Carbon

CATHEXIS KBD 3000

CARBON INTEGRATION

CATHEXIS®

Contents

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1. Introduction

This manual covers the installation, setup and operation of the Cathexis KBD3000/3100 keyboard when integrated with the CathexisVision Carbon user interface.

This manual does not cover the operation of the KBD3000/3100 with the standard CathexisVision client interface.

For more information, contact the supplier.

1.1 Abilities

The Cathexis KBD3000 keyboard can be used to control a variety of functions in Carbon. These include:

- Control PTZ functions such as pan, tilt, zoom, focus, wash etc. for a specific camera
- Select and display desired cameras
- Open Layouts
- Cast the current layout to a selected monitor
- Open maps
- Open templates
- Control outputs (pulse, on, off)

1.2 Product Warranty

This product is subject to the standard Cathexis warranty terms and conditions.

1.3 Compatibility and Requirements

- The KBD3000 is compatible with Carbon 5.3 and later.

- **RS232** cable [not supplied]. Must be straight through, with male and female DB9 connectors. One on each end. [maximum length of 15m].

- **RS422** cable [not supplied]. Must be twisted pair with male RJ45 connector at one end, and female DB9 connector at the other end. [maximum length 1200m].

- **Compatible PTZ camera.** See www.cathexisvideo.com for list of compatible cameras.

1.4 Dimensions
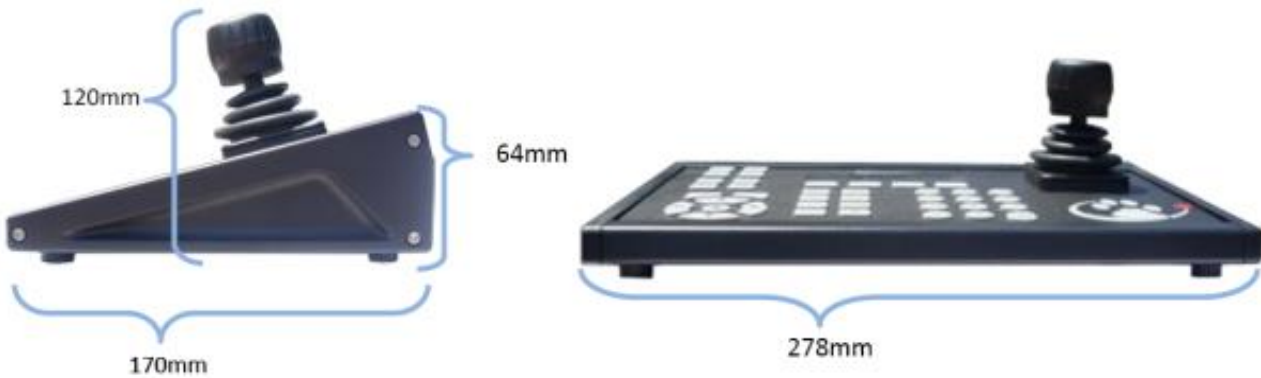
1.5 Warnings

Do not install the KBD3000 in:

- Direct sunlight

- A damp area, or where it may be exposed to flammable liquids and/or gas

- A location where it may be exposed to extreme heat or cold (SPEC: -1- to +55 degrees Celsius)

- A location where it may be exposed to rain, water and/or radioactivity

Do not add the same Cathexis KBD 3000/3100 in both Cathexisvision and Carbon.

1.6 Other Resources

Consult the following, available on the Cathexis website (http://cathexisvideo.com/):

- *Carbon Manual*
- *Carbon Operator's Guide*
- *MultiSite Installation Guide*
- *Enterprise Installation Guide*

2. Installation/Setup

The KBD3000/3100 keyboard must be set up before logging in to Carbon. Once the keyboard has been set up, it can be used to navigate in the Carbon UI and control resources, such as cameras, monitors and layouts.

2.1 Connect Hardware

→ Connect the **RS232** cable [not supplied]. Must be straight through, with male and female DB9 connectors. One on each end. [maximum length of 15m].

