

Application Notes

Using Consumer Electronic Control (CEC) in the Lightware Devices



Table of Contents

1. INTRODUCTION 3

1.1. WHAT IS CEC? 3

1.2. ELECTRICAL CONNECTIONS OF CEC..... 3

1.3. BENEFITS OF COLLABORATION LIGHTWARE AND CEC 3

1.4. CEC COMPATIBILITY IN LIGHTWARE DEVICES 4

1.5. ABOUT CEC COMMANDS 4

1.6. TYPICAL APPLICATION 1. - TRANSPARENT CEC SUPPORT 5

1.7. SUMMARY OF USING ADVANCED CEC FUNCTIONS..... 5

1.8. TYPICAL APPLICATION 2. - ADVANCED CEC SUPPORT 6

2. SENDING CEC COMMANDS WITH LDC SOFTWARE 7

2.1. CEC LAYOUT IN THE LIGHTWARE DEVICE CONTROLLER 7

2.2. ADVANCED VIEW 8

2.3. CEC SUPPORT IN THE EVENT MANAGER..... 9

2.3.1. The Events Tab 9

2.3.2. Adding an Event – the Event Editor 9

2.3.3. Create or Modify an Event..... 10

2.4. TYPICAL APPLICATION - DETAILED SETTINGS IN THE EVENT MANAGER .. 11

3. CEC MANAGEMENT WITH LW3 PROTOCOL COMMANDS 12

3.1. SENDING CEC COMMANDS 13

3.1.1. Sending OSD String 13

3.2. SEND CEC COMMAND IN TEXT FORMAT 13

3.3. SEND CEC COMMAND IN HEXADECIMAL FORMAT 14

3.4. QUERY THE RECEIVED CEC COMMANDS 14

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1

Introduction

This document gives an overview about the CEC support of the Lightware devices.

- ▶ [WHAT IS CEC?](#)
- ▶ [ELECTRICAL CONNECTIONS OF CEC](#)
- ▶ [BENEFITS OF COLLABORATION LIGHTWARE AND CEC](#)
- ▶ [CEC COMPATIBILITY IN LIGHTWARE DEVICES](#)
- ▶ [ABOUT CEC COMMANDS](#)
- ▶ [TYPICAL APPLICATION 1. - TRANSPARENT CEC SUPPORT](#)
- ▶ [SUMMARY OF USING ADVANCED CEC FUNCTIONS](#)
- ▶ [TYPICAL APPLICATION 2. - ADVANCED CEC SUPPORT](#)

1.1. What is CEC?

Consumer Electronic Control (CEC) is a bi-directional communication, defined in the HDMI standard. This feature is for remote control of the source and sink devices in the A/V system.

CEC standard is based on the AV-link protocol of the SCART connector, this is the reason of the limited bandwidth (about 400bit/sec).

The structure of the CEC communication is a tree topology data bus, where every unit can communicate with every unit. The standard supports only one sink, so Lightware devices are designed to have independent CEC bus for each port (e.g. units which are connected to the matrix cannot detect each other directly).

This document aims to give a general description of CEC services.

1.2. Electrical Connections of CEC

- CEC has a dedicated pin in the HDMI connector.
- DVI connector does not contain this pin, so the CEC transmission brakes when HDMI-DVI connector or adapter is in the signal route.
- DisplayPort supports CEC, it has no dedicated pin but embeds the CEC data.

1.3. Benefits of Collaboration Lightware and CEC

- It makes the Lightware devices compatible with third-party units via standard CEC commands.
- No extra cabling required, it uses HDMI cable, that is always available.
- The Lightware devices support standard and vendor specific command sending, it makes the system universal and easily adaptable.
- User-friendly text format commands, customizable hexadecimal format command sending.
- The Lightware devices can receive CEC messages which makes possible to request system information from the third-party devices (e.g. Device ID, the status of the sink or the source etc.).
- CEC is integrated into the Event Manager and it supports the synchronization of the different units of the A/V system.

1.4. CEC Compatibility in Lightware Devices

CEC-transparent devices

- **HDMI20-OPTJ-TX90** and **HDMI20-OPTJ-RX90** extender pair is transparent for CEC (just like a cable).
- **HDMI-TPS-TX95** and **HDMI-TPS-RX95** extender pair is transparent when connected with each other.
- **HDMI-TPS-TX96** and **HDMI-TPS-RX96** extender pair is transparent when connected with each other.
- **HDMI-TPS-TX97** and **HDMI-TPS-RX97** extender pair is transparent when connected with each other.
- **HDMI-TPX series** extender pair is transparent when connected with each other.
- **HDMI-TPN series** extender pair is transparent when connected with each other.
- In **DA2HDMI-4K-PLUS-A**, **DA2HDMI-4K-PLUS** distribution amplifiers the HDMI In and HDMI Out 2 ports are CEC -transparent.
- **MX2M-4TPX-IB** and **MX2M-4TPX-OB** I/O boards and transparent when connected to a compatible TPX or TPN series extender.

Lightware devices with advanced CEC-support

These below devices are able to send and recognize CEC commands in text and hex format. This feature is for remote control of the source or sink device.

