



Carbon

CathexisVision Carbon 4 White Paper

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While Cathexis has made every effort to ensure the accuracy of this document, there is no guarantee of accuracy, neither explicit nor implied. Specifications are subject to change without notice.



1. Introduction

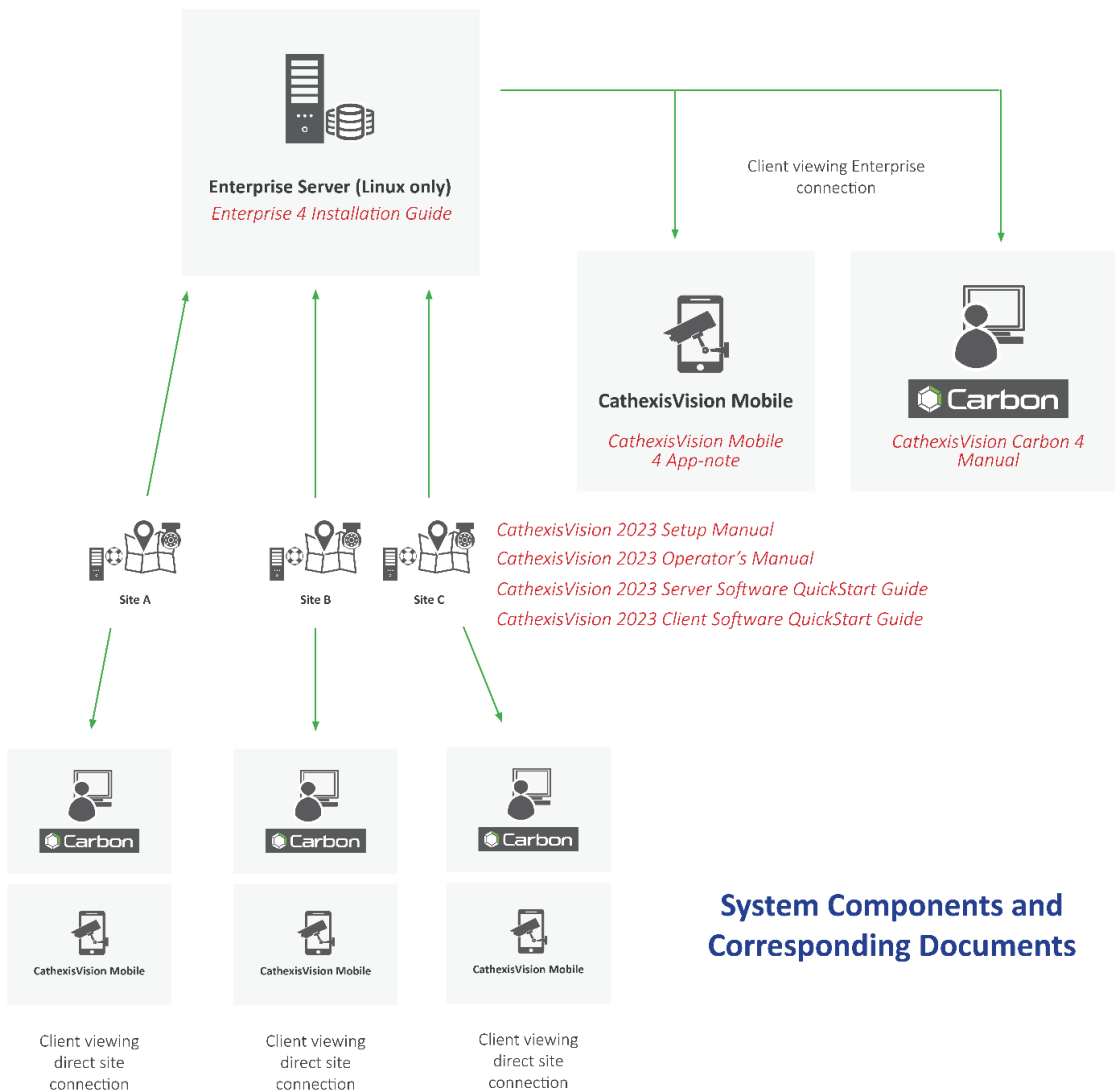
Carbon is a desktop client user interface used for site management and camera viewing. Carbon is easy to navigate, simplifying the monitoring of CathexisVision sites. As a GUI, Carbon is not used for site configuration.

