHT.
WIDTH	Adjust width of MASK area.
TOP / BOTTOM	Adjust the location of the MASK area with boundary TOP and BOTTOM.
HEIGHT	Adjust height of MASK area.
COLOUR	Select MASK color (0 ~ 15)

```
  1. LENS      DC⏎             SPECIAL                    PRIVACY
  2. EXPOSURE    ⏎                                     ► AREA SELECT  AREA1
  3. WHITE  BAL  AWB          1.CAM TITLE   ON⏎          AREA DISPLAY    ON
  4. DAY NIGHT  AUTO⏎         2.D-EFFECT                 LEFT/RIGHT    ▐▓▓▓▓ 8
  5. 3DNR       ON ⏎          3.MOTION      OFF          WIDTH         ▓▐▓▓▓ 20
► 6. SPECIAL    ⏎           ► 4.PRIVACY     ON ⏎         TOP/BOTTOM   ▓▐▓▓▓ 10
  7. ADJUST     ⏎             5.SYNC        INT          HEIGHT        ▓▓▐▓▓ 35
  8. RESET      ⏎             6.LANGUAGE  ENGLISH        COLOR         ▐▓▓▓▓ 0
  9. EXIT       ⏎             7.RETURN      RET ⏎        RETURN        RET ⏎
```
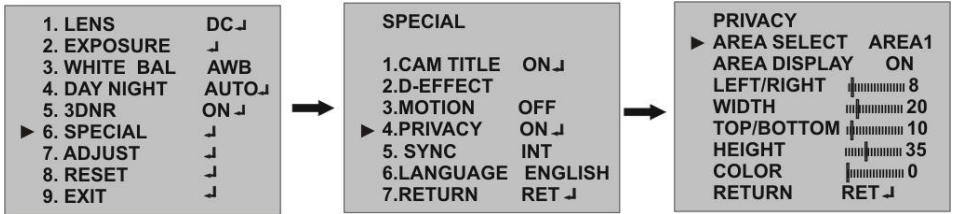
SYNC

SYNC   INT/LL

Select Internal or Line Lock mode.

INT	Internal synchronization
L/L	Line Lock mode is used to eliminate image roll when the CCTV equipment is on differing AC signals
PHASE	Sync phase is adjustable in line lock mode (0~360)

LANGUAGE
English / French / Dutch / Spanish

ADJUST

SHARPNESS	Can be adjusted SHARPNESS of outlines (0~31)
BLUE	Adjust B-GAIN value (0~100)
RED	Adjust R-GAIN value (0~100)

RESET
FACTORY   Returns to the camera to the factory default settings

EXIT
EXIT   Saves all the setting menus and then exits.

SPECIFICATIONS

Model	VBC464
Signal Format	PAL
Image Device	1/3" SONY Super HAD CCD
Effective Pixels	752(H) x 582(V)
Inter. H/V	15,625KHz(H), 50Hz(V)
Horizontal Resolution	580TVL Colour / 600TVL Monochrome
Day/Night Lens	6-50mm (f1.4)
Minimum Illumination	1.5 Lux (Colour), 0 Lux (IR LED ON)
Camera operation	OSD via plug in joystick at rear of camera
Gamma	r=0.05 ~ 1.0 (Adjustable)
S/N Ratio	More than 50dB (AGC off)
Sync System	Internal / Line Lock
Video Output	1.0 Vp-p Composite (75Ω)
Electronic shutter	1/50 ~ 1/100,000sec
Manual shutter	1/50, FLK, 1/250, 1/500, 1/2000, 1/5000, 1/10,000, 1/100,000
Sense-up	Off / Auto (X2, X4, X8, X16, X32, X64, X128, X256)
AGC	Off / Low / Middle / High
BLC	OFF / BLC / HSBLC
White Balance	AWB/ AWC→SET / MANUAL / Indoor / Outdoor / ATW
Day&Night	Colour / BW / Auto
Motion Detection	4no Zone (On / Off) 5vTTL output
Privacy Zone	8no Zone (On / Off)
3-DNR	Off / On (0 ~ 100 Level Adjustable)
D-WDR	Off / Indoor / Outdoor
Image Functions	Freeze / Mirror / D-zoom / Sharpness / Colour gain / Gamma / NEG.Image
OSD Languages	English / Spanish / Dutch / French
IR LED	72no 850nm, >60m
IR LED Operation	On (Start) : 7.01Lux, Off (End) : 0.95Lux
IP Rating	IP66
Operating Temperature	14℉~122℉ (-10℃~+50℃)
Storage Temperature	-4℉~140℉ (-10℃~+60℃)
Power	12vDC (-10~+15%) / 24AC (+/-10%) (7.0W)
Colour	Pantone Black C
Weight (net)	1160g
Weight (gross)	1575g
Unit Dimensions (mm)	88 (W) x 88 (H) x 267.1 (L) including bracket
Box Dimensions (mm)	250 (W) x 200 (H) x 140 (D)