



TruVision HD-TVI Cameras Configuration Manual

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Important information

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Advisory messages alert you to conditions or practices that can cause unwanted results. The advisory messages used in this document are shown and described below.

WARNING: Warning messages advise you of hazards that could result in injury or loss of life. They tell you which actions to take or to avoid in order to prevent the injury or loss of life.

Caution: Caution messages advise you of possible equipment damage. They tell you which actions to take or to avoid in order to prevent the damage.

Note: Note messages advise you of the possible loss of time or effort. They describe how to avoid the loss. Notes are also used to point out important information that you should read.

Introduction

This is the configuration manual for following camera models:

HD-TVI 720P Cameras

- TVB-6101 (720P Bullet, 2.7 to 13.5 mm lens)
- TVD-6101 (720P Dome, 2.7 to 13.5 mm lens)

HD-TVI 2MPx Cameras

- TVB-6102 (2MPx Bullet, 3.6 mm lens)
- TVB-6103 (2MPx Bullet, 2.7 to 13.5 mm lens)
- TVD-6102 (2MPx Dome, 2.8 mm lens)
- TVD-6103 (2MPx Dome, 2.7 to 13.5 mm lens)

HD-TVI 5MPx Cameras

- TVB-6104 (5MPx Bullet, 3.6 mm lens)
- TVB-6105 (5MPx Bullet, 2.7 to 13.5 mm lens)
- TVT-6101 (5MPx Turret, 2.8 mm lens)
- TVT-6102 (5MPx Turret, 2.7 to 13.5 mm lens)
- TVD-6104 (5MPx Dome, 2.7 to 13.5 mm lens)

HD-TVI 8MPx Cameras

- TVB-6106 (8MPx Bullet, 2.7 to 13.5 mm lens)
- TVD-6105 (8MPx Dome, 2.7 to 13.5 mm lens)

HD-TVI 2MPx Full Time Color Cameras

- TVB-6107 (2MPx Bullet, 3.6 mm lens)
- TVT-6103 (2MPx Turret, 3.6 mm lens)

Camera and recorder/encoder compatibility

Table 1 below shows the compatibility of the cameras with TruVision recorders and encoders.

Table 1: Camera compatibility with TruVision recorders and encoders

		TVR 12HD V1.2.j		TVR 44HD V1.2.j		TVR 15HD V2.0.e		TVR 45HD V2.1.b	
		Live View	Record	Live View	Record	Live View	Record	Live View	Record
720P Camera	960H	√	√	√	√	√	√	√	√
	720P @25/30 fps	√	√	√	√	√	√	√	√
1080P & Full Time Color Cameras	960H	√	√	√	√	√	√	√	√
	1080P @25/30 fps	√	√ (Only 12 fps)	√	√	√	√	√	√
5MPx Camera	960H	√	√	√	√	√	√	√	√
	1080P @25/30 fps	√	√ (Only 12 fps)	√	√	√	√	√	√
	4MPx @25/30 fps								
	5MPx @12.5 fps					√	√	√	√
	5MPx @20 fps (Default)								
8MPx Camera	960H	√	√	√	√	√	√	√	√
	1080P @25/30 fps	√	√ (Only 12 fps)	√	√	√	√	√	√
	4MPx @25/30 fps								
	5MPx @20 fps								
	8MPx @12.5 fps (Default)								

		TVR46 V1.0.c (under development)		TVE-x10 V1.0 FP10		TVE-120/TVE-420 NA		TVE-820/TVE-1620 NA	
		Live View	Record	Live View	Record	Live View	Record	Live View	Record
720P Camera	960H	√	√	√	√	√	√	√	√
	720P @25/30 fps	√	√			√	√	√	√
1080P & Full Time Color Cameras	960H	√	√	√	√	√	√	√	√
	1080P @25/30 fps	√	√			√	√	√	√
5MPx Camera	960H	√	√	√	√	√	√	√	√
	1080P @25/30 fps	√	√			√	√	√	√
	4MPx @25/30 fps	√	√ (Only 15 fps)			√ (Only 15 fps)	√ (Only 15 fps)	√ (Only 15 fps)	√ (Only 15 fps)
	5MPx @12.5 fps/15 fps	√	√			√	√	√	√
	5MPx @20 fps (Default)	√	√ (Only 12 fps)			√ (Only 12 fps)	√ (Only 12 fps)	√ (Only 12 fps)	√ (Only 12 fps)
8MPx Camera	960H	√	√	√	√	√	√	√	√
	1080P @25/30 fps	√	√			√	√	√	√
	4MPx @25/30 fps	√	√ (Only 15 fps)			√ (Only 15 fps)	√ (Only 15 fps)	√ (Only 15 fps)	√ (Only 15 fps)
	5MPx @20 fps	√	√ (Only 12 fps)			√ (Only 12 fps)	√ (Only 12 fps)	√ (Only 12 fps)	√ (Only 12 fps)
	8MPx @12.5 fps/15 fps (default)	√	√ (Only 8 fps)					√ (Only 8 fps)	√ (Only 8 fps)

