# MADRIX AURA User Manual

[Hardware User Guide]

Date: July 2023




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MADRIX
LIGHTING CONTROL

# //PART 1

*General*

# 1 General

## Topics Of This Chapter


- Introduction
- Hardware Features
- Web Links


## 1.1 Introduction

**This topic includes:**


- Overview
- Stand-Alone Playback & Central Hub


## Overview



The advanced lighting-control recorder and stand-alone playback unit.
The MADRIX AURA is the central stand-alone controller for simple recording and large-scale pixel mapping. It redefines what is possible in a compact control unit with exceptional performance.

3 versions are available:

- MADRIX AURA 2
- MADRIX AURA 8 [Superseded by AURA 12]
- MADRIX AURA 12
- MADRIX AURA 32

## Stand-Alone Playback & Central Hub

Independently run the most sophisticated light shows from this energy-efficient playback unit via Art-Net or Streaming ACN. Easily control up to 2, 8, 12, or 32 universes per device.
Simply connect compatible MADRIX hardware interfaces or third-party nodes to provide the correct output for your lighting fixtures.

## 1.2 Hardware Features

**This topic includes:**


- Important Notes
- Using A 3rd-Party Controller
- Daisy-Chain Support
- On-Device Buttons
- LED Status Codes
- Reset To Factory Default Settings
- SD Cards

# Important Notes

- **Make sure to read the provided MADRIX AURA Technical Manual & Quick Start Guide first!**
  Find it in your product box or download it from »help.madrix.com

## Using A 3rd-Party Controller

MADRIX AURA is a standard network node for Art-Net or Streaming ACN. You can use the device with any compatible application, console, or controller.

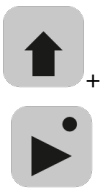
## Daisy-Chain Support

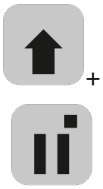
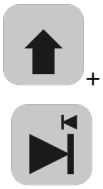
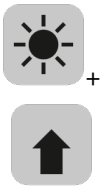
- MADRIX AURA features 2 separate Ethernet network ports. Either one is fully functionally for IN and OUT.
- They can also be used for the data connection in daisy-chain manner without using a separate network switch or router.
- We recommend to connect a maximum of
  - 160x MADRIX AURA 2,
  - 40x MADRIX AURA 8,
  - 26x MADRIX 12, or
  - 10x MADRIX AURA 32

  after one another in a row without any additional devices connected to this network line.
- You can also use MADRIX AURA 2, 8, 12, or 32 together in any combination.

# On-Device Buttons

## Overview

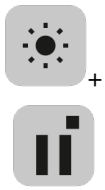
<table>
<tr><th>Buttons</th><th>Press</th><th colspan="2">Description</th></tr>
<tr><td rowspan="2"></td><td rowspan="2">Short</td><td>Plays Current Cue<br><br>Please note:<br><br>▪ Make sure that MADRIX AURA is the only sender in the network when playing back scenes.<br>[You will run into issues if the original sender from which the device recorded its data from is still sending to the same universes.]</td><td>When Paused</td></tr>
<tr><td>Plays Current [Last Played] Cue</td><td>When Stopped</td></tr>
<tr><td></td><td>Short</td><td>Pauses Playback</td><td>[The last frame will still be sent.]</td></tr>
<tr><td></td><td>Short</td><td>Starts Recording<br><br>Please note:<br><br>▪ Make sure to send control data to the device before you start a recording process [Art-Net or Streaming ACN]!<br>▪ Based on the FAT32 file system, files on the SD card can only have a maximum file size of 4 GB. Should the current recording process create files with such a file size, MADRIX AURA will automatically create new files and continue recording, and add a second index number to the file name in addition to the original index.</td><td>When Stopped</td></tr>
</table>

| | | | |
|---|---|---|---|
| | | ▪ Recorded data that is saved on the SD card will be encrypted first. | |
|  | Short | Stops Playback Or Recording | - |
|  | Short | Skips To Next Cue | |
|  | Short | Returns To Previous Cue | |
|  | Short | Sends Art-Net PollReply | - |
|  | During Startup | Resets To Manufacturer Default Settings [Incl. Default IP Address]<br>Make sure to disconnect and re-connect Power and/or USB first. | All status LEDs blink 3x for confirmation. |
|  | Short | Increases Intensity By 10 % | Up To 100 %<br>[MADRIX logo blinks if maximum has been reached.] |
| | Medium | Increases Intensity Slowly | |
| | Long | Increases Intensity Quickly | |
|  | Short | Decreases Intensity By 10 % | Down To 0 %<br>[MADRIX logo blinks if minimum has been reached.] |
| | Medium | Decreases Intensity Slowly | |
| | Long | Decreases Intensity Quickly | |
|  | For 3 Seconds | Resets Intensity To 100 % | - |

