

**IndigoVision**

**8/16 Channel Encoder  
BX Range**

**User Guide**



IndigoVision

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# TABLE OF CONTENTS

	Legal considerations .....	2
	Copyright .....	2
	Contact address .....	2
<b>1</b>	<b>About This Guide .....</b>	<b>5</b>
	Safety notices .....	5
<b>2</b>	<b>Hardware Description .....</b>	<b>7</b>
	Overview .....	7
	Variants .....	7
	Connections .....	7
	Power requirements .....	8
	Front panel .....	9
<b>3</b>	<b>Getting Started .....</b>	<b>10</b>
	Package contents .....	10
	Encoder .....	10
	Additional .....	10
	Powering up the device .....	10
	Configuring the device .....	10
	Configure the settings .....	10
	Installation .....	11
	Installing the encoder into a rack cabinet .....	11
<b>4</b>	<b>Operations .....</b>	<b>12</b>
	Configuring the encoder .....	12
	Reset to factory defaults .....	12
<b>5</b>	<b>Web configuration pages .....</b>	<b>14</b>
	Preview .....	14
	Alarm .....	14
	Setup .....	14
	Camera .....	14
	Network .....	17
	Event .....	20
	System .....	25
	Security .....	27
	Info .....	27
<b>6</b>	<b>Hardware Specification .....</b>	<b>29</b>
	Codec .....	29

Video .....	29
Audio .....	29
Connections .....	29
Binary I/O connections .....	30
Environment .....	30
Regulatory .....	30

# 1 ABOUT THIS GUIDE

This guide is written for users of the IndigoVision BX 8/16 Channel Encoder. It provides installation and configuration information for the device variants, as well as a description of the hardware and specifications.

Please ensure you read the instructions provided in the guide before using the device.

## Safety notices

This guide uses the following formats for safety notices:



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*Indicates a hazardous situation which, if not avoided, could result in death or serious injury.*

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*Indicates a hazardous situation which, if not avoided, could result in moderate injury, damage the product, or lead to loss of data.*

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Notice

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*Indicates a hazardous situation which, if not avoided, may seriously impair operations.*

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*Additional information relating to the current section.*

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# 2 HARDWARE DESCRIPTION

This chapter details the BX 8/16 Channel Encoder, its connections, and its weights and dimensions.

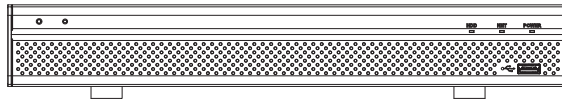
## Overview

The IndigoVision BX 8/16 Channel Encoder is an encoder designed to be used with the company's complete end-to-end IP Video solution.

The device encodes video, audio, and binary events allowing traditional analog CCTV cameras (PAL and NTSC) to be integrated into an IP network.

## Variants

The encoder is available in 8 and 16 Channel variants, each with the same 1U form factor.



**Figure 1:** BX 8/16 Channel Encoder

## Metrics

The encoder has the following dimensions:

- Height: 45mm
- Width: 325mm (11in)
- Depth: 245mm (14.7in)
- Weight
  - 1.25Kg (8 channel)
  - 1.45Kg (16 channel)

## Connections

The encoder is connected using connection sockets in the rear panel.

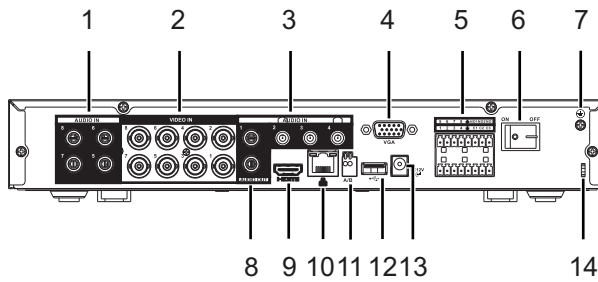


Figure 2: Rear panel (8 channel)

Table 1: Connections (8 channel)

No.	Description	No.	Description
1	Audio IN (5-8)	8	Audio OUT (not supported)
2	Video IN (1-8)	9	HDMI (not supported)
3	Audio IN (1-4)	10	Ethernet
4	VGA (not supported)	11	RS485 A/B (camera control)
5	Alarm I/O connections	12	USB 2.0 (not supported)
6	Power ON/OFF	13	Power (12V DC)
7	Ground screw	14	Cable fastener

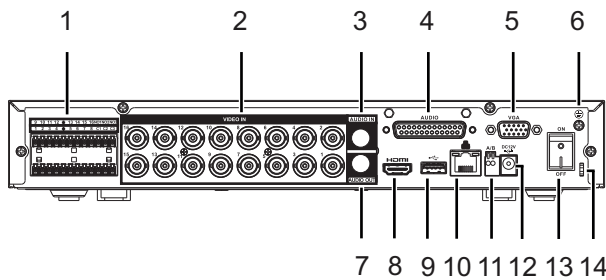


Figure 3: Rear panel (16 channel)

Table 2: Connections (16 channel)

No.	Description	No.	Description
1	Alarm I/O connections	8	HDMI (not supported)
2	Video IN	9	USB 2.0 (not supported)
3	Audio IN (channel 1)	10	Ethernet
4	Audio IN (channels 2-16) using 15-way Audio connector	11	RS485 A/B (camera control)
5	VGA (not supported)	12	Power (12V DC)
6	Ground screw	13	Power ON/OFF
7	Audio OUT (not supported)	14	Cable fastener

## Power requirements

The encoder has the following power requirements:

- Consumption:
  - 10W



- Voltage:
  - 12V DC

## Front panel

The encoder has several indicator lights on the front panel.