√ = Compatible

Call up the camera OSD menu

You can configure the camera settings via a TVI DVR. Select the PTZ protocol **TruVision Coax** and click the menu button to call up the menu.

The TVS-C200 controller (Service Tool) does not support these TVI cameras.

When using the TVI output, the TVI cameras must be used with TVI DVRs. The higher resolution TVI cameras may not be compatible with lower resolution TVI DVRs.

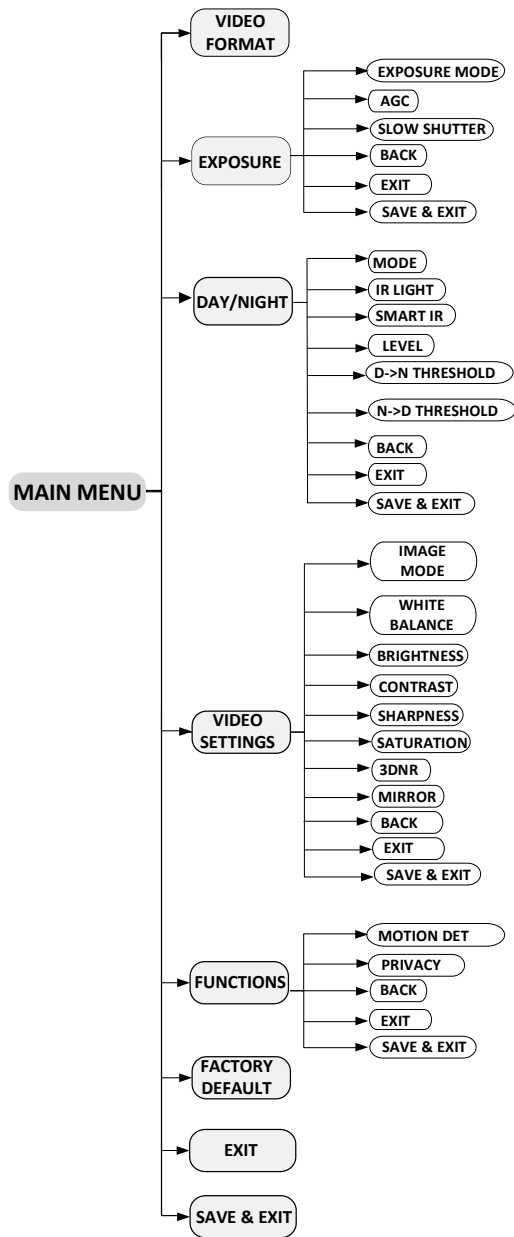
Note: The camera OSD is only available in English.

To set up the camera via the DVR:

