



Moxa E1212 I/O Controller Integration White Paper



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1. Introduction

This document indicates the features/abilities of the Moxa E1212 I/O Controller when integrated with CathexisVision. The Moxa ioLogik E1212 I/O controller retrieves I/O data, enabling users to access input and output data from the same product.

For a detailed guide on the installation and configuration of the Moxa I/O device with CathexisVision, please refer to the *CathexisVision Moxa E1212 I/O Controller Integration App-note*, available on the Cathexis website.

1.1 Integration Purpose

The CathexisVision integration of the Moxa E1212 IO Controller allows for the monitoring of I/O transactions from within the CathexisVision interface. Device objects can be linked to cameras, providing operators with the associated footage. Events are databased and can be searched according to various filters. Operators can configure the device to trigger standard CathexisVision events, allowing for a range of actions. The CathexisVision Moxa E1212 integration supports the use of the CathexisVision Map Editor.

1.2 Requirements

1.2.1 General requirements

- CathexisVision 2021.2 and later
- Win 10: 64-bit and later, Win Server 2008 R2 and later.
- Minimum 4GB of RAM required.

1.2.2 Model and firmware

Note: Cathexis makes a best attempt to ensure that the equipment and license requirements of third-party equipment are adequately specified. However, it is possible that the requirements of third-party equipment may change over time, including the interface hardware/firmware and licensing. The user is advised to clarify the latest requirements directly with the third-party equipment supplier.

Hardware name	ioLogik E1212
Firmware as tested	V3.0 Build17111512



1.2.2 CathexisVision license requirements

The CathexisVision Moxa E1212 Input and Output Controller integration license requirements are as follows:

License	License Description
CMXA-2000	Moxa I/O Device

Note: in this integration, individual devices will require a license for each device.

1.3 Integration components

All CathexisVision integrations have two component levels: **Device** and **Object**.

Device The device is CathexisVision software's interface, which handles all the interaction between CathexisVision and the integrated hardware. When an integration is added to the CathexisVision system, a device is added. The messages received from the device are called Device Events.

Objects Objects are the individual pieces of hardware that comprise the integration. There can be multiple "object types" under the objects group.

USEFUL LINKS

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

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



2. Features and Abilities

This section indicates the features/abilities of the Moxa E1212 I/O Controller when integrated with CathexisVision.

2.1 General device features

CathexisVision communicates with the Moxa E1212 I/O Controller device via a TCP connection using the IP address.

2.2 Device objects

Device objects populate automatically once communication is established.

Object Type		Abilities
General		<ul style="list-style-type: none"> This integration has Device, Digital input, Digital output, and communication channel objects. Objects are automatically created as soon as communication between the CathexisVision unit and device is established. Digital output objects are able to be commanded as an action of a CathexisVision system event. Device objects support overlays, which display the state of device objects. Objects may be linked to cameras to associate device events with video footage.
Device	Object Properties	<ul style="list-style-type: none"> Name. ID Model name Firmware Online: yes or no
	Connection Status	Some examples of Connection Status values: <ul style="list-style-type: none"> Connected. Disconnected.
Digital input	Object Properties	<ul style="list-style-type: none"> Name. Model State counter
	Command	<ul style="list-style-type: none"> N/A



	States	<ul style="list-style-type: none"> • On • Off
	Overlays	<ul style="list-style-type: none"> • Overlay location, text size, text colour, and background colour are configurable.
	Object Properties	<ul style="list-style-type: none"> • Name. • Mode • State • Pulse count • On width • Off width
	Command	<ul style="list-style-type: none"> • Set off • Set on • Toggle • Start pulse • Stop pulse
Digital output	States	<ul style="list-style-type: none"> • On • Off
	Object Properties	<ul style="list-style-type: none"> • Name. • Channel status • Details • Creation type • Creation date • Idle time (min)
	Command	<ul style="list-style-type: none"> • Up. • Down.
	States	<ul style="list-style-type: none"> • On • Off
Communication channel	Object Properties	<ul style="list-style-type: none"> • Name. • Channel status • Details • Creation type • Creation date • Idle time (min)
	Command	<ul style="list-style-type: none"> • Up. • Down.
	States	<ul style="list-style-type: none"> • On • Off



2.3 Device events

The CathexisVision Moxa E1212 Controller integration generates Input and Output device events, which are triggered on the device and reflected in CathexisVision.

Event Element		Features/Abilities
General		<ul style="list-style-type: none"> • Events triggered on the device are sent to CathexisVision. • Device event types are Input and Output.
Device Event Types	Input	<ul style="list-style-type: none"> • Counter enabled • Counter disabled • Digital input on • Digital input off
	Output	<ul style="list-style-type: none"> • Digital output on • Digital output off • Pulse active • Pulse inactive

2.4 Metadatabase

A unique metadatabase is created on the CathexisVision server for this integration. It is fully searchable, with configurable filters based on device event information (as above), and time stamping. The filtered event/s, and the associated video, will then be available for review in a new window from which an archive can be created and exported.

Database Element	Features/Abilities
General	<ul style="list-style-type: none"> • All device events are databased. • Database entries include the footage from cameras linked to device objects. • Multiple cameras may be linked to multiple objects. • Device event metadata is displayed where applicable. • Databased device events may be viewed in the embedded video player, which includes the usual CathexisVision video review tools.
View Options	<ul style="list-style-type: none"> • Standard • All.
Sort Options	<ul style="list-style-type: none"> • Events can be sorted based on the parameter of time.
Easy Search	<ul style="list-style-type: none"> • Device name • Name • Counter.



Filter	<ul style="list-style-type: none"> • Time • Device name • Name • State • Counter.
Export	Database entries may be exported in CSV and PDF format.

2.5 Maps

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

Map Element	Features/Abilities
General	Device objects can be embedded in a site map, which offers multiple action options when messages are received from the device, the device triggers an event, and/or the user manually initiates a map action.
Map Action Triggers	<ul style="list-style-type: none"> • All device objects may be set to trigger a map action if the user left-clicks on map. • Some device objects may be set to trigger a map action if a state change message is received from the device. • All device objects may be set to perform a map action if <i>any</i> event occurs on the device. • Device objects, which can be configured to trigger CathexisVision events, may also be set to perform a map action when specific CathexisVision events are triggered.
Map Actions Options	<p>When triggered (see above), objects may perform the following map actions (where applicable):</p> <ul style="list-style-type: none"> • Connect to a site • Perform an animation • Go to a camera preset • Load a map • Set a PTZ relay output • Show a popup menu • Set a relay output • Show an HTML block • Show a block of text • Show a device popup menu • Show a device event notification.



3. Conclusion

This document was designed to deal specifically with this integration. For further information about the CathexisVision software, consult the **CathexisVision Setup Manual** (<http://cathexisvideo.com/>).

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