Matrix switchers

- MX2-4x4-HDMI20-CA; MX2-8x4-HDMI20-CA; MX2-8x8-HDMI20-L; MX2-8x8-HDMI20-CA;MX2-8x8-HDMI20-Audio; MX2-8x8-HDMI20-Audio-L; MX2-8x8-DH-4DPi-A; MX2-8x8-DH-4DPio-A; MX2-8x8-DH-8DPi-A; MX2-8x8-DH-8DPio-A; MX2-16x16-HDMI20; MX2-16x16-HDMI20-R; MX2-16x16-HDMI20-Audio; MX2-16x16-HDMI20-Audio-R; MX2-16x16-DH-8DPi-A-R; MX2-16x16-DH-16DPi-R; MX2-24x24-DH-12DPi-R; MX2-24x24-HDMI20; MX2-24x24-HDMI20-R; MX2-24x24-HDMI20-Audio; MX2-24x24-HDMI20-Audio-R; MX2-24x24-DH-24DPio-A-R; MX2-24x24-DH-12DPi-A-R; MX2-32x32-HDMI20-A-R; MX2-32x32-DH-16DPi-A-R; MX2-48x48-HDMI20-A-R; MX2-48x48-DH-24DPio-A-R; MX2-48x48-DH-48DPi-A-R; MX2-48x48-DH-48DPio-A-R

Products with 'Advanced Control' pack

- UMX-HDMI-140-Plus
- UMX-TPS-TX140-Plus
- WP-UMX-TPS-TX130-US-Plus Black, White
- HDMI-TPS-RX110AY-Plus
- SW4-TPS-TX240-Plus
- MMX4x2-HDMI, MMX4x2-HT200 (only with LW3 protocol commands)
- MMX8x4-HT420M; MMX8x4-HT400MC; MMX8x8-HT080; MMX8x8-HDMI-4K-A; MMX8x8-HDMI-4K-A-USB20

1.5. About CEC Commands

Standard CEC Commands

Standard CEC commands support querying basic information and they have control functions for the sources and sinks.

CEC-compatible Lightware devices are able to send and recognize CEC messages in user-friendly text format, or hex format.

INFO: The first 2x2 bytes of the CEC commands contain identification data of the source and destination address. When the port is input, it is always **04** (from TV to Playback device 1.), when the port is output, it is always **40** (from Playback device 1. to TV). Broadcast addressing is also possible (in this case it is **0F** or **4F**).

The example below shows a CEC message structure that is sent from the input port towards the source:

Logical Address		Command ID	Parameter 1. (fix)	Parameter 2.
Source (fix)	Destination (fix)			
TV	Playback device 1.	Set OSD String	Display until cleared	LWR
0	4	64	40	4C5752

INFO: The number of the parameters depends on the command, some commands do not need any parameter.

Vendor-Specific CEC Commands

The manufacturers designed their A/V products CEC- compatible and use vendor-specific commands for a fluent cooperation of their own units in the system. Certain companies make these commands public and available for third-party users.

Lightware gives a platform for managing vendor specific CEC commands in hex format. For more information, see [Custom command textbox](#) section or [Sending CEC Commands](#) section.

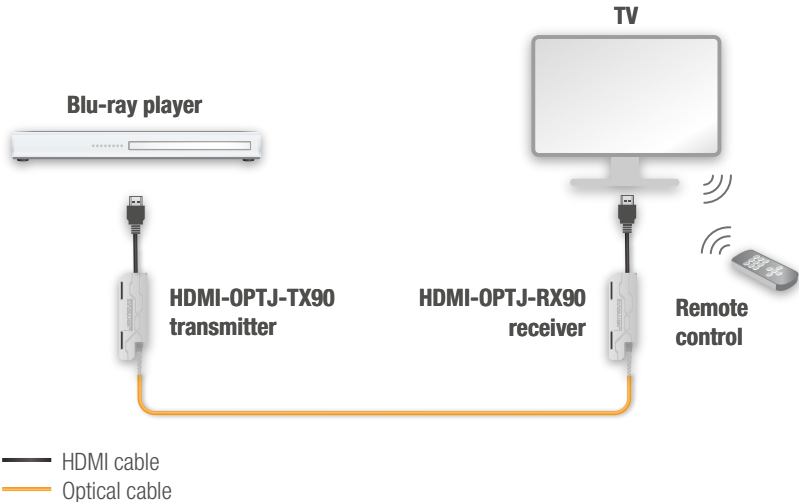
The example below shows a CEC message that is sent from the output port towards the sink:

Logical Address		Command ID
Source (fix)	Destination (fix)	
Playback device 1.	TV	Vendor command example (Input toggle)
4	0	A0080046001800020090

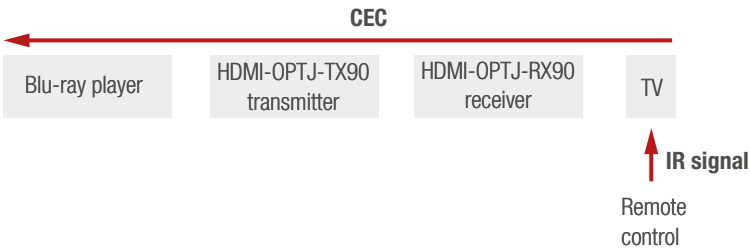
1.6. Typical Application 1. - Transparent CEC Support

ATTENTION! For the list of CEC-transparent units, see [CEC-transparent devices](#) section.

The configuration below shows an application, where Lightware devices (an HDMI-OPTJ extender pair) let the CEC message traffic from the TV to the Blue-ray player without any modification. It makes possible, that both the TV and the Blu-ray player can be controlled by the remote controller.



The TV receives the IR signal from the remote control. The remote control commands can control the TV or transmitted as a CEC command towards the Blue-ray player to control it.



1.7. Summary of Using Advanced CEC Functions

In Lightware Device Controller (LDC) Software - Port Properties Window

In the port properties window, CEC has a user-friendly interface, where pre-defined commands or custom commands in hex format can be sent. A CEC command terminal box gives an immediate feedback about the sent and the received commands.



For more details, see [CEC Layout in the Lightware Device Controller](#) section.

In Lightware Device Controller (LDC) Software - Event Manager

The Event Manager offers an easy and quick configurable platform to set a Condition and an Action in the Event.



- Wizard mode for sending CEC messages can be set as an Action triggered by any Condition.
- In the Advanced mode - LastReceivedMessage property can be set as a Condition connecting with any Action.

For more details, see the [CEC Support in the Event Manager](#) section.