This *CathexisVision Carbon 4 White Paper* outlines the features and abilities of Carbon 4 when using this interface to access:

- 👁️ a single site (a single CathexisVision site installation)
- 👁️ multiple sites (a CathexisVision **Multisite** installation)
- 👁️ multiple sites (a CathexisVision **Enterprise** installation)

1.1 Resources and System Components

The diagram below illustrates the basic components of Carbon 4, CathexisVision sites, Enterprise servers, MultiSite servers, and the CathexisVision Mobile app, along with the documents relevant to each.



For more information about Carbon 4, CathexisVision Mobile 4 app, or MultiSite and Enterprise products, see the following, available on the Cathexis website (<http://cathexisvideo.com/>):

- ***CathexisVision 4.1 Suite Release Notes***
- ***Carbon 4 White Paper***
- ***Carbon 4 Operator's Manual***
- ***CathexisVision MultiSite 4 Installation Guide***
- ***CathexisVision Enterprise 4 Installation Guide***

- ***CathexisVision Mobile 4 App-note***
- ***CathexisVision Mobile 4 Quick Guide***
- ***CathexisVision Mobile 4 White Paper***

Consult the ***CathexisVision Setup Manual*** for information on setting up CathexisVision.

1.2 Supported Languages

- English,
- German,
- Russian,
- Croatian*,
- French*,
- Italian*,
- Portuguese*,
- Spanish*,
- Ukrainian*.

***Note:** These languages are supported in Carbon 4.2 and later.

1.3 Requirements and Specifications

1.3.1 General Requirements

- CathexisVision 2022.1 and later on the site to which the Carbon GUI is connecting.
- CathexisVision Carbon 3.1 or later.
- Windows 10 and later; Window Server 2019 and later.
- Minimum 8GB of RAM required.

1.3.2 License Requirements

License	Name	Description
None	Carbon	Local sites must be licensed as per existing requirements.

For information on the licensing requirements for MultiSite and Enterprise installations, consult the **CathexisVision Software Product Description and Licensing** document, available on the Cathexis website (<https://cathexisvideo.com>).

1.3.3 Ports to Open

For direct site connections, the Carbon (Sites installation) GUI and CathexisVision mobile app need the following ports to be open to the NVR site: TCP 30010 to 30100.

2. Features and Abilities

The available features depend on the connection being made from the Carbon interface.

<p>A single site connection allows the user to view/review cameras and other resources from one site only, navigating with the following tabs:</p>	<ul style="list-style-type: none"> • Monitoring • Databases • Maps • Configuration • Feature search • Archive player • Site monitors
<p>A MultiSite connection allows the user to view/review cameras and other resources from multiple sites, navigating with the following tabs:</p>	<ul style="list-style-type: none"> • Monitoring • Databases • Maps • Configuration • Feature search • Archive player • Site monitors
<p>An Enterprise connection allows the user to view/review cameras and other resources from multiple sites, navigating with the following tabs:</p>	<ul style="list-style-type: none"> • Monitoring • Databases • Maps • Configuration • Feature Search • Archive player • Site monitors • Dashboard • Hardware

2.1 Monitoring Tab

The Monitoring tab is where cameras can be viewed, reviewed, searched, and archived. A map can also be added to a panel in the Monitoring tab.