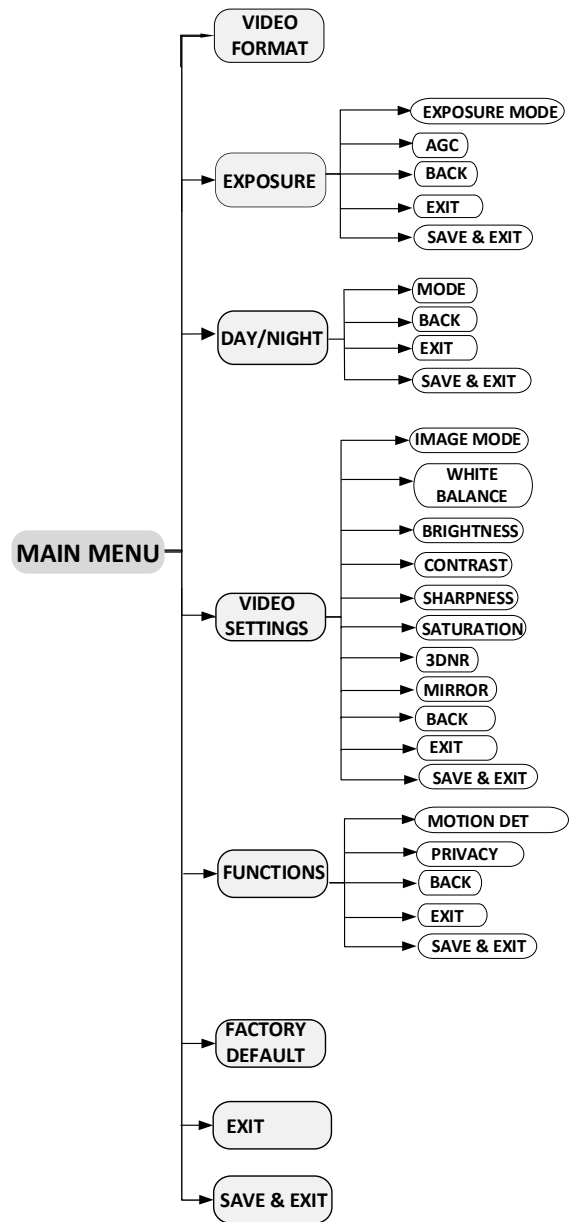
1. Set up the camera hardware as described in the Installation Guide.
2. In **Camera Settings** of the DVR, access the PTZ menu and set the protocol for the TruVision HD-TVI camera to **TruVision-Coax**.
3. In live view of the desired camera, click the PTZ Control icon on the live view toolbar to access the PTZ control panel.
4. To call up the camera setup menu:
From the DVR, select **Iris+**.
5. Select the menu options:
From the DVR: To select an OSD item, click the directional buttons up/down. To adjust the value of a selected item, click the directional buttons left/right.
6. Click **Iris+** to enter the submenu or to confirm the selected item.
7. When the setup is complete, select **Exit** and click **Iris+** to exit the camera OSD.

Menu trees

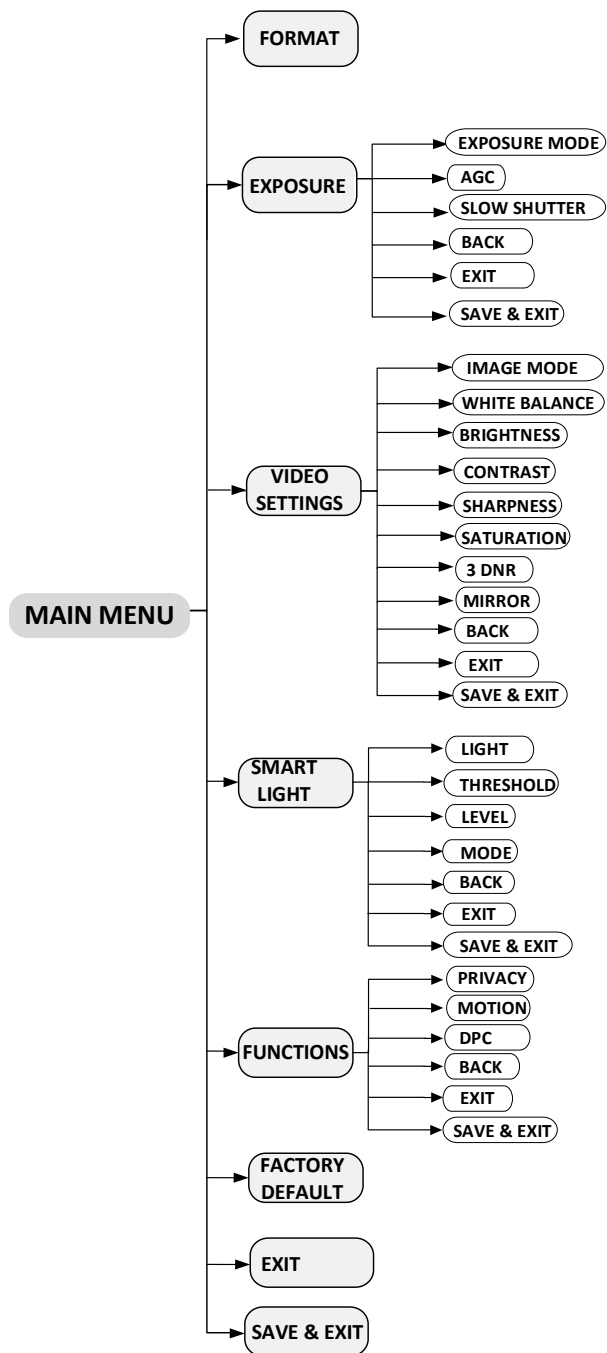
720P and 2MPx cameras:



5MPx and 8MPx cameras:



Full time color cameras:



Configure the cameras

This section describes how to set up the menu settings for the TruVision HD-TVI cameras.