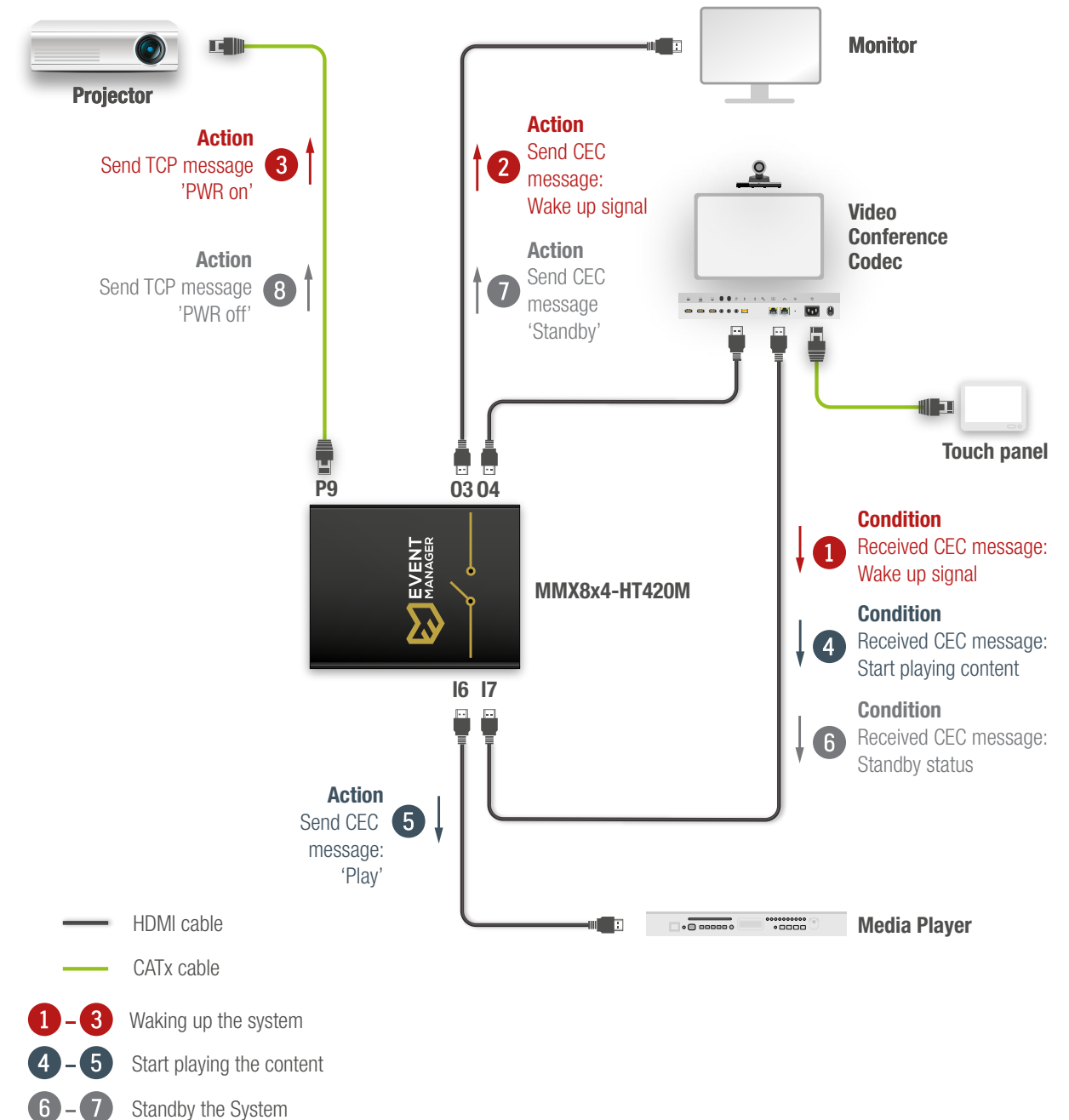
With LW3 Protocol Commands

CEC commands can be also sent by LW3 protocol. For more details, see [CEC Management with LW3 Protocol Commands](#) section.



1.8. Typical Application 2. - Advanced CEC Support

The configuration below shows a typical arrangement of the video conference system, which turns on and off automatically after setting the Events in Event Manager in MMX8x4-HT420M matrix switcher.



Waking up the System

	Condition	Description		Action	Description
1	Received CEC message: Wake up signal	When the Video Conference Codec becomes active by the Touch panel, it sends an automatic status report via CEC (wake up signal) to the I7 port of the matrix.	2	Send CEC message: Wake up signal	The matrix switcher sends a CEC command to the monitor to wake up.
			3	Send TCP message: PWR on	The matrix switcher sends a TCP message to turn on the projector via Ethernet.

Start Playing the Content

	Condition	Description		Action	Description
4	Received CEC message: Start playing content	The Video Conference Codec starts playing a content, it sends a CEC message about this status to I7 port of the matrix.	5	Send CEC message: Play	The matrix switcher sends a CEC command to the media player to send video signal.

Standby the System

	Condition	Description		Action	Description
6	Received CEC message: Standby status	When the Video Conference Codec changes its state to standby, it sends an automatic status report via CEC ('Standby') to the I7 port of the matrix.	7	Send CEC message: Standby	The matrix switcher sends a CEC command to the monitor to standby.
			8	Send TCP message: PWR off	The matrix switcher sends a TCP message to turn off the projector via Ethernet.

For more details about setting the events see [Create or Modify an Event](#) section.

2

Sending CEC Commands with LDC software

This feature is the part of the Lightware 3 protocol, therefore all settings can be arranged in the protocol tree or set by sending LW3 commands. To provide a user-friendly method for setting the necessary parameters, the feature is implemented in the Lightware Device Controller software.