**Table 3:** Indicator lights

Name	Description	Status light	Meaning
HDD	Hard disk drive	N/A	Not supported
NET	Network	On	Error detected in network connection.
POWER	Power status	On	The device is connected to power.

# 3 GETTING STARTED

This chapter describes the initial steps required to start using your BX 8/16 Channel Encoder.

## Package contents

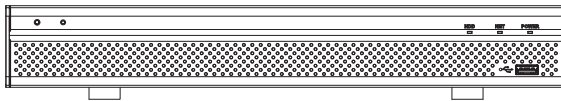


Figure 4: BX 8/16 Channel Encoder

### Encoder

1. BX 8/16 Channel Encoder

### Additional

- 2x Binary I/O Terminal block
- 1x Quick Start Guide
- 1x 15-way Audio connector (16 Channel variant only)
- 1x 12V DC Power supply

## Powering up the device

The encoder must be powered by auxiliary power using the supplied power supply.

- Auxillary power supply
  - 12V DC with a maximum power of 10 Watts

The encoder should only be powered from the specified voltage. The encoder will emit a beep when it is powered up.

## Configuring the device

Before you connect the device to your network, you must configure the device's IP address and subnet mask appropriately.

### Configure the settings

1. Power up the encoder and connect to a PC using an Ethernet cable.
2. Navigate to the encoder's default IP address using a web browser, and enter the default user name.

**Table 4:** Default network settings

Default Username	Admin
Default IP Address	10.5.1.10
Default Subnet Mask	255.0.0.0
Default Gateway	10.0.0.1

3. When prompted, enter a secure password for the `Admin` user. Please note this password carefully.  
The admin password must be set before the encoder can be used in Control Center.  
If the admin password is forgotten, the hardware reset procedure must be performed to regain access to the encoder.  
▶ *For more information, refer to see "Reset to factory defaults" on page 12*
4. Enter the NTP server and port on the **Setup > System > General > Date & Time** menu.
5. Enter a new IP address and subnet mask on the **Setup > Network > TCIP/IP** menu.
6. Select the video standard for your region using the **Video Standard** option on the **Setup > System > General** menu.  
Choose **PAL** for countries with 50Hz power frequency and **NTSC** for countries with 60Hz power frequency.

## Installation

This section details how to install the BX 8/16 Channel Encoder.

### Installing the encoder into a rack cabinet

1. Mount the encoder in the rack using a rack mount kit (IndigoVision part code 130079) according to the instructions in the supplied Installation Guide.

When installing your BX 8/16 Channel Encoder in a rack cabinet, please consider the following:

- **Elevated Operating Ambient** — If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the specified maximum ambient temperature (T<sub>ma</sub>) of the unit.
- **Reduced Air Flow** — Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. To facilitate this, an air gap of at least 6cm on both sides of the unit is recommended.
- **Mechanical Loading** — Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit Overloading** — Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- **Reliable Earthing** — Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

# 4 OPERATIONS

This chapter describes common tasks required for the operation of the BX 8/16 Channel Encoder.

## Configuring the encoder

You can access the encoder configuration pages using the IP address of the encoder.

Alternatively, you can access these pages through IndigoVision Control Center.

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**Notice** *This functionality is only available if you have administrator permissions.*

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1. In Setup view, select the encoder you want to configure.
2. Select the **Configure** tab, and enter a valid user name and password if required.
  - ▶ *For more information, see "Web configuration pages" on page 14*

## Reset to factory defaults

You can reset the encoder settings to factory defaults using the following methods while the encoder is powered:

- Go to **Setup > System > Default** on the encoder's Configuration pages. For a full restore, enter the chosen credentials.

If a full hardware reset is required, for example, if you have forgotten the admin password, then please contact IndigoVision Technical Support for more information.



# 5 WEB CONFIGURATION PAGES

To access the Web Configuration pages, enter the IP address of your device into a web browser. The Preview page is displayed.

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**Notice** *IndigoVision products support Microsoft® Internet Explorer (version 6 or higher recommended).*

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To access any of the other configuration pages, click the required option in the menu on the left of each page.

## Preview

This page allows you to Preview and control the cameras connected to each Channel of the BX 8/16 Channel Encoder.