	Features/Abilities
General	<ul style="list-style-type: none"> • Create and save custom layouts, or use automatic options. • Enterprise connections allow the user to view cameras from multiple sites at one time in the Monitoring tab. • Layouts can display cameras in live and review mode simultaneously, and maps can be included in a saved layout. • The view and review tools drop-down menu is available using a mouse right-click or using the menu icon from the main panel.
Monitoring Options	<ul style="list-style-type: none"> • Resource view editor (customised resource view) • Monitoring tab settings • Live streaming stats
Monitoring Tab Settings	<ul style="list-style-type: none"> • Adjacent cameras: enable or disable • Show stream information • Show stream statistics • Left side panel: enable or disable • Right side panel: enable or disable
Layout Options	<ul style="list-style-type: none"> • Create and save custom templates • Add maps and/or cameras to a template • Auto layout • Black screen monitoring (BSM) • Monitoring using the side panel
View and Review Tools: Drop-down Menu	<ul style="list-style-type: none"> • Copy link • Send to monitor • Switch between live/review modes • Sync review • Pause/un-pause all • Export snapshot • Archive • Add bookmark • Bookmarks • Smart search • Advanced (connection logs) • Overlays • Dewarping • Video format • Video quality
Smart Search Tools	<ul style="list-style-type: none"> • Snap search • Motion quick search • Motion search • Feature search

<p>Dewarping</p>	<ul style="list-style-type: none"> • Disable • Single • Quad • Panorama single • Panorama double • Overview
<p>Top Menu Bar Icons</p>	<ul style="list-style-type: none"> • Templates • Action • Archive • Bookmark • Save layout • Cast • BSM (black screen monitoring) • Full screen
<p>Action Icon</p>	<ul style="list-style-type: none"> • Switch all feeds to live/review • Review all feeds/review all live feeds • Pause all feeds • Unpause all feeds • Clear all panels
<p>Main Display Tools</p>	<ul style="list-style-type: none"> • Interactive timeline • Date and time pop-up on timeline • Click to show/un-show PTZ control • Operate PTZ control • Area zoom on an Axis or Dahua PTZ camera • Click to mute/unmute camera • Navigate panel history • Minimise/maximise panel • Close panel • Adjacent Cameras • Review controls
<p>Review Controls</p>	<ul style="list-style-type: none"> • Select track (where available) • Go to beginning (Home)/end • Play/step forward/backwards • Adjust playback speed • Tags • Bookmarks • Live/Review mode switch • Sync review • Date/time panel

<p>Review Controls: Compact Mode</p>	<ul style="list-style-type: none"> • Play backwards. • Pause. • Play forwards. • Set tags. • Switch to live mode. • Open date/time panel.
<p>Maps</p>	<ul style="list-style-type: none"> • Place map in a template/layout. • View individual cameras in a new panel. • Open a camera group from the map. • View state of output and control output. • View state of input. • Open layout from the map. • Navigate panel history. • Reset view. • Show/hide camera viewing areas.

2.2 Databases Tab

The databases section combines access to metadatabases (text) and video database recordings in one interface. The icons distinguish between the two types.

A unique metadatabase is created on the server for an integration. Carbon has configurable filters based on device event information and time stamping. The filtered event/s, and the associated video, are available for review in a new window. An archive can then be created and exported.

2.2.1 Metadatabase Interface

Feature	Abilities
<p>General</p>	<ul style="list-style-type: none"> • View and filter options vary according to the integration or database selected. • Search results may be filtered then exported. The Export tool allows further selections to be made in the COLUMNS tab, where items may be unchecked.
<p>Interface</p>	<ul style="list-style-type: none"> • Custom view • View options (if available) • Sort by • Play mode. • Max rows • Database menu • Controls • Filter • Go to (exact time date) • Filter this page

Play mode	<ul style="list-style-type: none"> • Normal • Skip • Loop
Database Options	<ul style="list-style-type: none"> • Export • Manage reports • Settings
Controls (for pages)	<ul style="list-style-type: none"> • First. • Previous. • Next. • Last. • Refresh.