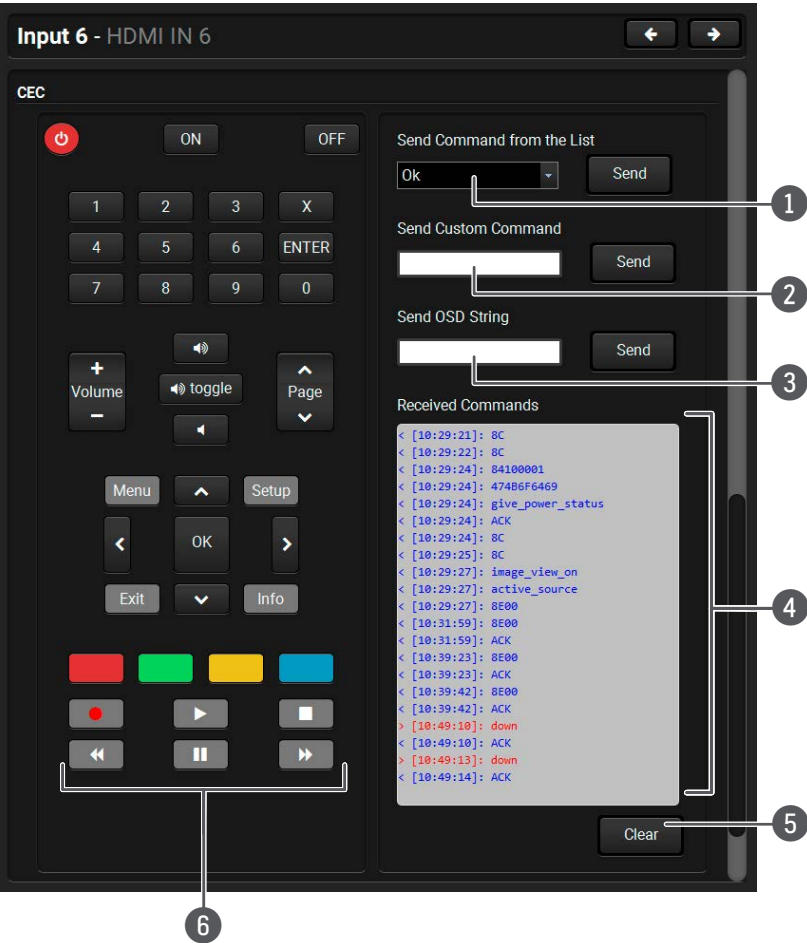
- ▶ [CEC LAYOUT IN THE LIGHTWARE DEVICE CONTROLLER](#)
- ▶ [ADVANCED VIEW](#)
- ▶ [CEC SUPPORT IN THE EVENT MANAGER](#)
- ▶ [TYPICAL APPLICATION - DETAILED SETTINGS IN THE EVENT MANAGER](#)

2.1. CEC Layout in the Lightware Device Controller

ATTENTION! This layout is available in the advanced CEC-supported devices. For the list of these units, see [Lightware devices with advanced CEC-support](#) section.

Where can it be found?

Navigate the **Crosspoint** menu, **Input** or **Output Port Properties Window** to reach the CEC layout in the LDC.



Layout of CEC panel in Lightware Device Contoller

It can occur that the third-party device can receive, but not execute the command because it is not supported by the product. Check the accepted commands in the documentation of the device.

ATTENTION! Make sure that the controlled unit is CEC- compatible and this function is enabled. Certain vendors gives different trade names for CEC.

- 1

Drop-down command list

This list contains the basic CEC commands, most of them are displayed on the graphical interface, too (on the left side). Click on the **Send** button to execute sending the command.
- 2

Custom command textbox

The text field is for sending hexadecimal commands to the source. The maximum length of the message could be 30 characters (15 bytes). Click on the **Send** button to execute sending the command.
- 3

OSD string textbox

A max. 14 character-long text can be shown on the sink device. The send OSD (On-screen display) command textbox is the input field of the string. Alphanumeric characters, glyphs and space are accepted. Click on the **Send** button to execute the command.
- 4

CEC Command terminal box

Displays all the sent (in red) CEC commands and the received answers (in blue) with a timestamp.
Legend of the received message:
`< [10:33:17] ACK`
Answer for the acknowledged command.
`< [10:35:01] NACK`
Answer for the not acknowledged command.
`< [10:33:17] IN PROGRESS`
The command is in progress at the moment.
`< [10:33:17] FAILED`
Answer for other failure.
`< [10:35:40] feature_abort_<*>`
This is the most common answer from the third-party devices when the command is delivered, but the execution is refused. The cause of the refuse stands after 'feature_abort' expression.
- 5