Use the selectors to the left of the main panel to choose the Channels and Streams to preview. You can also use the selectors below the main panel to control the layout.

Select an appropriate Stream in the main panel, and use the controls to the right of the main panel to control a PTZ camera. You can also preview changes to the Image Setup and the Alarm Outputs available on the encoder.

## Alarm

This page allows you to check the Alarms which have been triggered on the BX 8/16 Channel Encoder.

Use the Alarm list to view information about recently triggered Alarms. You can use the checkboxes to the left of the Alarm list to filter it.

## Setup

These pages allow you to configure the setup options for the BX 8/16 Channel Encoder.

## Camera

These pages allow you to configure the Camera image, encoding, and channel information for the BX 8/16 Channel Encoder.

## Image

Use this page to configure the image conditions for each encoder channel on the BX 8/16 Channel Encoder.

- **Channel** — Select the required Channel from the drop-down to configure the image conditions.  
You can use the preview image on the left to verify the Channel input.
- **Cable Type** — Select the connected cable type for the encoder Channel.
- **Period** — Select the checkbox and enter time ranges to enable the configuration of different image conditions depending on time of day.

Use the **Saturation**, **Brightness**, **Contrast**, **Hue** and **Sharpness** sliders to adjust the image conditions as required. The preview image shows the effect of the adjustments made.

- **Customized** — Click the **Customized** button on the left to access the image conditions for the Customized presets.  
Choose the required preset and adjust the image conditions as required. The preview image shows the effect of the adjustments made.

You can then use the **Color Mode** dropdown to choose from preset image conditions, including those modified using the **Customized** button.

Click **Save** to save over the selected preset.

Click **Default** to return to defaults for that preset.

Click **Back** to return to the main page.

Use the Image Enhance and NR (Noise Reduction) sliders to further enhance the image until the image is as required for the selected Channel.

Click **Default** to return all image conditions for the selected Channel to the system defaults.

Click **Cancel** to discard all image condition changes made to the selected Channel.

## Encode

Use this page to configure the encoding settings for the BX 8/16 Channel Encoder.

On the **Encode** tab, you can select the required input Channel and configure the video and audio encoding settings:

- **Channel No.** — Select the encoder Channel to configure.
- **Code-Stream Type** (under Main Stream) — Select the stream type to configure.  
This allows different encoding settings to be used when bandwidth is high, or during the specified type of event:
  - **Regular**
  - **Alarm**
  - **MD (Motion Detection)**
- **Video Enable** (under Sub Stream) — Select to enable encoding settings to be used when bandwidth is low.

Configure the settings for the selected Channel using the following options for the Main Stream, and Sub Stream if enabled:

- **Compression** — Select the video encoding standard to be used:
  - **H.264H**: High Profile (high compression, lower bandwidth)
  - **H.264**: Main Profile (standard compression)
  - **H.264B**: Baseline Profile (low compression, higher bandwidth)
- **Resolution** — Select the resolution of the video stream.




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*The available resolutions depend on the camera input in use.*

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- **Bitrate Type** — Select the type of bitrate to be used.
  - Variable
  - Constant
- **Image Quality** (for Variable Bitrate only) — Select what type of image quality is to be used for video, on a scale of 1 to 6.
- **Frame Rate** — Select how often the video stream is updated. A high frame rate is useful for high movement in the video stream. However this requires more bandwidth.
- **Bitrate** — Select the maximum bitrate for video streams. Range 32-6144 Kbps.
- **I-Frame Interval** — Enter how often a full frame of video is transmitted. A lower I-frame interval provides smoother rewind on recordings but requires more bandwidth and storage.
- **Audio Enable** — Select this checkbox to enable audio in the stream and configuration of the audio settings.
- **Audio Format** — Select the audio encoding format to be used.
- **Audio Source** — Select the audio source for the stream.

On the **Overlay** tab, you can enable and configure Overlays on a video stream:

- **Channel** — Select the encoder Channel to configure.
- **Privacy Mask** — Select the **Enable** checkbox, and click **Set** to configure opaque privacy masks over the image.  
Right-click or left-click and drag on the preview image to select areas to be masked.  
Right-click a mask to delete it.
- **Channel Display** — Select the checkbox, and click **Set** to display the Channel number, or a configurable label, over the image.  
The label from the Camera Name page is displayed in the text field shown by default. Update the label here if required.  
Drag the indicator over the preview image to the required location.
- **Time Display** — Select the checkbox, and click **Set** to display the current time over the image.  
Drag the indicator over the preview image to the required location.

Click **Copy** and select a destination from the popup to copy all settings to the selected Channel.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Camera Name

Use this page to configure the naming of each camera connected to the BX 8/16 Channel Encoder.

Enter any required camera name changes to the appropriate Channel input fields on the page.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.



## Camera Type

Use this page to configure the Camera Type settings for the BX 8/16 Channel Encoder.

For most cameras, the BX 8/16 Channel Encoder automatically detects the signal input type (**AUTO**). If difficulties are encountered and the encoder cannot detect the input type, you can configure this manually.