→ Connect the **RS422** cable [not supplied]. Must be twisted pair with male RJ45 connector at one end, and female DB9 connector at the other end. [maximum length 1200m].

	RS232 Connection Port
	RS422 Connection Port
	LED
	DC Power Connector
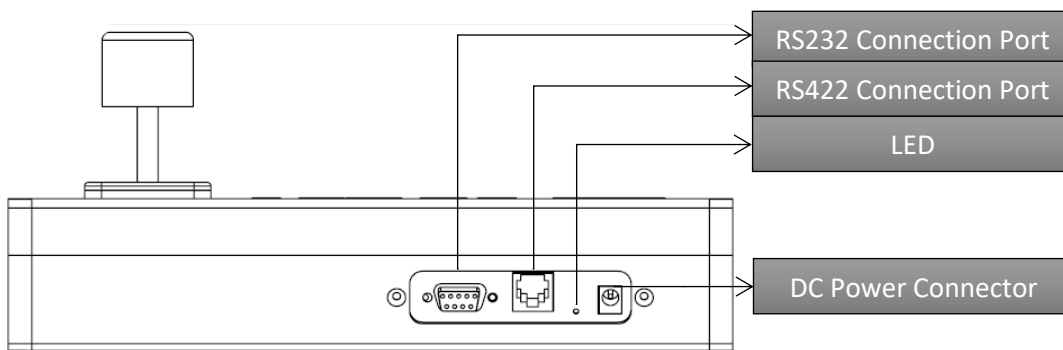
Note: Motherboards are increasingly being manufactured without on-board serial ports. For new Windows PCs without on-board serial ports, it is necessary to use an USB - to serial converter.

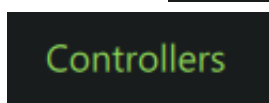→ Make sure the KBD3000/3100 is powered and connected to a USB port.
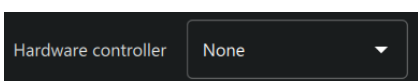
2.2 Connect KBD3000/3100 to Carbon
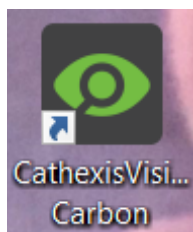
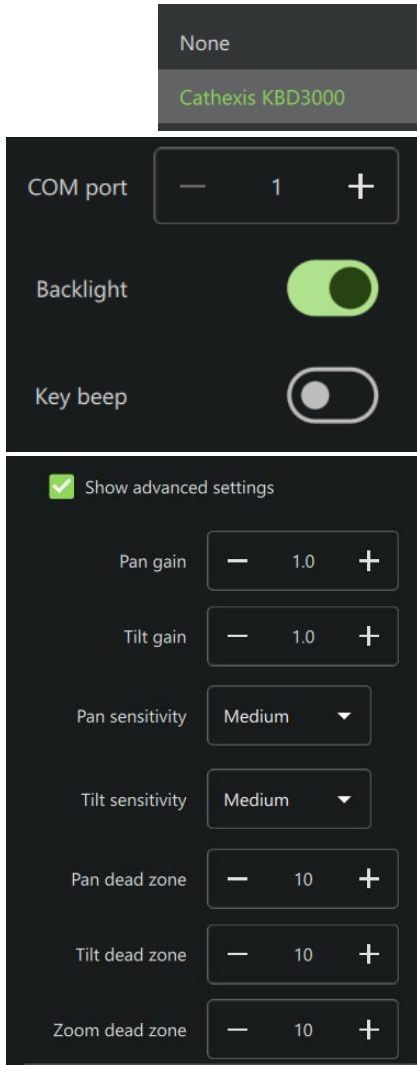→ Open CathexisVision Carbon using a regular mouse/keyboard.

→ Click the gear icon in the top-left corner.

→ Click **Controllers** in the application settings menu. Options will appear in the main panel in the right of the window.


→ Click the arrow to expand the **Hardware controller** dropdown menu.

→ Select the **Cathexis KBD3000**. Further configuration options will appear.