Clear button

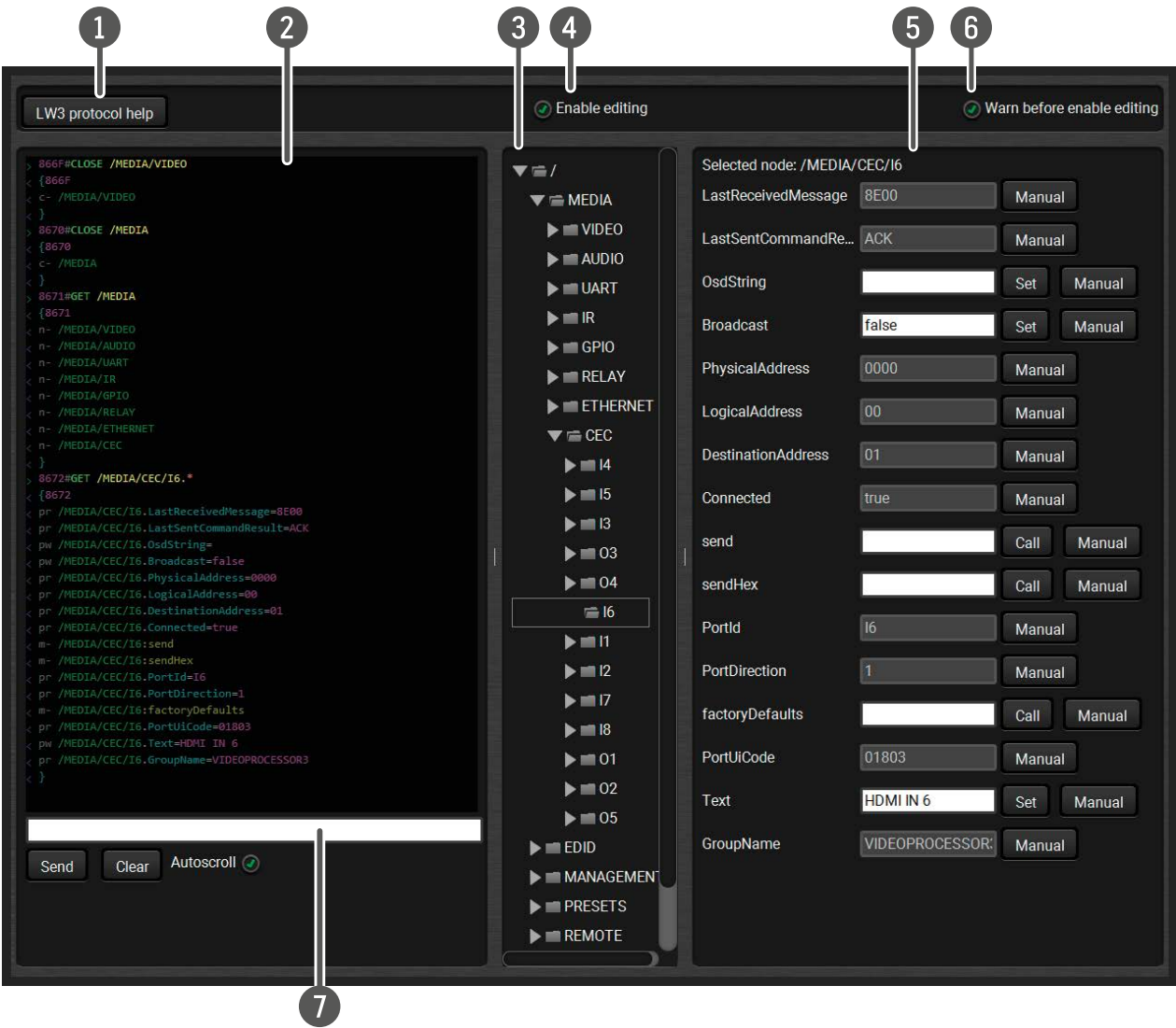
Click on the **Clear** button to erase the content of the terminal window.
- 6

CEC command button panel

This panel provides the quick and easy management of CEC commands. These buttons are pre-programmed with basic functions and sends commands towards the sink. The communication is displayed in the Received Command box. For the list of the commands see [Send CEC Command in Text Format](#) section. Both the layout and functionality are similar to the design of a remote control.

2.2. Advanced View

Advanced view is the surface for displaying the LW3 protocol tree. Commands and specific parameters (which are not available on the graphical user interface of the LDC) can be run and set by the controlling tools.



- 1 **LW3 Protocol Help** Short description about the command types and LW3 Protocol.
- 2 **Terminal Window** Commands and responses. Sent command starts with ">" character, received response starts with "<" character. The content of the window can be emptied by the **Clear** button. If the **Autoscroll** option is ticked, the list is scrolled automatically when a new line is added. Place the mouse cursor on a line to display the date and time stamp in a Hint field.
- 3 **Protocol Tree** LW3 protocol tree; select an item to see its content.
- 4 **Edit Mode** The default appearance is the **Edit mode**. If the option is unticked the values or parameters cannot be changed.
- 5 **Node List** Parameters and nodes of the selected item are shown.
- 6 **Warn Option** The LDC can be set to warn the user before enable the **Edit mode**.
- 7 **Command Line** Type the desired command and execute it by the **Send** button.

INFO: The CEC-related properties can be found in /MEDIA/CEC/<port> node for each port.

2.3. CEC Support in the Event Manager

The **Event Manager** is a built-in feature of **Lightware Device Controller** software. It reacts to internal status changes or user interactions without any external control system. The detected event is called **Condition**, the response is called **Action**.

CEC feature is integrated in Event Manager, so incoming CEC message can be set as **Condition** which triggers a pre-defined **Action**. CEC command sending can be set as an **Action**, and it can be triggered by any **Condition**.

INFO: For more details about using the Event Manager see the Event Manager Application notes on www.lightware.com website or the LDC chapter of device's own User's Manual.

Where can it be found?

The location of the **Event manager** is the same in all cases in the software: navigate to the **Control** submenu and select the **Events** tab.