Select the signal input type for each Channel using the checkbox grid, or alternatively use the checkbox at the top of each column to select that input type for all Channels:

- **AUTO**
- **CVI**
- **AHD**
- **CVBS**
- **OTHER**

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Network

These pages allow you to configure the Network settings for the BX 8/16 Channel Encoder.

### TCP/IP

Use this page to configure the TCP/IP settings for the BX 8/16 Channel Encoder.

- **Default Card** — Select a network card from the drop-down.
- **IP Version** — Select an IP version from the drop-down.
- **MAC Address** — Displays the devices MAC address.
- **IP Address** — Enter the IP Address.
- **Host name** — Enter a name to describe the device.
- **Subnet Mask** — Enter the Subnet Mask.
- **Default Gateway** — Enter the Default Gateway.
- **Preferred DNS** — Enter the preferred domain name server.
- **Alternate DNS** — Enter an alternate domain name server.
- **MTU** — Enter the maximum transmission unit. This is the maximum size of a packet which is sent from the BX 8/16 Channel Encoder.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

### Connection

Use this page to configure the connection settings for the BX 8/16 Channel Encoder.

- **Max Connection** — Enter the maximum number of connections from the BX 8/16 Channel Encoder to the client. This cannot be more than 128.  
Assign a connection port for the BX 8/16 Channel Encoder:

- **TCP Port**
- **UDP Port**
- **HTTP Port**
- **HTTPS Port**
- **RTSP Port**

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## HTTPS

Use this page to configure the HTTPS settings for the BX 8/16 Channel Encoder.

- **Create** — Select this option to create a new self signed HTTPS server certificate.
- **Create Certificate Request** — Select this option to create a new HTTPS server certificate request.
- **Install Signed Certificate** — Select **Browse** to point to the HTTPS server certificate and then select **Upload** to install.
- **Created Request** — Select **Properties** to view the properties of the HTTPS server certificate request. Select **Remove** to remove the certificate request.
- **Certificate Installed** — View information and attributes of the installed HTTPS server certificate.

## DDNS

Use this page to configure the Dynamic Domain Name Server (DDNS) settings for the BX 8/16 Channel Encoder.

- **Enable** — Select this option to enable DDNS for the BX 8/16 Channel Encoder.
- **DDNS Type** — Select the type of DDNS which you want the BX 8/16 Channel Encoder to use from the drop-down.

When you select a DDNS type, the BX 8/16 Channel Encoder displays a set of fields for which you must enter values.

If you select **No-IP DDNS**, **CN99 DDNS**, or **Dyndns DDNS**, the following fields are displayed:

- **Host IP**
- **Domain Name**
- **Username**
- **Password**
- **Interval**

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## SMTP (Email)

Use this page to configure email alerts to be sent from the BX 8/16 Channel Encoder to an email address when an alarm is triggered.

- **Enable** — Select this option to enable email alerts.
- **SMTP Server** — Enter the mail server from which you want the BX 8/16 Channel Encoder to send the email.

- **Anonymous** — Select this option if you do not want the email to display the login details with which the BX 8/16 Channel Encoder access the mail server.
- **Username, Password, and Sender** — Enter the login details with which the BX 8/16 Channel Encoder accesses the mail server.
- **Encrypt Type** — Select the type of encryption which you want the email to use. By default, this is NONE, and the email is unencrypted.
- **Subject** — Enter the subject to appear in the email.
- **Receiver** — Select the recipients to whom the BX 8/16 Channel Encoder sends the email.
- **Interval** — Enter the period of time in seconds after the alarm is triggered before the BX 8/16 Channel Encoder sends the email.
- **Health Enable** — Select this option if you want the BX 8/16 Channel Encoder to send a second email after the alarm has been triggered, after a longer period of time than the first. Enter the period of time in minutes.

Click **Email Test** to send a test email.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## UPnP

Use this page to configure the UPnP (Universal Plug and Play) settings for the BX 8/16 Channel Encoder used for the sharing of network services.

- **Enable/Disable** — Use these options to enable or disable PAT (Port Address Translation). When enabled, additional **Status** information is displayed, for example, for UPnP search requests and responses.
- **Port Mapping List** — Shows all currently available port mappings and the configured values for each mapping.
  - **Modify** — Click the icon in this column to modify the configured values for the selected port mapping.
  - **Delete** — Click the icon in this column to delete the selected port mapping from the list.

Click **Add** to add port mappings to the list, entering the required information on the service in the dialog displayed.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Multicast

Use this page to configure Multicast of video or audio channels from cameras connected to the BX 8/16 Channel Encoder, allowing the required channel to be addressed to a group of destinations simultaneously.

- **Encode and Channel** — Select the channel type and input channel on the BX 8/16 Channel Encoder to be sent using Multicast.
- **Main Stream** — Configure the main stream to be sent using Multicast for the selected input channel.
  - **Enable** — Select this option to enable the Main Stream to be sent for the channel.