→ Use the add and subtract buttons to set the **COM port** (communication port used to transmit data between the machine and the KBD3000).

→ Toggle the buttons to select whether the keyboard will be **backlit**, and whether key strokes will **beep**.

→ Check **Show advanced settings** to configure settings for the Cathexis KBD3000 keyboard joystick.

| **Pan gain**	Pan gain is the multiplier applied to the pan input on the joystick.
Tilt gain	Tilt gain is the multiplier applied to the tilt input on the joystick.
Pan sensitivity	Pan sensitivity is the threshold over which the system responds to changes in a pan input on the joystick.
Tilt sensitivity	Tilt sensitivity is the threshold over which the system responds to changes in a tilt input on the joystick.
Pan dead zone	This is the minimum level of joystick movement from centred/rest before the system responds to a pan input.
Tilt dead zone	This is the minimum level of joystick movement from centred/rest before the system responds to a tilt input.
Zoom dead zone	This is the minimum level of joystick movement from centred/rest before the system responds to a zoom input.
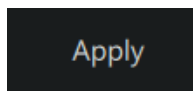
→ Click **Apply** to save changes.

When the KBD3000 has connected to Carbon, a notification will appear on the keyboard:
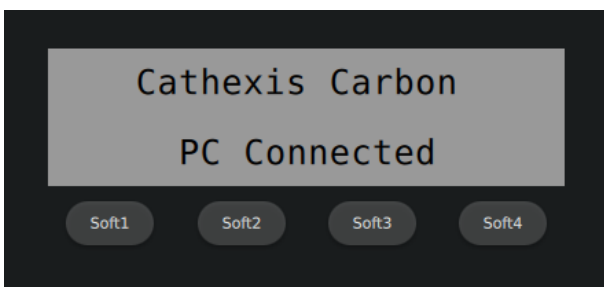
2.3 Set Custom IDs in Carbon

Note: Custom IDs must be set to enable the KBD3000/3100 to reference resources across sites. Set custom IDs for individual resources as well as the site they are attached to (for MultiSite or Enterprise connections). A full custom ID will have a site ID prefix followed by the resource ID, and separated by an asterisk.
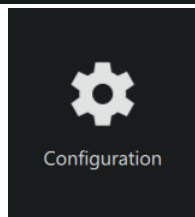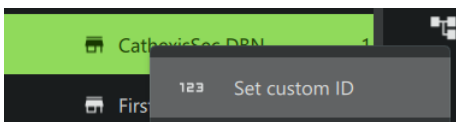
Follow the steps below to assign a custom ID.
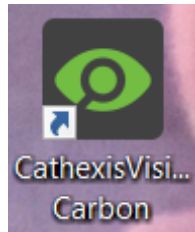
→ Open CathexisVision Carbon.
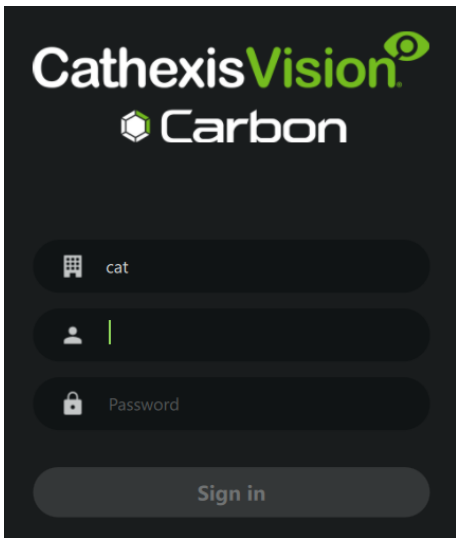
→ Log in.

→ In the home menu, click **Configuration** to open the Configuration tab.

→ **For Enterprise or MultiSite connections:** Right-click the site name in the Domain panel on the left.