| | | | |
|---|---|---|---|
|  | Short | Increases Speed By 10 % | Up To 1000 %<br><br>[MADRIX logo blinks if maximum has been reached.] |
| | Medium | Increases Speed Slowly | |
| | Long | Increases Speed Quickly | |
|  | Short | Decreases Speed By 10 % | Down To 1 %<br><br>[MADRIX logo blinks if minimum has been reached.] |
| | Medium | Decreases Speed Slowly | |
| | Long | Decreases Speed Quickly | |
|  | For 3 Seconds | Resets Speed To 100 % | - |

## Special Commands

- Technical support might ask you to perform the following commands.

| | | | |
|---|---|---|---|
|  | For 2 Seconds During Startup | Load Bootloader Only<br><br>Disconnect and re-connect Power and/or USB first. | If successful, the status LED Power is blinking green. |

# LED Status Codes

## Overview

The following tables describe the LED status codes of the device.

| STATUS | STATUS LED POWER |
|---|---|

| | |
|---|---|
| **Off** | Power not connected. > The device has no power. |
| **Green on** | Connected to power. > The power is on. |
| **Green blinking** | Bootloader activated. > Reset device / upload firmware. |

| **STATUS** | **STATUS LED USB** |
|---|---|
| **Off** | USB not connected. |
| **Green on** | USB connection established. |

| **STATUS** | **STATUS LED SD CARD** |
|---|---|
| **Off** | No SD card inserted. |
| **Green on** | SD card inserted. |

| **STATUS** | **STATUS LED ETHERNET** |
|---|---|
| ***Off*** | Ethernet not connected. |
| **Green on** | Ethernet connection established. |

| **STATUS** | **STATUS LEDS ETHERNET PORTS** |
|---|---|
| **Off** | No network connected. |
| **Green on** | 1000 MBit/s connected. |
| **Green blinking** | Sending or receiving data. > The Ethernet port works. |
| **Orange on** | 100 MBit/s connected. |
| **Orange blinking** | Sending or receiving data. > The Ethernet port works. |
| **Green + Orange on** | 10 MBit/s connected. |
| **Green + Orange blinking** | Sending or receiving data. > The Ethernet port works. |

| **STATUS** | **STATUS LED OPERATION** |
|---|---|
| **Off** | No playback or recording active / playback stopped. |
| **Green on** | Playback paused. |
| **Green blinking** | **Playback from SD card.** |

| | |
|---|---|
| **Red blinking** | **Recording currently active.** |

| **STATUS** | **STATUS LED ETHERNET** |
|---|---|
| **On** | Normal status. |
| **Fading** | Changing intensity or speed. |
| **Blinking** | Min./max. intensity/speed reached or Highlight Device active. |

## Recording

**Note: MADRIX AURA will be recording blank scenes [DMX value = 0 = black] even if no data is received.**

This behavior is necessary to ensure synchronicity between devices regarding Master-Slave Synchronization. If you record 5 scenes with multiple devices, but one unit only recorded 3 scenes because no data has reached it during two scenes, the cue lists of the devices would not match and the synchronization would fail.

This is true even if you are not using Master-Slave Synchronization. You might want to record the same scenes to several devices and use them in different projects. This behavior will ensure that they all create the same scenes and cue lists; independently of the data they received.

## LED Status Indicators [ArtAddress]

MADRIX AURA supports the ArtAddress feature of Art-Net. The device will operate as desired if the correct commands are sent to it.

***Mute Status Indicators*** Switches off and disables all built-in status indicators of a device over Art-Net [ArtAddress > AcLedMute].

| | |
|---|---|
| ***Operate Status Indicators Normally*** | Allows the built-in status indicators of a device to operate normally again, after having them switched off [ArtAddress > AcLedNormal]. |
| ***Highlight Device*** | Activates the highlight mode [ArtAddress > AcLedLocate]. The corresponding status indicators of the selected interfaces will flash for a better identification or tests. This makes it easier to see them on site/stage. It considerably speeds up the procedure of programming or testing the selected interfaces.<br><br>See also »Highlight Device |

# Reset To Factory Default Settings

## Reset Via On-Device Buttons

- Press the following 3 buttons during startup:



- All status LEDs blink 3x for confirmation.