- **Main Stream** — Enter the IP address to be used for sending the Main Stream using Multicast.
- **Port** — Enter the port number to be used for sending the Main Stream using Multicast.
- **Sub Stream** — Configure the Sub Stream to be sent using Multicast for the selected input channel.
  - **Enable** — Select this option to enable the Sub Stream to be sent for the channel.
  - **Sub Stream** — Enter the IP address to be used for sending the Sub Stream using Multicast.
  - **Port** — Enter the port number to be used for sending the Sub Stream using Multicast.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

### 802.1x

Use this page to configure 802.1x Network Access Control for device authentication of the encoder.

- **Enable** — Select this option to enable 802.1x Network Access Control.
- **Accredition** — Select the authentication type to be used by the encoder for 802.1x authentication.
- **User Name** — Enter the user name to be used for 802.1x authentication.
- **Password** — Enter the password associated with the user name for 802.1x authentication.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Event

These pages allow you to configure the Event detection and Alarm settings for the BX 8/16 Channel Encoder.

### Video Detection

Use this page to configure the Video Detection settings for the BX 8/16 Channel Encoder.

On the **Motion Detection**, **Video Loss**, **Video Tamper**, and **Diagnosis** tabs, you can setup actions to be taken when motion, loss of video, tampering or camera errors are detected by the encoder.

- **Enable** — Select the checkbox to enable detection, and select a Channel for configuration from the dropdown.

Click **Set** to configure the types and severity of error which should trigger a detection on that Channel, using the checkboxes and sliders in the popup displayed (Diagnosis only).

- **Period** — Click **Set** to configure the active time periods on the selected Channel.

You can set a maximum of 6 active periods for each day. Configure the active periods using the visual display with the checkboxes and entry fields below the display. In the visual display, green bars indicate the active periods for each day of the week.

- Click **Set** next to the day where you want to configure the active periods.  
The day being configured is highlighted in red and the checkbox for that day is automatically selected below the display.
- Select additional checkboxes or **All** below the display to configure the same active periods for several days.
- Click on a green bar for that day to remove it, or click and drag in the area below the bar to add an active period.  
As you configure the active periods, they are reflected in the entry fields below the visual display.

Click **Default** to restore all active periods to their default settings.

Click **Save** to apply any changes you have made.

Click **Cancel** to cancel the changes you have made to active periods.

- **Anti-dither** — Enter a time in seconds of 0 to 600, in which the encoder will only recognize a single detection.
- **Sensitivity**— Use the dropdown to configure the tamper sensitivity from 1 to 6 where higher values represent increased sensitivity (Video Tamper only).
- **Region**— Click **Set** to configure the image regions where detection is used on the selected Channel.

You can configure 4 regions for each Channel, each indicated in the preview image with a different color.

- Select a color for each required region, and click and drag on the preview image to configure the region.
- Click and drag within an already selected region to deselect that part of the region.
- Specify a **Zone Name** if required, and adjust the **Sensitivity** and **Threshold** sliders for the region.

Click **Clear** to remove all configured regions.

Click **Delete** to remove the region currently being configured.

Click **Save** to apply any changes you have made.

Click **Cancel** to cancel the changes you have made to the regions.

- **Alarm out** — Select the checkbox to enable an Alarm upon detection, and click **Set** to select the required Alarm output to be activated.
- **Latch** — Enter a time in seconds of 0 to 300 to latch the Alarm output following an activation.
- **PTZ Activation** — Select the checkbox to enable a PTZ Activation upon detection, and click **Set** to specify the PTZ presets to be sent for each Channel.
- **Snapshot** — Select the checkbox to enable, and select the buttons for camera Snapshots to be taken on the selected Channels upon detection.
- **Send Email** — Select the checkbox to send an email to the configured email address upon detection.
- **Buzzer** — Select the checkbox to enable a sound from the buzzer upon detection.
- **Log** — Select the checkbox to enable logging of each detection.

Click **Copy** and select a destination from the popup to copy all settings to the selected Channel.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## IVS

Use this page to configure IVS rules for the BX 8/16 Channel Encoder.




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*IVS rules can be configured on one Channel only. For example, if Channel 1 has IVS rules configured, then the remaining channels must have alternatives such as Motion Detection, Video Loss, Video Tamper configured from the **Event > Video Detection** page.*

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- **Channel** — Select the required Channel from the drop-down to configure the IVS rules for that Channel.  
Click the **+** symbol in the table below to add an IVS rule.
- **Enable** — Check to enable this IVS rules.
- **Rule Type** — Select the IVS rule type to apply:
  - **Tripwire** — Detects if any object crosses the configured line in the video feed.
  - **Intrusion** — Detects if any object intrudes into a configured forbidden zone in the video feed.
  - **Abandoned/Missing** — Detects if any object is abandoned/missing within a configured zone in the video feed.