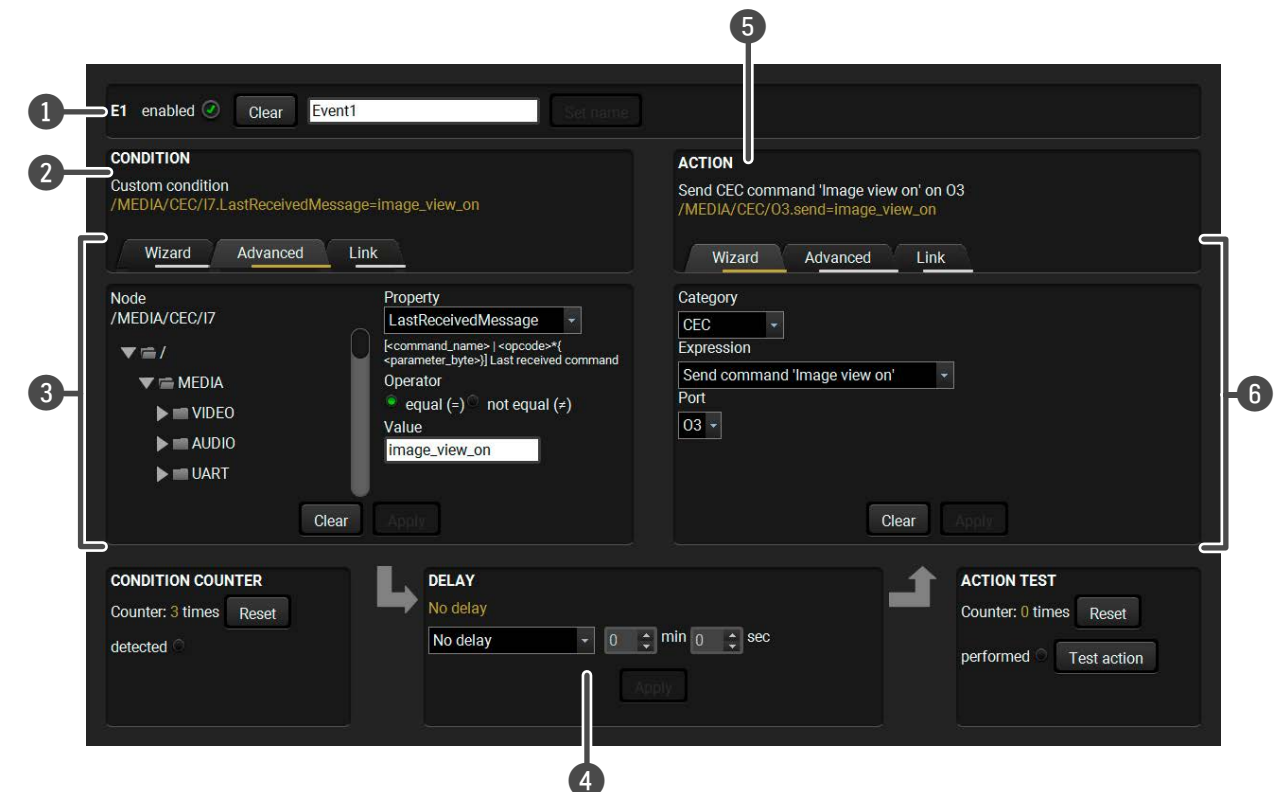
2.3.1. The Events Tab



- 1 **Event Lines** Each line means an **Event**: a **Condition** and an **Action**. The green line means the **Event** is enabled and both the **Condition** and the **Action** are set properly.
- 2 **Condition** Displays the expression shown in **Wizard** mode or the exact LW3 path and node.
- 3 **Switch** The **Event** can be enabled or disabled.
- 4 **Edit Button** Press the button to open the **Event Editor** and set all the parameters.
- 5 **Clear Button** Delete the settings of the given **Event**.
- 6 **Delay Settings** The **Action** can be scheduled to follow the **Condition** after the set time value.
- 7 **Action** Displays the expression shown in **Wizard** mode or the exact LW3 path and node.

2.3.2. Adding an Event – the Event Editor

Press the **Edit** button in the desired **Event** line to open the **Event Editor** window.



- 1 **Event header** The name of the Event is displayed. Type the desired name and press the **Set name** button. The Event can be cleared by the **Clear** button. Use the tick mark to enable/disable the Event.
- 2 **Condition header** If the condition is set, the description (white colored text) and the exact LW3 protocol expression (yellow colored text) can be seen. If the advanced mode was used the description is Custom condition.
- 3 **Condition panel** The Wizard, the Advanced or the Link tool is available to set the condition. The parameters and settings are displayed below the buttons.
- 4 **Delay settings** The action can be scheduled to follow the condition after the set time value.
- 5 **Action header** If the action is set, the description (white colored text) and the exact LW3 protocol expression (yellow colored text) can be seen. If the advanced mode was used the description is Custom action.
- 6 **Action panel** The Wizard, the Advanced or the Link tool is available to set the action. The parameters and settings are displayed below the buttons.

2.3.3. Create or Modify an Event

Wizard Mode

- The wizard mode lists the most common conditions and actions, so the user does not have to look for LW3 nodes and properties.
- Step 1.** Click on the **Edit** button of the desired Event; the **Event editor** is displayed.
- Step 2.** The wizard mode is displayed as default. Select the desired **Category** first (e.g. Audio or Video).
- Step 3.** Select the desired **Expression** from the drop-down menu. If any other parameter is necessary to set, it is going to be displayed.
- Step 4.** Press the **Apply** button to store the settings of the Condition.

E1 enabled

Clear

Event1

Set name

CONDITION

Custom condition

/MEDIA/CEC/I7.LastReceivedMessage=image_view_on

Wizard Advanced Link

ACTION

Send CEC command 'Image view on' on O3

/MEDIA/CEC/O3.send=image_view_on

Wizard Advanced Link

Category

(Select one)

Expression

(Select one)

Clear

Apply

Category

CEC

Expression

Send command 'Image view on'

Port

O3

Clear

Apply

CONDITION COUNTER

Counter: 0 times

Reset

detected

DELAY

No delay

No delay

0 min 0 sec

Apply

ACTION TEST

Counter: 0 times

Reset

performed

Test action

Advanced Mode

- The goal of this mode is the same as of the wizard: set the properties and methods for conditions and actions. The difference is the number of the available and usable properties and methods of the LW3 protocol. Advanced mode allows almost all of it.
- Step 1.** Click on the **Edit** button of the desired Event; the **Event editor** is displayed.
- Step 2.** The wizard mode is the default, press the **Advanced** button. The LW3 protocol tree is displayed showing the list of the properties in the drop-down menu. Navigate to the desired node.
- Step 3.** Select the desired **Property** from the menu. The **manual** of the property is displayed below to help to select the necessary property and to set the value.
- Step 4.** Set the desired **value** and **operator**, then press the **Apply** button to store settings.

CONDITION

Custom condition

/MEDIA/CEC/I6.LastReceivedMessage=play

Wizard Advanced Link

ACTION

Send CEC command 'Play' on I6

/MEDIA/CEC/I6.send=play

Wizard Advanced Link

Node

/MEDIA/CEC/I6

Property

LastReceivedMessage

[<command_name> | <opcode>{<parameter_byte>}] Last received command

Operator

equal (=) not equal (≠)

Value

play

Clear

Apply

Node

/MEDIA/CEC/I6

Property

send()

[<command>] Send CEC command given by name

Value

play

Clear

Apply

TIPS AND TRICKS: When the conditions (or the actions) are the same in the events, use the Link Tool.