## Reset Via Ethernet [Web Configuration]

- **1]** Connect MADRIX AURA to power.
  [Please see safety instructions in the ***MADRIX AURA Technical Manual & Quick Start Guide***]
- **2]** Connect MADRIX AURA and your computer to the same Ethernet network.
- **3]** Assign correct network settings for your computer in the operating system.
  [Recommended default settings: IP address 10.0.0.1 / Subnet mask 255.0.0.0]

- **4]** Open your web browser and enter the IP address of MADRIX AURA. The built-in web configuration tool will be launched.
  [You can find the default IP address on the side of the device.]
- **5]** Go to ***Settings > Special Commands > Execute Function : >*** Choose ***Reset To Factory Default Settings*** and confirm with ***Set***
  Learn more »**Settings - Device Settings**

### Reset Via USB Or Ethernet [MADRIX HARDWARE MANAGER]

- **1]** Connect MADRIX AURA to power.
  [Please see safety instructions in the ***MADRIX AURA Technical Manual & Quick Start Guide***]
- **2]** Connect MADRIX AURA to your computer via USB or Ethernet.
  [You can use the provided USB cable or a separate network cable is required.]
- **3]** Start the separate ***MADRIX HARDWARE MANAGER***
  [In Windows 10, go to ***Start > MADRIX HARDWARE MANAGER > MADRIX HARDWARE MANAGER***
- **4]** Select a device/devices in the list.
- **5]** ***Right Mouse Click > Restore Factory Default Settings***
  [Wait for the reset process to end [usually it takes only seconds.]
  Learn more »**Using MADRIX HARDWARE MANAGER [USB / Ethernet]**

## SD Cards

### Overview

MADRIX AURA uses a memory card to run automatic light shows without the need for a computer.

- The integrated SD-card slot is located at the top of the device.
- It supports SD, SDHC, or SDXC cards (tested up to 64 GB).

**Attention:**

- SD cards for usage with MADRIX AURA need to be formatted with FAT32 File System and 64 kilobytes Allocation Unit Size.

  You can use the special function provided on the device's website. Learn more »Special Commands
- For the best performance and operation, always use a freshly formatted SD card.

### Recording Length

- Recording length AURA 2 – 64 GB: ~526 h (33 FPS) / ~347 h (50 FPS)
- Recording length AURA 8 – 64 GB: ~131 h (33 FPS) / ~86 h (50 FPS)
- Recording length AURA 12 – 64 GB: ~85 h (33 FPS) / ~57 h (50 FPS)
- Recording length AURA 32 – 64 GB: ~32 h (33 FPS) / ~21 h (50 FPS)

## 1.3 Web Links

**This topic includes:**


- Overview


# Overview

You can find a selection of useful internet links here:

- MADRIX Website

  »www.madrix.com
- Drivers

  »www.madrix.com/support/download
- User Guides [Online And Downloadable PDF]

  »help.madrix.com
- Hardware Technical Manuals / Quick Start Guides [Downloadable PDF]

  »help.madrix.com
- Online Forum

  »www.madrix.com/support/forum

- Software Release Notes

  »www.madrix.com/products/software/releases

- Online Text Tutorials

  »help.madrix.com/tutorials/html/index.html

- Video Tutorials

  »https://www.madrix.com/training/video-tutorials

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# //PART 2

*Web Configuration*

# 2 Web Configuration

**This topic includes:**


- Overview
- How To Access
- Topics Of This Chapter


## Overview

When connected to Ethernet network, you can easily configure MADRIX AURA using the built-in web configuration.

## How To Access

You have 2 options to access the web interface. Both, MADRIX AURA and your computer, need to be in the same network.

**A ]** Using a standard web browser:

- Connect MADRIX AURA and your computer to the same network.
- Assign correct network settings for your PC in the Windows operating system.
  [Recommended default settings: IP address 10.0.0.1 / Subnet mask 255.0.0.0]
  [Please note: Your devices and the sender, such as the PC that runs MADRIX 5, need to have the same subnet mask!]
- Open your web browser and enter the IP address of MADRIX AURA.
  [You can find the default IP address on the right side of the device.]
- The built-in web configuration will be launched. You will have access to various information and settings.