Video Format

Move the cursor to **FORMAT** and select the desired video format.

- HD-TVI 720P cameras: 720P@25 fps or 720P@30 fps
- HD-TVI 2MPx cameras: 2MP@25 fps or 2MP@30 fps
- HD-TVI 5MPx cameras: 5MPx@20 fps, 5MPx@12.5fps, 4MPx@25 fps, 4MPx@30 fps, 2MP@25 fps, and 2MPx@30 fps
- HD-TVI 8MPx cameras: 8MPx@12.5 fps, 5MPx@20 fps, 4MPx@25 fps, 4MPx@30 fps, 2MPx@25 fps or 2MPx@30 fps
- HD-TVI Full Time Color cameras: 2MPx@25 fps or 2MPx@30 fps

Note: When switching the video output to 960H, you can set the video format as PAL, or NTSC.

5MPx and 8MPx cameras

TVR 15HD and TVR 45HD recorders:

TVR 15HD and TVR 45HD cannot support some resolutions and frame rates used in the 5MPx and 8MPx cameras.

In the OSD setting, there is no live view for the 8MPx camera when the 8MPx and 5MPx at 20 fps formats or the 4MPx format are selected.

In the OSD setting, there is no live view for the 5MPx camera when the frame rate is set to 20 fps or the 4MPx formats are selected.

Both the TVR 15HD and TVR 45HD support a maximum of 5MPx at 12.5 fps. When selecting 5MPx at 12.5 fps mode two additional menu options “NTCS/PAL” and “INDOOR/OUTDOOR” will then appear in the display. These menus are used to compensate for the strobing effect with certain lighting systems when using 12.5 fps.

DAY/NIGHT		
VIDEO FORMAT	◀	5MP 12.5 ▶
NTSC/PAL	◀	NTSC ▶
INDOOR/OUTDOOR	◀	INDOOR ▶
EXPOSURE	↕	
DAY/NIGHT	↕	
VIDEO SETTINGS	↕	
FUNCTION	↕	
FACTORY DEFAULT	↕	
EXIT	↕	
SAVE&EXIT	↕	

TVR 12HD and TVR 44HD recorders:

The TVR 12HD and TVR 44HD recorders support a maximum of 2MPx resolution. Selecting a non-supported resolution will cause video to be displayed incorrectly and may prevent further changes to the settings via the on-screen display.

Exposure

Move the cursor to **EXPOSURE** and click **Iris+** to enter the submenu.

This defines the brightness-related parameters. Adjust the image brightness using **EXPOSURE MODE**, **AGC** and **SLOW SHUTTER** for different lighting conditions. The function **SLOW SHUTTER** is not available for all camera models.

EXPOSURE	
EXPOSURE MODE	◀ GLOBAL ▶
AGC	◀ LOW ▶
SLOW SHUTTER	◀ OFF ▶
BACK	⬅
EXIT	⬅
SAVE & EXIT	⬅

EXPOSURE MODE

Select GLOBAL, BLC, WDR or HLC from the menu.

GLOBAL: This is the normal exposure mode to use for a wide range of situations to achieve an optimum image.

BLC (Backlight Compensation): This compensates light for the front object to make it clear, but this may cause the over-exposure of the background, where the light is strong.

WDR (Wide Dynamic Range): The WDR helps the camera provide clear images even under backlight circumstances. When both very bright and very dark areas simultaneously exist in the image, WDR balances the brightness level of the whole image to provide clear images with details.

HLC (High Light Compensation): Masks strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

Note: The HLC function is not available in 5MPx and Full Time Color cameras.

AGC

The AGC (Automatic Gain Control) function optimizes the clarity of the image in poor lighting conditions. The AGC level can be set as HIGH, MEDIUM, or LOW.

Note: The noise will be amplified when setting the AGC level. The higher the level, the more obvious the noise.

SLOW SHUTTER

Note: This function is not available in 5MPx and 8MPx cameras.

This function increases the exposure time on a single frame, which makes a camera more sensitive to the light so it can produce images even in low lux conditions.

You can set the SLOW SHUTTER function as OFF, x2, x4, x6, x8, x10, x12, x14, or x16 according to the different lighting conditions.