Wizard Advanced Link

Show advanced expressions

ID	Event name	Condition
E1	Event1	/MEDIA/CEC/I7.LastReceivedMessage=image_view_on
E3	Event3	/MEDIA/CEC/I6.LastReceivedMessage=9001
E4	Event4	/MEDIA/CEC/I6.LastReceivedMessage=standby

Wizard Advanced Link

Category

CEC

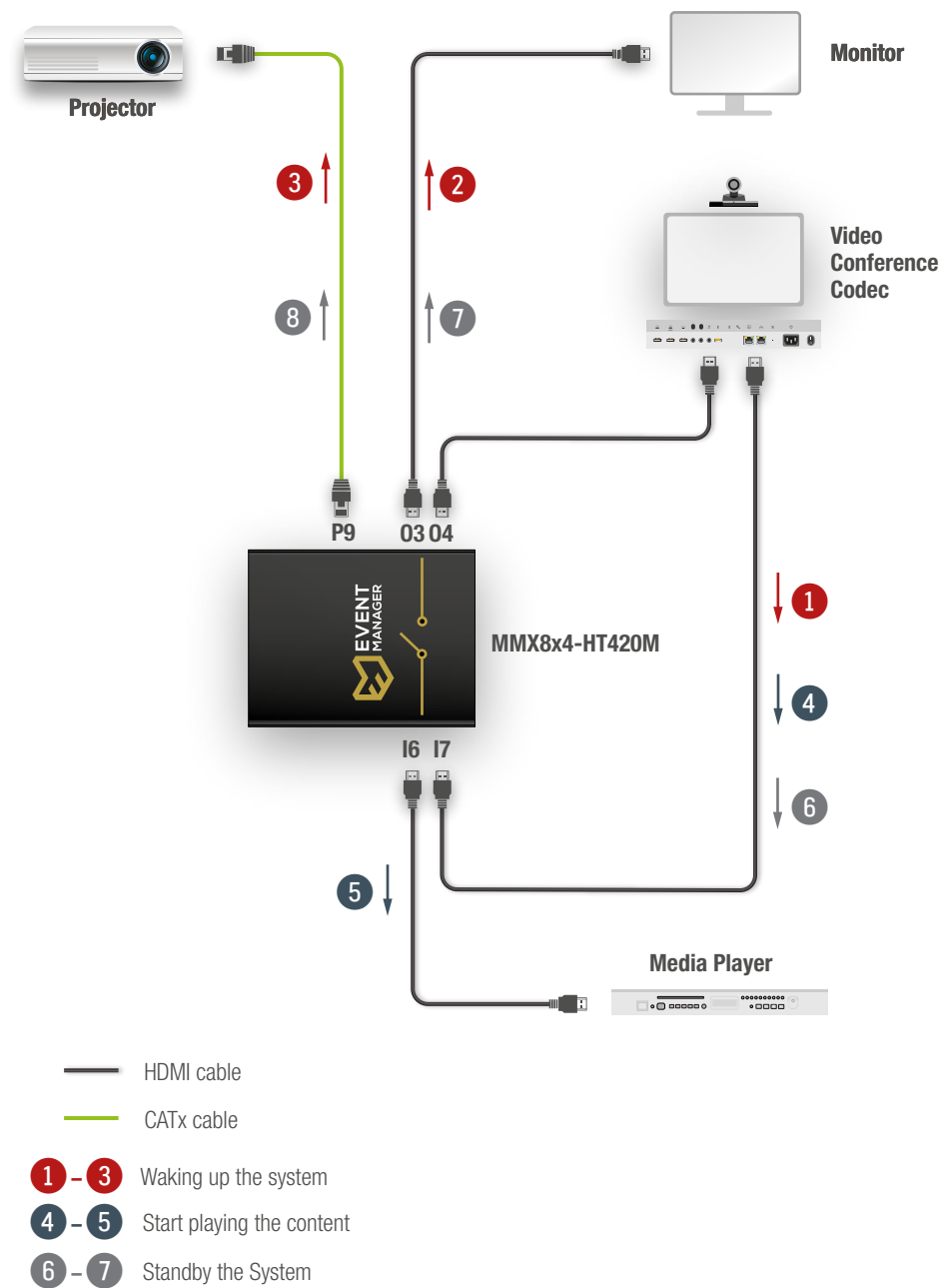
Expression

Send command 'Image view on'

Port

O4

2.4. Typical Application - Detailed Settings in the Event Manager



The Events in the [Typical Application 2. - Advanced CEC Support](#) example can be set with the following parameters:

Waking up the System

Condition				Action				
Event		Trigger	Custom condition		Category	Expression	Parameters	Result
E1	1	Received CEC message: Wake up signal	/MEDIA/CEC/I7.LastReceivedMessage= image_view_on	2	CEC	Send command 'Image view on'	Port: 03	The matrix sends a CEC command to the monitor to wake up.
E2	1	Received CEC message: Wake up signal	/MEDIA/CEC/I7.LastReceivedMessage= image_view_on	3	Ethernet	Send TCP command	Message: PWR_on* IP address: 192.168.0.200 Port number: 1122	The matrix sends a TCP message to turn projector on via Ethernet.

*TCP control message is replaceable according to the documentation of the projector.

Start Playing the Content

	Condition			Action				
Event		Trigger	Custom condition		Category	Expression	Parameters	Result
E3	4	Received CEC message: Start playing content	/MEDIA/CEC/I7.LastReceivedMessage=play	5	CEC	Send command 'Play'	Port: I6	The matrix sends a CEC command to the media player to send video signal.

Standby the System

	Condition			Action				
Event		Trigger	Custom condition		Category	Expression	Parameters	Result
E4	6	Received CEC message: Standby status	/MEDIA/CEC/I7.LastReceivedMessage= standby	7	CEC	Send command 'Standby'	Port: 03	The matrix sends a CEC command to the monitor to standby.
E5	6	Received CEC message: Standby status	/MEDIA/CEC/I7.LastReceivedMessage= standby	8	Ethernet	Send TCP command	Message: PWR_off* IP address: 192.168.0.200 Port number: 1122	The matrix sends a TCP message to turn off the projector via Ethernet.