→ Click **Set custom ID**. The **Set custom ID** dialogue will open.
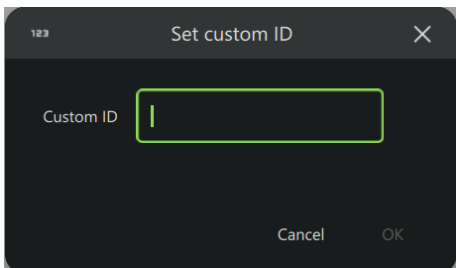
→ Enter a custom ID. **Note**: Custom IDs must be numerical.

→ Click **OK**.

→ Right-click the resource name in the Configuration panel on the right.

→ Click **Set custom ID**. The **Set custom ID** dialogue will open.

→ Enter a custom ID. **Note**: Custom IDs must be numerical.
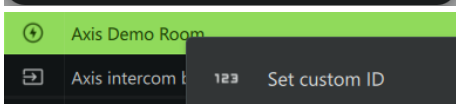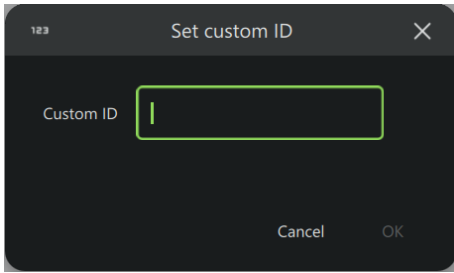
→ Click **OK**.

2.3.1 View Custom Resource IDs in Carbon

The **Custom Resource ID Viewer** shows the custom resource IDs that have been assigned to resources.
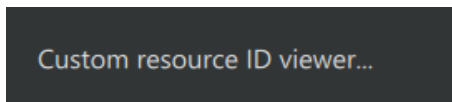
→ Click **Custom resource ID viewer** in the further settings menu. The **Custom ID Viewer** will open.
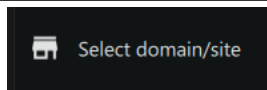
→ Click the field. A dialogue will open.

→ Select a domain or site and click **OK**.

The dialogue will show all resources that have been assigned a custom ID, used in the operation of the Cathexis KBD3000/3100 keyboard.

3. Operating the KBD3000/3100

3.1 KBD3000/3100 Interface

The diagram and table below detail the layout of the KBD300, its buttons and arrows, and their purposes.

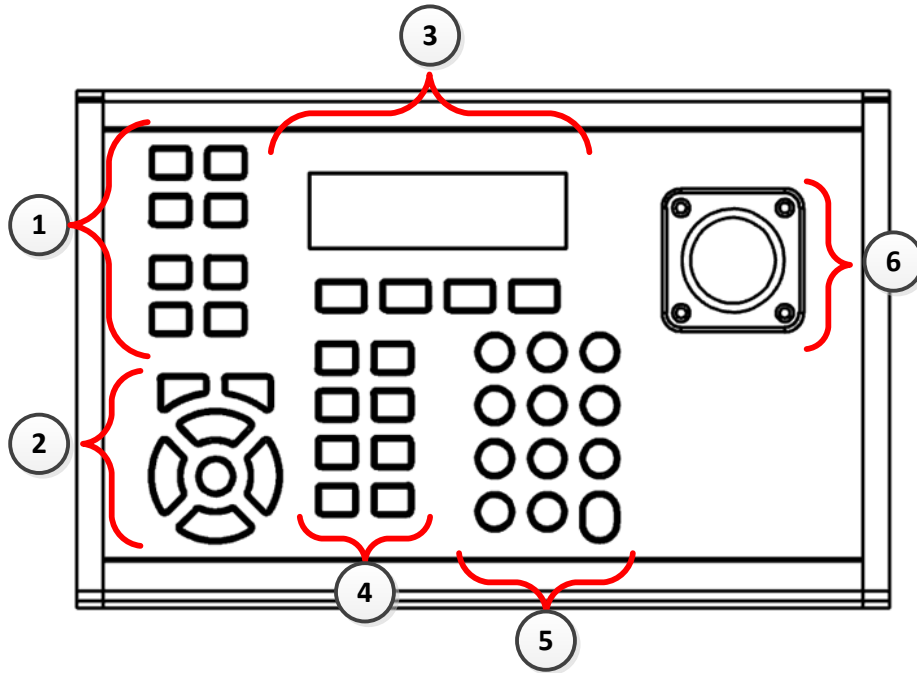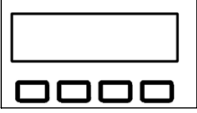|		
1	**ALT**	**Alt function key**. Press and hold while pressing another key to activate action indicated in blue text.
	Open **Wash**	**Ope**n → **Open iris.** Alt + Wash → Starts wash function (sprays water).
	Close **Wipe**	**Close** → **Close iris.** Alt + Wipe → Starts wiping function of lens.
	Near **Stop Wash**	**Near** → **Manually focus nearer.** Alt + Stop Wash → Stops wash.
	Far **Stop Wipe**	**Far** → **Manually focus further away**. Alt + Stop Wipe → Stops wipe function.
2	**CAM**	**Camera control.** CAM + camera ID + enter → switch to camera.
	MON	**Monitor control.** MON + monitor ID + enter → switch to monitor. **Note**: The GUI must be connected to as a monitor every time the keyboard is connected. GUI monitor number is zero.
	(arrow keys)	**Arrow keys.** Click ▲ to change the mode of arrow keys. Navigate using arrow keys.