Day/Night

Move the cursor to **DAY/NIGHT** and click **Iris+** to enter the submenu.

Note: This menu is not available in Full Time Color cameras.

This menu defines whether the camera is in day or night mode. The day (color) option could be used, for example, if the camera is located indoors where light levels are always good.

MODE

You can select one of three options to control Day/Night mode: COLOR, BW (Black White), or AUTO.

COLOR: The image is colored in day mode all the time.

B & W: The image is black and white all the time. The IR LEDs turn on in poor lighting conditions.

720P and 2MPx cameras:

DAY/NIGHT	
MODE	◀ B & W ▶
IR LIGHT	◀ ON ▶
SMART IR	◀ MODE 1 ▶
LEVEL	◀ 1 ▶
BACK	⏮
EXIT	⏭
SAVE & EXIT	⏮

5MPx and 8MPx cameras:

DAY/NIGHT	
MODE	◀ B & W ▶
IR LIGHT	◀ ON ▶
SMART IR	◀ 2 ▶
BACK	⏮
EXIT	⏭
SAVE & EXIT	⏮

AUTO: The camera automatically detects which mode to use depending on the lighting conditions. This is the default mode. The menu options available are different when this parameter selected.

720P and 2MPx cameras:

DAY/NIGHT	
MODE	◀ AUTO ▶
IR LIGHT	◀ ON ▶
SMART IR	◀ MODE 1 ▶
LEVEL	◀ 1 ▶
D → N THRESHOLD	◀ 7 ▶
N → D THRESHOLD	◀ 7 ▶
BACK	⏮
EXIT	⏭
SAVE & EXIT	⏮

5MPx and 8MPx cameras:

DAY/NIGHT	
MODE	◀ AUTO ▶
IR LIGHT	◀ ON ▶
SMART IR	◀ 2 ▶
D → N THRESHOLD	◀ 2 ▶
N → D THRESHOLD	◀ 7 ▶
BACK	⏮
EXIT	⏭
SAVE & EXIT	⏮

IR LIGHT

Turn on or off the IR LEDs depending on the lighting conditions. The IR LEDs are on by default.

SMART IR

The **Smart IR** function is used to avoid over exposure of an image due to IR LED glare. It can be used in both indoor and outdoor conditions.

For 720P, 2MPx cameras, you can select MODE 1 or MODE 2. MODE 1 reduces over exposure more than MODE 2. Mode 1 is default mode.

For 5MPx and 8MPx, you can select 1 or 2. Option 1 reduces over exposure more than option 2. Option 1 is default mode.

LEVEL

Note: This function is not available in 5MPx and 8MPx cameras.

This is the light level for auto D/N mode switch.

The IR cut filter switches between DAY and NIGHT modes when the lighting conditions reach this user-defined D/N sensitivity level. The LEVEL value can be adjusted between 0 and 3. The higher the value, the higher the D/N sensitivity level.

D → N Threshold

Day to Night Threshold is used to control the sensitivity of switching from day mode to night mode. You can set the value from 1 to 9. The higher the value, the more sensitive the camera is to color.

This mode is only available when AUTO is selected under the MODE menu.

N→ D Threshold

Night to Day Threshold is used to control the sensitivity of switching from night mode to day mode. You can set the value from 1 to 9. The larger the value, the more sensitive the camera is to switching from night mode to day mode.

This mode is only available when AUTO is selected under the MODE menu.

Video Settings

Move the cursor to **VIDEO SETTINGS** and click **Iris+** to enter the submenu.

This menu defines the camera image using the functions image mode, white balance, brightness, contrast, sharpness, saturation, 3DNR, and mirror.

VIDEO SETTINGS	
IMAGE MODE	◀ STD ▶
WHITE BALANCE	↵
BRIGHTNESS	◀ 5 ▶
CONTRAST	◀ 5 ▶
SHARPNESS	◀ 5 ▶
SATURATION	◀ 5 ▶
3DNR	◀ 5 ▶
MIRROR	◀ OFF ▶
BACK	↵
EXIT	↵
SAVE & EXIT	↵

IMAGE MODE

This function is used to adjust the image saturation. You can select STD (Standard), or HIGH-SAT (High Saturation).

WHITE BALANCE

White balance, the white rendition function of the camera, adjusts the color temperature according to the environment. It can remove unrealistic color casts in the image. You can select AUTO or MANUAL.

AUTO: The white balance is adjusted automatically according to the current color temperature of the lighting conditions.