**B]** Using the MADRIX 5 Software:

- Connect MADRIX AURA and your computer to the same network.
- Assign correct network settings for your PC in the Windows operating system.
  [Recommended default settings: IP address 10.0.0.1 / Subnet mask 255.0.0.0]

[Please note: Your devices and the sender, such as the PC that runs MADRIX 5, need to have the same subnet mask!]

- Go to the menu ***Tools > MADRIX Device Configuration...***
  [Keyboard shortcut: ***Ctrl+Alt+L***]
- Select your MADRIX AURA device in the list.
- Click HTTP
- Your default web browser will open and the web configuration will be launched. You will have access to various information and settings.



# Topics Of This Chapter

The following sections are explained in this chapter:


- General Features
- Control - Live Control
- Scenes - Scene Files
- Cue List - Cue List Editor
- Timers - Timer Settings
- Recording - Network Recording Settings
- Playback - Network Playback Settings
- Channel Mask - Channel Mask Settings
- Remote - Remote Control
- Settings - Device Settings
- Information - Device Information


## 2.1 General Features

**This topic includes:**


- Number Of Scenes And Cues


# Number Of Scenes And Cues

- MADRIX AURA can manage a maximum of 1000 Scenes.
- MADRIX AURA can manage a maximum of 1000 Cues.

# Character Encoding

MADRIX AURA supports UTF-8 character encoding.

This means that basically characters of any language can be shown in the web configuration. This is necessary since file names [of Scene Files] can be set outside of the web configuration of the device itself, such as MADRIX 5 or changes on the file system of the SD card.

- However, this does **not** mean that you can use UTF-8 characters in names of Cue Lists or any other strings of the web configuration.

Also, the following characters will usually lead to issues, since they are used by the file system. It is recommended to avoid using them:

- **+**
- **:**
- **/**
- ****
- **..**
- [**Tab**] by using the tabulator key

## 2.2 Control - Live Control

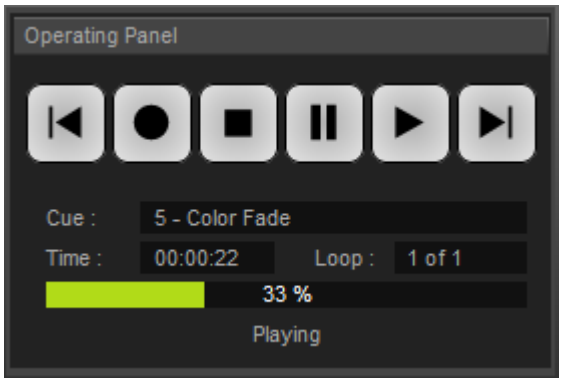
**This topic includes:**


- **Overview**
- **Operating Panel**
- **Output Panel**
- **Intensity Group Panel**

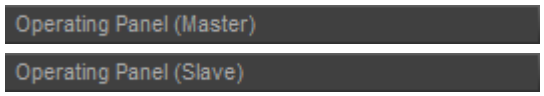

# Overview

The Control section allows you to directly control the status of the device.

# Operating Panel




***Sync. Type*** The panel shows if the device has been set as a ***Master*** or ***Slave*** device.




Control Buttons These include ***Skip To Previous Cue***, ***Record***, ***Stop***, ***Pause***, ***Play***, and ***Skip To Next Cue***.

**Attention:**

- Make sure to send control data to the device before you start a recording process [Art-Net or Streaming ACN]!
- You will see a status message, when the inserted memory card is not ready for recording [***No SD Card***, ***SD Card Full***, ***SD Card Protected***].
- Make sure that MADRIX AURA is the only sender in the network when playing back scenes. [You will run into issues if the original sender from which the device recorded its data from is still sending to the same universes.]
- Based on the FAT32 file system, files on the SD card can only have a maximum file size of 4 GB. Should a recording process create such large files, MADRIX AURA automatically creates new files and continues recording, and adds a second index number to the file names in addition to the original index.
- Recorded data that is saved on the SD card will be encrypted first.