③	**LCD Screen and Soft Keys.**	Displays messages, status, login field and softkey options. The softkeys are unlabelled because their functions vary depending on the mode. Labels appear for each softkey on the LCD screen directly above the softkey.
④	**Pattern / Menu**	**Pattern + pattern number → run set pattern.** Alt + Menu → opens PTZ overlay menu.
	Preset / Save	**Preset + preset number → go to set preset.** Alt + Save + number + enter → saves current camera position as preset.
	Seq	**Runs a configured sequence.** Seq + sequence number +enter → runs set camera sequence.
	Salvo	**Runs a configured salvo.** Salvo + salvo number +enter → runs set salvo.
	Layout	**Selects a configured monitor layout.** Layout + layout number +enter → selects layout.
	Output / Toggle	**Output + output resource ID + enter → pulse output.** Alt + Toggle + output resource ID + enter → toggle output.
	*	This is used when entering resource IDs. See section 3.3.
⑤	**1 / ABC**	A single press selects the numeral.
	<	**Backspace in LCD screen.**
	Enter	**Enter.** Press to activate other key selections
⑥	Joystick	**Joystick.** Use for dome camera control, mouse simulation cursor movement, and to move the selector in menus.

3.2 Arrow Key Modes

Arrow keys can be used to navigate up/down and left/right within certain modes.
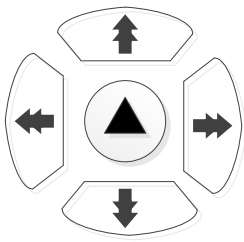
→ Press the centre key repeatedly to change modes.

The LCD screen will indicate the mode and how to use the arrow keys.

3.2.1 Modes

Mode	Arrow Keys	Arrow Key Controls
Arrows control CAM/ MON	Up/Down	Move up and down the cameras in the Resources list of the cameras tab.
	Left/Right	Move left/right between video wall monitors available to the keyboard.
Arrows control panels	All	Move between camera panels in monitor layout.
Arrows map to PTZ keys	All	Move between analogue PTZ menu options.

3.3 Two Methods for Selecting Resources

There are two methods for selecting resources, patterns or presents.

1. Using custom IDs (added Carbon) to enable the KBD3000/3100 to reference resources across sites.
2. Using buttons on the KBD3000/3100 to select a resource.

3.3.1 Numeric Selection: Enter Custom ID in KBD3000/3100

Note: Enter a numeric custom resource ID in the format 123*456, where 123 is the site ID prefix and 456 is the resource ID. A full custom ID will have a site ID prefix followed by the resource ID, separated by an asterisk. Entering the three-digit resource ID by itself will attempt to select the resource in the current domain context.