MANUAL: You can manually set the R GAIN/B GAIN values from 1 to 255 to adjust the shades of red and blue colors of the image.

WHITE BALANCE	
MODE	◀ MANUAL ▶
R-GAIN	◀ 5 ▶
B-GAIN	◀ 5 ▶
BACK	↵
EXIT	↵
SAVE & EXIT	↵

BRIGHTNESS

You can adjust the brightness value to darken or brighten the image. The higher the value, the brighter the image. You can set the value from 1 to 9. The higher the value, the brighter the image. Default is 5.

CONTRAST

Contrast is the degree of difference between the darker and lighter parts of the image. You can set the value from 1 to 9. The higher the value, the stronger the contrast. Default is 5.

SHARPNESS

This function increases the image gain and sharpens the edges in the image to enhance image details. You can set the value from 1 to 9. The higher the value, the stronger the effect. Default is 5.

SATURATION

Saturation indicates the brightness of the color. The higher the saturation, the brighter the color. The value ranges from 1 to 9.

3DNR

(Digital Noise Reduction). The 3DNR function can decrease the noise effect, especially when capturing moving images in poor lighting conditions, which delivers a more accurate and sharp image. The larger the value, the less noise there will be in low lighting conditions. You can set the value from 1 to 9. Default is 5.

MIRROR

This function lets you flip the camera image horizontally or vertically. This could be used, for example, when the camera needs to be installed upside down. This the feature allows you to flip the image so it looks right side up on the monitor. Select one of the options:

OFF: The mirror function is disabled.

H: The image flips 180° horizontally.

V: The image flips 180° vertically.

HV: The image flips 180° both horizontally and vertically.

Smart Light

The camera has warm white LEDs to improve image quality in low light conditions. The LEDs are controlled by the Smart Light function, which automatically adjusts both the exposure time and light sensitivity to avoid over exposure of the image.

Note: This function is only available in Full Time Color cameras.

SMART LIGHT	
LIGHT	◀AUTO▶
THRESHOLD	◀2▶
LEVEL	◀5▶
MODE	MODE1
BACK	↶
EXIT	↶
SAVE & EXIT	↶

LIGHT

You can select AUTO or OFF.

AUTO: This mode automatically turns on the white LEDs as the environmental lighting becomes poor.

The THRESHOLD value controls the sensitivity of the white LEDs. The value ranges from 1 to 3. The higher the value, the more sensitive the white LEDs.

The LEVEL value controls the brightness of the white LEDs. The value ranges from 1 to 5. The higher the value, the brighter the white LEDs.

OFF: Disable the function. OFF is the default mode.

MODE

There are two mode levels, 1 and 2. Mode 1 has a warmer white light than mode 2.

Functions

Move the cursor to **FUNCTIONS** and click **Iris+** to enter the submenu.

This menu defines motion detection and privacy.

MOTION DETECTION

In the user-defined motion detection surveillance area, the moving object can be detected and the alarm will be triggered. Up to four motion detection areas can be configured.

MOTION DET	
MODE	◀OFF▶
AREA 0	↑↓
AREA 1	↑↓
AREA 2	↑↓
AREA 3	↑↓
COLOR	◀RED▶
SENSITIVITY	◀5▶
TRANSPARENCY	◀OFF▶
BACK	↑↓
EXIT	↑↓
SAVE & EXIT	↑↓

Select a MOTION area. Set the MODE as ON. Click the up/down/left/right button to define the position, and the size of the area. Set the SENSITIVITY from 1 to 9.

PRIVACY

The privacy mask allows you to cover designated areas that you do not want to be viewed or recorded. Up to four privacy areas are configurable.

PRIVACY	
MODE	◀ON▶
AREA 0	↑↓
AREA 1	↑↓
AREA 2	↑↓
AREA 3	↑↓
COLOR	◀RED▶
TRANSPARENCY	◀OFF▶
BACK	↑↓
EXIT	↑↓
SAVE & EXIT	↑↓

Select an area. Set the MODE as ON. Click up/down/left/right buttons to define the position and the size of the area. You can also select the color of the area and if it is to be transparent or not. Select SAVE & EXIT to save the changes and exit the menu.

Factory Default

Move the cursor to **FACTORY DEFAULT** and click **Iris+** to reset all the settings to the factory default.

Exit

Move the cursor to **EXIT** and click **Iris+** to exit the menu without saving.

Save & Exit

Move the cursor to SAVE & EXIT and click Iris+ to save the settings, and exit the menu.