2.2.2 Video Database Interface

Feature	Abilities
General	<ul style="list-style-type: none"> • Search results may be filtered then exported. • The Export tool allows further selections to be made in the COLUMNS tab, where items may be unchecked.
Interface	<ul style="list-style-type: none"> • Play mode. • Max rows. • Database menu. • Controls. • Go to (exact time/date). • Filter this page.
Database menu	<ul style="list-style-type: none"> • Export. • Settings.
Controls (for pages)	<ul style="list-style-type: none"> • First. • Previous. • Next. • Last. • Refresh.

2.3 Maps Tab

The Carbon GUI provides configurable site maps that feature multi-layered, hierarchical, interactive interfaces providing representation and control of a site and its resources.

Feature	Abilities
General	<ul style="list-style-type: none"> • When viewed from the Maps tab, cameras will open as pop-ups over the map when double-clicked. • To view a map’s camera in the Monitoring tab, drag and drop an icon into an empty display panel.

	<ul style="list-style-type: none"> In addition to the map editing tools detailed below, the top panel tools allow users to align and distribute icons, and copy and paste properties/settings from one icon onto another. All resources (with the exception of permission groups) may be added to the map as objects. However, the list below shows map objects that currently perform actions. 	
View Map	<ul style="list-style-type: none"> Edit tool Navigate (back/forward) Reset view Show/hide camera viewing area 	
Map Editing Tools	Top panel tools	<ul style="list-style-type: none"> Save map Change settings (name and image) Toggle select/pan Select by object type Distribute row Distribute column Align row Align column Copy (icon) Paste Paste special Show grid
	Layers	<ul style="list-style-type: none"> Add layers (map/window)
	Basic	<ul style="list-style-type: none"> Opacity Rotating whole resource
	Icon	<ul style="list-style-type: none"> Change foreground/background colour Rotation Size Opacity
	Text	<ul style="list-style-type: none"> Colour Show: Auto/Show/Hide Wrap mode Size mode
	Camera	<ul style="list-style-type: none"> Viewing area: None/sector/manual/fisheye Colour (Viewing area) Opacity Fill mode Angle Size
	PTZ	<ul style="list-style-type: none"> Add PTZ zone Add PTZ preset Colour Opacity
	Input	<ul style="list-style-type: none"> State unknown: foreground/background colour

Map Objects		<ul style="list-style-type: none"> • State high: foreground/background colour • State low: foreground/background colour
	Output	<ul style="list-style-type: none"> • Click action: None/On/Off/Pulse/Toggle • State unknown: foreground/background colour • State on: foreground/background colour • State off: foreground/background colour
	Available Objects (perform actions)	<ul style="list-style-type: none"> • Cameras • PTZ camera • Fisheye camera • Camera group • Inputs • Outputs • Maps • Layouts
	Output Actions	<ul style="list-style-type: none"> • Switch on • Switch off • Pulse • Toggle

2.4 Configuration Tab

The Configuration tab allows users to view and organise resources, users, roles, and permissions.

- The Configuration Tab can be used to modify access rights.
- Access levels are renamable in Carbon and are called Roles.
- New users may be added on Enterprise connections.
- For sites connections, new users must be added on the CathexisVision client/server software.

Home	<ul style="list-style-type: none"> • Manage LDAP server settings (Enterprise connections) • Configure push notifications (Site connections) 	
Resource management	<ul style="list-style-type: none"> • View all resources • Add or edit camera groups • Add or edit VMS event groups • Delete maps • Auto generated or manually configured resources tree options 	
User Management	Users	<ul style="list-style-type: none"> • Create new user (Enterprise installation only) • Change user details • Change permissions for a single user • Add resources to a user • Change global permissions for a user (Configuration, Maps) • Assign a role to a user (inherited roles) • Remove a role from a user
	Roles	<ul style="list-style-type: none"> • Add a new role • Modify a role