CAM
MON
PATTERN
PRESET
LAYOUT
OUTPUT
MAPS

→ Press and quickly release the appropriate button on the KBD3000/3100.

→ Use the alphanumeric keypad to enter the custom ID of the resource.

→ Press **ENTER** to select that resource.

CAM	+	Custom resource ID	+	Enter ↵	Select **camera**
MON	+	Custom resource ID	+	Enter ↵	Cast to **monitor**
Pattern **Menu**	+	Custom resource ID	+	Enter ↵	Select **pattern** (a specific movement through presets stored on a PTZ camera)
Preset Save	+	Custom resource ID	+	Enter ↵	Select **preset** (a specific value/location on a PTZ camera)
Layout	+	Custom resource ID	+	Enter ↵	Select **layout** in a monitoring panel
Output **Toggle**	+	Custom resource ID	+	Enter ↵	Pulse **output.** Outputs can be turned on, turned off or pulsed. Alternatively, use the softkeys to select from ON, OFF, PULSE, and CANCEL.
MAPS softkey	+	Custom resource ID	+	Enter ↵	Select **map**

3.3.2 Onscreen Menu Selection: Use Buttons to Select Resources

CAM **MON** **LAYOUT** **OUTPUT** **MAPS** **TEMPL**	→ Press and hold the appropriate button on the KBD3000 until a grid is displayed. → Use the arrows to navigate to the desired resource (while still holding down the button). → Release the button to select the resource.

Note: The onscreen output menu will *pulse* the output by default.

3.3 General Functions

ALT	+	UP	Press to maximize selected panel.
ALT	+	DOWN	Press to restore selected panel.
ALT	+	LEFT	Switch between tabs.
ALT	+	RIGHT	Switch between tabs.

3.4 PTZ Camera Controls

First, select the PTZ camera.

Move PTZ
Move the joystick to aim the camera in the correct direction.

Zoom in/out
Twist the top of the joystick clockwise to zoom in.
Twist the top of the joystick counterclockwise to zoom out.

Manual focus
Near   Press to focus nearer manually.
Far   Press to focus further away manually.

Wash/wipe (**Note**: Auxiliary relays must have been wired for correct functions.)
ALT + Open Wash   Press to start wash.
ALT + Near Stop Wash   Press to stop wash.
ALT + Close Wipe   Press to start wipe.
ALT + Far Stop Wipe   Press to stop wipe.

Go to preset
Preset Save + Enter preset number + Enter

Run pattern

Pattern Menu + Enter pattern number + Enter ↵

Configure present from keyboard

Use the joystick and buttons to move the dome camera to the required position, zoom-distance and focus.
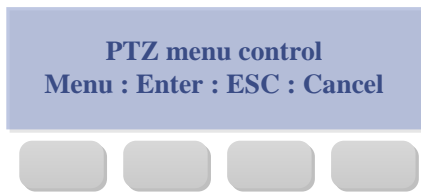
ALT &

Preset Save + Enter preset number + Enter ↵

3.4.1 PTZ Menu Control

If the camera supports it, a PTZ menu can be opened as an overlay over the PTZ feed.

Open PTZ Menu as an overlay ALT + Pattern Menu

The keyboard's LCD screen and softkey buttons offer navigation options.

PTZ menu control
Menu : Enter : ESC : Cancel

Press the corresponding softkey buttons to select either Menu, Enter, ESC or Cancel.

To navigate the menu, change arrow key mode to **Arrows map to PTZ keys** using this button: ▲

Navigate in menu: Arrow keys up/down.

Select in menu: Right arrow key.

5. Conclusion

Note: This manual was designed to deal with the setup and operation of the KBD3000/3100 when integrated with the Carbon UI.

For technical support, email support@cathexisvideo.com.

USEFUL LINKS

*To view **tutorial videos** on CathexisVision products and setup, visit*
https://cathexisvideo.com/resources/videos

*Find answers to Cathexis **Frequently Asked Questions**: https://cathexis.crisp.help/en/?1557129162258*