*TCP control message is replaceable according to the documentation of the projector. IP address and the port number is related to network settings of the projector.

For more details about setting the events see [Create or Modify an Event](#) section.

- INFO: The connected device sends an automatic message when its status turns to Standby. LastMessage property can store the one CEC message in hex or text format.
- INFO: For more details about Ethernet message sending with Lightware devices, check the Messaging and Controlling Functions with Lightware Devices Application Notes on www.lightware.com website or the LW3 programmer's reference chapter of device's own User's Manual.

3

CEC Management with LW3 Protocol Commands

The CEC-related controlling and messaging features provided by Lightware Protocol #3 (LW3) is introduced in this section. Controlling Lightware devices or third-party devices remotely is described by the detailed examples in the coming chapter.

- ▶ [SENDING CEC COMMANDS](#)
- ▶ [SEND CEC COMMAND IN TEXT FORMAT](#)
- ▶ [SEND CEC COMMAND IN HEXADECIMAL FORMAT](#)
- ▶ [QUERY THE RECEIVED CEC COMMANDS](#)

ATTENTION! CEC command sending is available in the advanced CEC-supported devices. For the list of these units, see [Lightware devices with advanced CEC-support](#) section.

General Rules for Lightware Protocol #3

- All names and parameters are case-sensitive.
- The nodes are separated by a slash (/) character.
- The node name can contain the elements of the English alphabet and numbers.
- Use the TCP port no. 6107 when using the LW3 protocol over Ethernet.
- When a command is issued by the device, the received response cannot be processed by the CPU.
- The path of a node has to contain all parent nodes from the root node.

Legend for the Control Commands

Format	Description
<in>	Input port number
<out>	Output port number
<port>	Input or output port number
<loc>	Location number
<parameter>	Variable, which is defined and described in the command
▶	Sent command
◀	Received response
•	Space character

3.1. Sending CEC Commands

INFO: The first 2x2 bytes of the CEC commands contains identification data of the source and destination address, that is added to the command automatically. When the port is input, it is always **04** (from TV to Playback device 1.), when the port is output, it is always **40** (from Playback device 1. to TV). Broadcast addressing is also possible (in this case it is **0F** or **4F**).

3.1.1. Sending OSD String

Sending the OSD string consists of two steps. First, set the CEC.OsdString property with the desired text, after that, call the CEC.send(set_osd) method.

Step 1. Set the **CEC.OsdString** property.

- ▶ SET•/MEDIA/CEC/<port>.OsdString=<text>
- ◀ pw•/MEDIA/CEC/<port>.OsdString=<text>

Step 2. Call the **CEC.send(set_osd)** method.

- ▶ CALL /MEDIA/CEC/<port>:send(set_osd)
- ◀ mO /MEDIA/CEC/<port>:send

Parameters

Identifier	Parameter description	Parameter values
<port>	Port identifier	I1-I_n : Source port number. O1-O_n : Destination port number.
<text>	On-screen displayed text	The following characters are allowed in the text: Letters (A-Z) and (a-z), hyphen (-), underscore (_), numbers (0-9), and dot (.). Max length: 14 characters.

Example

- ▶ SET /MEDIA/CEC/I1.OsdString=Lightware
- ◀ pw /MEDIA/CEC/I1.OsdString=Lightware
- ▶ CALL /MEDIA/CEC/I1:send(set_osd)
- ◀ mO /MEDIA/CEC/I1:send

3.2. Send CEC Command in Text Format

- ▶ CALL /MEDIA/CEC/<port>:send(<command>)
- ◀ mO /MEDIA/CEC/<port>:send

Parameters

Identifier	Parameter description	Parameter values			
<port>	Port identifier	I ₁ -I _n : Source port number. O ₁ -O _n : Destination port number			
<command>	CEC command	image_view_on	standby	ok	back
		up	down	left	right
		root_menu	setup_menu	contents_menu	favorite_menu
		media_top_menu	media_context_menu	number_0	number_1
		number_2	number_3	number_4	number_5
		number_6	number_7	number_8	number_9
		dot	enter	clear	channel_up
		channel_down	sound_select	input_select	display_info
		power_legacy	page_up	page_down	volume_up
		volume_down	mute_toggle	mute	unmute
		play	stop	pause	record
		rewind	fast_forward	eject	skip_forward
		skip_backward	3d_mode	stop_record	pause_record
		play_forward	play_reverse	select_next_media	select_media_1
		select_media_2	select_media_3	select_media_4	select_media_5
		power_toggle	power_on	power_off	stop_function
		f1	f2	f3	f4

Example

- ▶ CALL /MEDIA/CEC/I5:send(play)
- ◀ mO /MEDIA/CEC/I5:send

3.3. Send CEC Command in Hexadecimal Format

- ▶ CALL /MEDIA/CEC/<port>:sendHex(<hex_code>)
- ◀ mO /MEDIA/CEC/<port>:sendHex

Parameters

<hex_code> Accepted command is max. 30 character long (15 byte) in hexadecimal format.

Example

- ▶ CALL /MEDIA/CEC/I6:sendHex(83)
- ◀ mO /MEDIA/CEC/I6:sendHex

This command requests the physical address of the device that is connected to the I6 port.

3.4. Query the Received CEC Commands

.LastReceivedMessage property stores the last received command of the chosen port. This is a read-only parameter, what is designed mainly for trigger actions in the Event Manager.

- ▶ GET /MEDIA/CEC/<port>.LastReceivedMessage
- ◀ pr /MEDIA/CEC/<port>.LastReceivedMessage=<cec_code>

Parameters

<cec_code> Received command is max. 30 character long (15 byte) in text or hexadecimal format.

Example

- ▶ GET /MEDIA/CEC/I6.LastReceivedMessage
- ◀ pr /MEDIA/CEC/I6.LastReceivedMessage=standby

The current power status of the device that is connected to the I6 port is Standby.