		<ul style="list-style-type: none"> • Add resources to the role • Change global permissions for the role (Configuration, Maps) • Add another role to the role (inherited roles)
	Permissions	<ul style="list-style-type: none"> • View • Review • Export • PTZ • Presets • Control (output/map) • Edit (maps) • Manage views (metadatabase) • Manage reports
	Resources	<ul style="list-style-type: none"> • Cameras • Feature databases • Inputs. • Outputs. • Resource group. • Layouts. • Maps. • Site monitors • VMS events. • Video databases. • Metadatabases.
		<ul style="list-style-type: none"> • Add a permission group. • Edit a permission group. • Choose Domain, and Type of Resource. • Available to domain only, or global. • Add resources.
Permission Groups	Groups	<ul style="list-style-type: none"> • Add a permission group. • Edit a permission group. • Choose Domain, and Type of Resource. • Available to domain only, or global. • Add resources.
	Resource	<ul style="list-style-type: none"> • Cameras. • Inputs. • Outputs. • Video databases. • Metadatabases. • Maps.

2.5 Feature Search

General		<ul style="list-style-type: none"> • Upload or select an image of a person or vehicle to search for similar images. • Images can be 'sent' from the Monitoring tab by select Smart search/Feature search in the context (right-click) menu.
Query parameters	Site	<ul style="list-style-type: none"> • Select from multiple sites (Enterprise only)
	Search for	<ul style="list-style-type: none"> • Person • Vehicle
	Search day	<ul style="list-style-type: none"> • Select date
	Maximum matches	<ul style="list-style-type: none"> • Not set • 10 • 100 • 1000
	Time filter	<ul style="list-style-type: none"> • 00:00 to 23:59
	Camera filter	<ul style="list-style-type: none"> • All cameras • Choose camera
Feature area		<ul style="list-style-type: none"> • Load or paste images • Select/isolate a region
Review		<ul style="list-style-type: none"> • Choose camera • Copy camera into feature area • Select track • Play backwards • Pause • Play forwards • Tags • Open archive builder
Search results	Select tool	<ul style="list-style-type: none"> • Select all • Clear all • Select/deselect camera
	View	<ul style="list-style-type: none"> • Standard • By camera
	Sort by	<ul style="list-style-type: none"> • Score • Time • Ascending/descending
	Thumbnail Size	<ul style="list-style-type: none"> • Small • Medium • Large
	Aspect ration	<ul style="list-style-type: none"> • Standard • Tall • Wide
	Minimum Score	<ul style="list-style-type: none"> • 0 to 50

2.6 Archive Player

General		<ul style="list-style-type: none"> The archive player is available as a separate app, but can also be used from the Carbon interface.
Folder view (browse)	Folders	<ul style="list-style-type: none"> Up Browse Back (home screen)
	Sort	<ul style="list-style-type: none"> Alphabetical Newest first Oldest first
Home screen view	View options	<ul style="list-style-type: none"> Clips Transactions
	Top panel tools	<ul style="list-style-type: none"> Clear all Show all Sequential mode Template
	Review tools	<ul style="list-style-type: none"> Timeline slider Home Step backwards Play backwards Pause Play forwards Step forwards Adjust playback speed Skip 10s forwards/backwards Start/end tag Archive Close Adjust time and date Calendar tool

2.7 Site Monitors

General	<ul style="list-style-type: none"> Controllable from Carbon user interfaces (including the mobile device) View live streams as shown by the site monitor in the controller tab Multiple-camera synchronised review supported Corridor and wide aspect ratio cameras supported Virtual monitor walls to mimic the positions of physical monitors Local site connection only. The site monitor is unable to view remote sites. GPU decoding supported by site monitor GPU-accelerated display in site monitor Map-driven site navigation in site monitor tab
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Resources panel	<ul style="list-style-type: none"> • Standard view • Server view • Custom view
Layouts panel	<ul style="list-style-type: none"> • My layouts • Global layouts
PTZ Panel	<ul style="list-style-type: none"> • Open iris • Close iris • Auto iris • Focus near • Focus far • Auto focus • Manual control panel • Zoom in/out • Presets
Map	<ul style="list-style-type: none"> • View
Templates	<ul style="list-style-type: none"> • Choose from custom or standard
View	<ul style="list-style-type: none"> • Monitors • Wall • Select system
Tools	<ul style="list-style-type: none"> • Clear all • Identify • Switch to live • Adjacent camera viewing
Manage video walls	<ul style="list-style-type: none"> • Create new wall • Edit wall