***Cue :*** Shows the index number and name of the current cue.

***Time :*** Shows the duration of the cue in HH:MM:SS [Hours:Minutes:Seconds].

***Loop :*** Shows the current loop number [as you can set cues to repeat and play several times in the Cue List Editor].

***XY % / 00:00:00*** Shows the current position of playback [in %] or recording [in HH:MM:SS]. A green visual indicator acts as a progress bar.

***Playing*** - Indicates that a cue list is being played back.

***Paused*** - Indicates that playback has been halted.

***Stopped*** - Indicates that playback has been stopped.

***Fading*** - Indicates that the scene includes a fade-in time as set in the Cue List Editor.

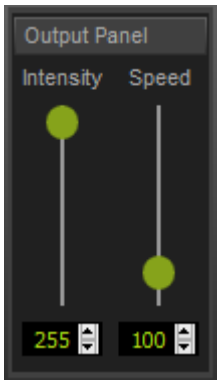
***Starting -*** Indicates that the playback starts soon.

***Recording -*** Indicates that a recording process is currently active.

***Recording (Awaiting Data) -*** Indicates that a recording process has been started, but that the device is currently not receiving any incoming data it could record.

## Output Panel

- Use a left mouse double-click to reset to the default value.



***Intensity*** Sets the main brightness of the output.
Valid values range from 0 to 255 [in the DMX range] or from 0 % to 100 % [in percent] depending on your device settings. The default value is 255.

***Speed*** Sets the general playback speed of the device.
[This speed is multiplied by the speed of a Cue in the Cue List; for a total maximum speed of 400 %.]
Valid values range from 1 % to 200 %. The default value is 100 %.

## Intensity Group Panel

- Intensity Groups refer to the Channel Mask. Learn more »Channel Mask
- Use a left mouse double-click to reset to the default value.




Faders Allow you to control the intensity of Intensity Group 1 to 8 with the help of the mouse.
Valid values range from 0 to 255 [in the DMX range] or from 0 % to 100 % [in percent] depending on your device settings. The default value is 255.

Input Fields Allow you to control the intensity of Intensity Group 1 to 8 with the help of direct value input via the keyboard or up and down buttons.

Valid values range from 0 to 255 [in the DMX range] or from 0 % to 100 % [in percent] depending on your settings. The default value is 255.

## 2.3 Scenes - Scene Files

**This topic includes:**

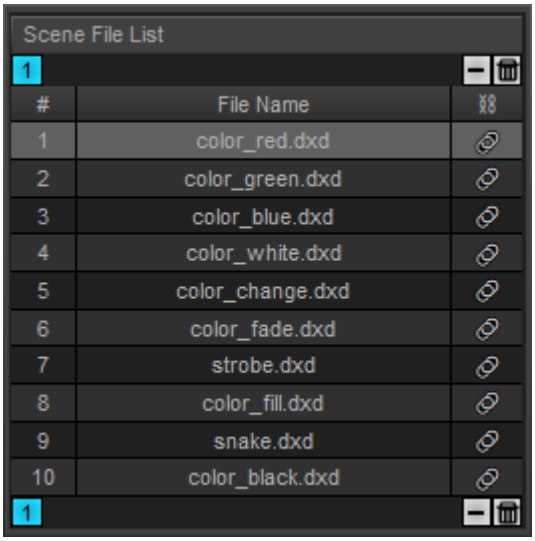

- Overview
- Scene File List
- Scene File Details


# Overview

The Scenes section shows all available scenes and their individual details.

MADRIX AURA can manage a maximum of 1000 Scenes.

# Scene File List



Control Buttons

 Deletes the currently selected file from the SD card.

 Deletes all files from the SD card.

 Shows that the SD card is write-protected [locked] or that no SD card is inserted into the device.

**Attention:**

-  If you delete a file here that is linked to the cue list, any scene in the cue list that uses this file will not properly work anymore, because the file will not be selected as source [Scene File] anymore.