Under the **Parameters Config** panel, you can then configure the following parameters for the rule:

- **Action** — Select the specific type of action to be detected to trigger the IVS rule (Intrusion rule type only).
- **Direction** — Select the direction of crossing the configured threshold to trigger the IVS rule (Tripwire and Intrusion rule types only).
- **Period** — Click **Set** to configure the active time periods on the selected Channel. You can set a maximum of 6 active periods for each day. Configure the active periods using the visual display with the checkboxes and entry fields below the display. In the visual display, green bars indicate the active periods for each day of the week.
  - Click **Set** next to the day where you want to configure the active periods. The day being configured is highlighted in red and the checkbox for that day is automatically selected below the display.
  - Select additional checkboxes or **All** below the display to configure the same active periods for several days.
  - Click on a green bar for that day to remove it, or click and drag in the area below the bar to add an active period. As you configure the active periods, they are reflected in the entry fields below the visual display.

Click **Default** to restore all active periods to their default settings.

Click **Save** to apply any changes you have made.

Click **Cancel** to cancel the changes you have made to active periods.

- **Alarm out** — Select the checkbox to enable an Alarm upon detection, and click **Set** to select the required Alarm output to be activated.
- **Latch** — Enter a time in seconds of 0 to 300 to latch the Alarm output following an activation.
- **PTZ Activation** — Select the checkbox to enable a PTZ Activation upon detection, and click **Set** to specify the PTZ presets to be sent for each Channel.
- **Snapshot** — Select the checkbox to enable, and select the buttons for camera Snapshots to be taken on the selected Channels upon detection.

- **Show Message** — Select the checkbox to show a message on the Channel upon detections which trigger the IVS rule.
- **Send Email** — Select the checkbox to send an email to the configured email address upon detection.
- **Buzzer** — Select the checkbox to enable a sound from the buzzer upon detection.
- **Log** — Select the checkbox to enable logging of each detection.

Under the video feed preview, use the following controls to configure rule lines or zones:

- **Draw Rule** — Click to draw the rule required in the video feed preview. Click **Clear** to delete the rule which has been drawn.
- **Draw Target** — Click to draw the size of the required target filter for the rule in the video feed preview. Click **Clear** to delete all the target filters which have been drawn. Select the Maximum or Minimum size option using the radio buttons as required.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Alarm

Use this page to configure the binary Alarm inputs on the BX 8/16 Channel Encoder.

- **Enable** — Select the checkbox to enable Alarm detection on the binary Alarm inputs, and select a Channel for configuration from the dropdown.
- **Alarm Name** — Enter a name for the binary Alarm input.
- **Period** — Click **Set** to configure the active time periods on the selected Channel. You can set a maximum of 6 active periods for each day. Configure the active periods using the visual display with the checkboxes and entry fields below the display. In the visual display, green bars indicate the active periods for each day of the week.
  - Click **Set** next to the day where you want to configure the active periods. The day being configured is highlighted in red and the checkbox for that day is automatically selected below the display.
  - Select additional checkboxes or **All** below the display to configure the same active periods for several days.
  - Click on a green bar for that day to remove it, or click and drag in the area below the bar to add an active period. As you configure the active periods, they are reflected in the entry fields below the visual display.

Click **Default** to restore all active periods to their default settings.

Click **Save** to apply any changes you have made.

Click **Cancel** to cancel the changes you have made to active periods.

- **Anti-dither** — Enter a time in seconds of 0 to 600, in which the encoder will only recognize a single detection.
- **Type** — Select the binary input type from NO (Normally Open) or NC (Normally Closed).
- **Alarm out** — Select the checkbox to enable an Alarm upon detection, and click **Set** to select the required Alarm output to be activated.
- **Latch** — Enter a time in seconds of 0 to 300 to latch the Alarm output following an activation.
- **PTZ Activation** — Select the checkbox to enable a PTZ Activation upon detection, and click **Set** to specify the PTZ presets to be sent for each Channel.

- **Snapshot** — Select the checkbox to enable, and select the buttons for camera Snapshots to be taken on the selected Channels upon detection.
- **Send Email** — Select the checkbox to send an email to the configured email address upon detection.
- **Buzzer** — Select the checkbox to enable a sound from the buzzer upon detection.
- **Log** — Select the checkbox to enable logging of each detection.

Click **Copy** and select a destination from the popup to copy all settings to the selected Channel.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Abnormality

Use this page to configure the detection of Abnormal events on the BX 8/16 Channel Encoder.

On the **Network** and **User** tabs, you can setup actions to be taken when abnormal network and user-level events are detected by the encoder.