2.8 Dashboard Tab (Enterprise Only)

The Dashboard tab allows the user to view information about sites, servers, and cameras.

This tab allows the user to locate the time and place of a disconnected camera or server easily. The information can be used to search footage from the monitor tab around the time of the incident.

Database Element	Features/Abilities
General	<ul style="list-style-type: none"> • Status of resources is presented in a summary format. • This is represented visually as well as in the table. • A colour code is used to represent status. • Items in the table can be selected to open a 24-hour view.
Visual Summary/Infographic	<ul style="list-style-type: none"> • Sites. • Servers. • Cameras.
Status on Visuals	<ul style="list-style-type: none"> • Green: sites, servers, cameras up. • Red: sites, servers, cameras, down. • Grey: status unknown. • Orange: packet loss.
Status on 24-hour Chart	<ul style="list-style-type: none"> • Green: cameras up • Brown: cameras up and down • Red: cameras down. • Green/yellow: cameras up with packet loss. • Dark green: cameras up and status unknown. • Grey: camera status unknown.

1.4.5 Hardware Tab (Enterprise Only)

The Hardware tab allows the user to view specifications and addresses of cameras, and specifications and status of disks and servers.

		Features/Abilities
	General	<ul style="list-style-type: none"> • Various sort options are available to change how items appear in the main display. • Once items have been sorted, the Export tool can be used to generate reports. • The SETTINGS and COLUMNS tabs on the export tool can be used to adapt the appearance of the final report further.
Cameras Tab	List Display Options	<ul style="list-style-type: none"> • Single site or multi-view • Sort by category • Sort table alphabetically or numerically
	Sort by Category Options	<ul style="list-style-type: none"> • Camera manufacturer • Camera model • Camera firmware

	Main Panel Columns	<ul style="list-style-type: none"> • Site • Server • Manufacturer • Model • Firmware • Name • Serial Number • MAC Address
Databases Tab	List Display Options	<ul style="list-style-type: none"> • Single site or multi-site view • Sort table alphabetically or numerically
	Main Panel Columns	<ul style="list-style-type: none"> • Name • Site • Server (name) • Capacity • Tracks • Recording duration • Status • Slices
Disks Tab	List Display Options	<ul style="list-style-type: none"> • Single site or multi-site view • Sort by category • Sort table alphabetically or numerically
	Sort by Category Options	<ul style="list-style-type: none"> • Disk manufacturer • Disk model • Disk firmware
	Main Panel Columns	<ul style="list-style-type: none"> • Health • Site • Server • Manufacturer • Model • Rotation • Capacity • Firmware • Serial number • Power-on years • Temperature
Servers Tab	List Display Options	<ul style="list-style-type: none"> • Single site or multi-site view • Sort by category • Sort table alphabetically or numerically
	Sort by Category Options	<ul style="list-style-type: none"> • Motherboard • CPU • OS family • OS version • SW version

**Main Panel
Columns**

- Site
- Server
- Machine
- Network interfaces
- Motherboard
- CPU
- CPU speed
- Memory
- Serial number
- IO board
- OS family
- OS version
- SW version
- Site role (slave, master, or unknown)
- Time
- Time zone
- Master time
- Enterprise time difference

3. Conclusion

Note: This manual was designed to deal with the installation and setup of Carbon 4.

For more information about CathexisVision, consult the *CathexisVision Operator's Manual* and the *CathexisVision Setup Manual* (<https://cathexisvideo.com/>).

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>