- **Event type** — Select the type of Event for configuration from the drop-down.
- **Enable** — Select the checkbox to enable an Alarm upon detection of the selected Event type.
- **Attempt(s)** — Enter the number of (unsuccessful) attempts after which the account will be locked out of accessing the webpage (**User** tab only).
- **Lock Time** — Enter the time for which the account will be locked out of accessing the webpage after the number of unsuccessful attempts (**User** tab only).
- **Alarm out** — Select the checkbox to enable an Alarm upon detection, and click **Set** to select the required Alarm output to be activated.
- **Latch** — Enter a time in seconds of 0 to 300 to latch the Alarm output following an activation.
- **Show Message** — Select the checkbox to display a pop-up error message for network conflict event types (**Network** tab only).
- **Send Email** — Select the checkbox to send an email to the configured email address upon detection.
- **Buzzer** — Select the checkbox to enable a sound from the buzzer upon detection.
- **Log** — Select the checkbox to enable logging of each detection.

Click **Refresh** to undo the changes you have made in this page.

Click **Save** to apply any changes you have made.

## Alarm Out

Use this page to configure the settings for the Alarm outputs for the BX 8/16 Channel Encoder.

Use the radio buttons to choose the Alarm behavior for each Alarm output.

- **Auto**: Allows configuration of actions that trigger the Alarm Output.
- **Manual**: Manually activate the Alarm Output.
- **Stop**: Manually deactivate the Alarm Output.
- **All**: Selects all Alarm outputs.

Click **Alarm Release** to manually deactivate all active alarms.



Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## System

These pages allow you to configure the system settings of the BX 8/16 Channel Encoder.

### General

Use these tabs to configure the general systems settings for the BX 8/16 Channel Encoder.

#### General

This tab allows you to enter general information about the system.

- **Device Name** — Enter a name to identify the BX 8/16 Channel Encoder.
- **Language** — English is the default supported language and cannot be changed from the device webpage.
- **Video Standard** — Select the display video standard from the drop-down (PAL/NTSC).
- **Auto-logout** — Enter a time in minutes of 0 to 60 after which the user will be automatically logged out of the webpage.
- **Location** — Enter the location in which the BX 8/16 Channel Encoder is installed.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

#### Date & Time

This tab allows you to configure date and time settings.

**Date Format** — Select the format in which the BX 8/16 Channel Encoder displays the date.

**Time Format** — Select the format in which the BX 8/16 Channel Encoder displays the time.

**Date Separator** — Select the character the BX 8/16 Channel Encoder uses to display separate elements of the date.

**Time Zone** — Select the timezone in which the BX 8/16 Channel Encoder operates.

**DST** — Select this option to configure daylight saving time, and enter details for **Start Time** and **End Time**.

**NTP** — Select this option to configure Network Time Protocol, and enter the **Server**, **Port**, and **Interval** which NTP uses.

**Sync PC** — Select this option to allow the device to synchronise with the PC time.

**Manual Update** — Select this option to allow the device to synchronise with the configured NTP server.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## PTZ

Use this page to configure the control settings for PTZ cameras connected to the BX 8/16 Channel Encoder.

- **Channel** — Select the required Channel from the drop-down to configure the PTZ settings.
- **Enable** — Select the checkbox to enable PTZ control for the selected Channel.
- **Control Mode** — Select how the PTZ camera connected on the selected Channel will be controlled:
  - **Serial**: Uses the encoder RS485 port to control the PTZ camera.
  - **HDCVI**: Uses the coaxial cable for the selected Channel to control the PTZ camera.
- **Protocol** — Select the communication protocol for communication with the PTZ camera.
- **Address** — Enter the address for the connected PTZ camera. This must match the address configured on the camera, or the camera cannot be controlled.
- **Baud Rate** — Select the Baud Rate to be used in serial communication with the PTZ camera.
- **Data Bit** — Select the number of Data Bits to be used in serial communication with the PTZ camera.
- **Stop Bit** — Select the number of Stop Bits to be used in serial communication with the PTZ camera.
- **Parity** — Select the Parity type to be used in serial communication with the PTZ camera.

Click **Copy** and select a destination from the popup to copy all settings to the selected Channel.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Account

Use these tabs to view and add user accounts and user groups in the BX 8/16 Channel Encoder.

### User

This tab allows you to view and add user accounts.

**Add User** — Select this option to add a user account using the **Add User** dialog.

In the **Add User** dialog, enter the details for the new user account, and select the required **System** permissions.

Select **Save** to create the user account.

**Modify User** — Select this option to modify a user account.

**Delete User** — Select this option to delete a user account.

### Group

This tab allows you to view and add user groups.

**Add Group** — Select this option to add a user group using the **Add Group** dialog.

In the **Add Group** dialog, enter the **Group Name** and a **Memo**, and select the required **System** permissions.

Select **Save** to create the user group.

**Modify Group** — Select this option to modify a user group.

**Delete Group** — Select this option to delete a user group.

## Auto Maintain

Use this page to configure automated maintenance functions for the BX 8/16 Channel Encoder.

**Auto Reboot** — Select the day and the time when you want the BX 8/16 Channel Encoder to reboot automatically.

Click **Refresh** to undo the changes you have made in this menu.

Click **Save** to apply any changes.

Click **Reboot** to restart the BX 8/16 Channel Encoder and apply the Auto Maintain settings.

## Import/Export

Use this page to import and export configuration files in the BX 8/16 Channel Encoder.

## Default

Use this page to set and restore defaults in the BX 8/16 Channel Encoder.

- **Partial Restore** — Select this option to partially restore the encoder settings to the factory defaults.  
This option does not reset network settings to the factory default settings.
- **Full Restore** — Select this option to fully restore the encoder settings to the factory defaults.  
This option resets network settings to the factory default settings.

## Upgrade

Use this page to upgrade the BX 8/16 Channel Encoder system using a firmware file.

**Select Firmware File** — Select the firmware file using **Browse**. Select **Upgrade** to start the system upgrade.

## Security

These pages allow you to configure the Security settings for the BX 8/16 Channel Encoder.

### Access Right

Use this page to configure Access Rights for the BX 8/16 Channel Encoder.

Select the **Enable** checkbox to enable the use of **Trusted Sites** and **Blocked Sites**. On the required tab, click **Add** to add a new IP address or range to that list.

Click **Refresh** to undo the changes you have made in this page.

Click **Default** to restore all fields in the page to their default settings.

Click **Save** to apply any changes you have made.

## Info

These pages allow you to view information about the BX 8/16 Channel Encoder and how it is used.

- **Version:** This menu displays the information about the version of BX 8/16 Channel Encoder which you are using.
- **Log:** This menu displays the events of a certain type which occurred in the system between two points in time.
  - **Start Time** — Enter the earliest date and time for the events which you want to view.
  - **End Time** — Enter the latest date and time for the events which you want to view.
  - **Type** — Select an event type, then select **Search** to view events within the select parameters.
- **Online User:** This menu displays all users currently logged in to the BX 8/16 Channel Encoder webpages.

# 6 HARDWARE SPECIFICATION

This chapter details the hardware specifications for the BX 8/16 Channel Encoder.

## Codec

### Video

- H.264
- Video bitrate: 32Kbps - 6144Kbps
- Frame rate:
  - 25 fps (PAL)
  - 30 fps (NTSC)
- Dual stream

### Resolution

- 1080N
- 1080P
- 720P
- 960H/D1/HD1
- 2CIF
- CIF
- QCIF

### Audio

- Full Duplex 8KHz, 16Bit input
- Compression: G.711U
- Bitrate: 64 Kbps per channel



*Bitrates can also be set below 32 Kbps by using Customized.*

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## Connections

You can connect the BX 8/16 Channel Encoder to a network or other devices using the following ports on the rear panel:

- 8/16 x BNC analog video input ports (depending on variant)

- 8/16 x RCA audio input ports (depending on variant)
  - 1 x RCA audio output port
  - 1 x 10M/100M adaptive Ethernet (RJ45) port (8 channel)
  - 1 x 10M/100M/1000M adaptive Ethernet (RJ45) port (16 channel)
  - 1 x RS485 serial port
- For more information, see "Connections" on page 7

## Binary I/O connections

The BX 8/16 Channel Encoder has 8/16 binary inputs (corresponding to the number of channels on the encoder) and 3 binary outputs. These are connected using the Alarm IO connections on the encoder.

### Binary inputs

The binary alarm inputs are operated by connecting the input directly to GND.

- 10kΩ Pull up input to 5V for non-powered contacts
- Normally high

The input must be configured on the Web Configuration pages to ensure correct behavior.

Connect the input to GND using a switch to trigger the input.

### Binary output

The binary alarm outputs are solid state open collector outputs:

- Max load voltage: 30V DC
- Max current carrying capacity: 1A

The binary outputs are not polarity sensitive and are normally open. This can be configured on the Web Configuration pages.

## Environment

- Temperature:
  - Operating: -10°C to +55°C (-14°F to 131°F)
  - Cold start: -10°C (-14°F)
  - Storage: 0°C to +50°C (32°F to 122°F)
- Maximum humidity: 90%

## Regulatory

- |                                 |                             |
|---------------------------------|-----------------------------|
| • EN 61000-3-2                  | • EN 60068-2-64 : 2008      |
| • EN 61000-3-3                  | • EN 60068-2-27 : 2009      |
| • FCC Part 15 Subpart B Class A | • IEC 61000-4-2             |
| • EN 50130-4                    | • IEC 61000-4-3             |
| • EN 55032 Class B              | • IEC 61000-4-4             |
| • EN 55032                      | • IEC 61000-4-5             |
| • EN 55024                      | • IEC 61000-4-6             |
| • UL 60950-1                    | • IEC 61000-4-8             |
| • EN 60068-2-1 : 2007           | • IEC 61000-4-11            |
| • EN 60068-2-2 : 2007           | • RoHS directive 2002/95/EC |
| • EN 60068-2-30 : 2007          |                             |

- EN 60068-2-6 : 2008



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*In accordance with the EC Waste Electrical and Electronic Equipment (WEEE) directive 2002/96/EC this product must be sent to a recycling plant for proper disposal at the end of its use.*

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