***File Name*** Shows all scenes that are saved on the currently inserted SD card in a list.

Linked Files

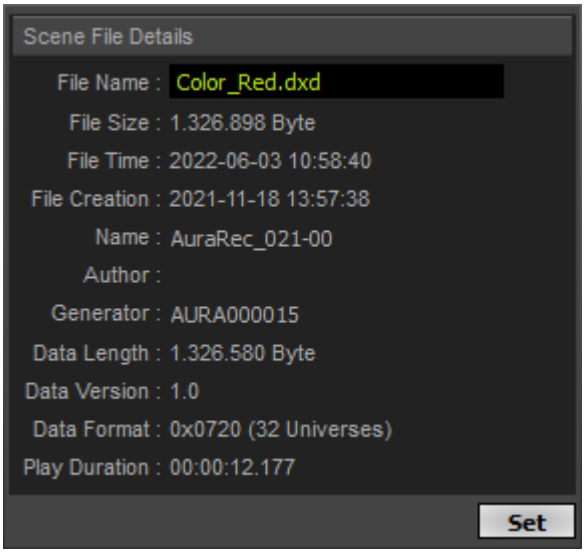
 Shows that the specific file is linked and currently used in the cue list.

Empty - Shows that the file is currently not used in the cue list.



## Scene File Details

Select a scene on the left side in order to see its properties on the right side.




***File Name*** Shows the name of the currently selected scene. And allows you to change the name of the scene file.

**Attention:**

- ⚠ If you rename a file here that is linked to the cue list, any scene in the cue list that uses this file will not properly work anymore, because the file will not be selected as source [Scene File] anymore and be left empty. [If you rename a new file with the exact name of the old file again, the cue list will automatically reference the new file.]
- The following characters are allowed for custom file names:

  **a-z**

  **A-Z**

  **0-9**

  **.** [Dot]

  **_** [Underscore]

  **-** [Minus]

  **(** [Opening Round Bracket]

  **)** [Closing Round Bracket]

  **#** [Number Sign, Hash]

  **{** [Opening Curly Bracket]

  **}** [Closing Curly Bracket]

  [Space] [Spaces are also allowed but not as the first character.]
- Make sure to add **.dxd** at the end of the file name!

| | |
|---|---|
| ***File Size*** | Shows the size of the currently selected scene on the SD card [in byte]. |
| ***File Time*** | Shows the currently assigned timestamp of the currently selected scene. |
| ***File Creation*** | Shows when the file of the currently selected scene was created originally. |
| ***Name*** | Shows the label of the currently selected scene. |
| ***Author*** | Shows the label of the file creator. This can be customized in the Device Settings. |
| ***Generator*** | Shows the process or instance that created the currently selected scene, such as the device itself. |
| ***Data Length*** | Shows the precise size of the currently selected scene; independently of the file system [in byte]. |
| ***Data Version*** | Shows the version number of the recording process with which the file was created. |
| ***Data Format*** | Shows if the file was created for MADRIX AURA 2 [2 Universes], MADRIX AURA 8 [8 Universes], MADRIX AURA 12 [12 Universes], or MADRIX AURA 32 [32 Universes]. |
| ***Play Duration*** | Shows the duration and playback length of the currently selected scene in HH:MM:SS.MS [Hours:Minutes:Seconds.Milliseconds]. |

## 2.4 Cue List - Cue List Editor

**This topic includes:**


- Overview
- Cue List Scenes
- Cue Settings

# Overview

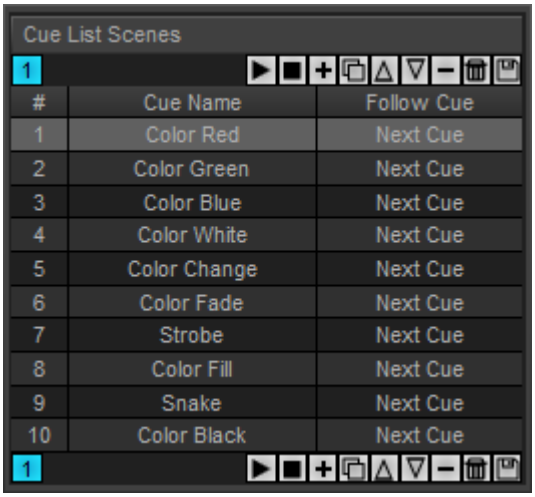
The Cue List section allows you to organize scenes and to create a show that can automatically be played back.

- Save the configuration to the SD card when finished via ***Save***.

MADRIX AURA can manage a maximum of 1000 Scenes.

# Cue List Scenes

- Shows all scenes that are included in the cue list.




Control Buttons

- Plays back the cue list starting with the currently selected cue.
- Stops the cue list and playback.
- Adds a new cue.
- Duplicates the currently selected cue.
- Moves the currently selected cue one item up in the list.
- Moves the currently selected cue one item down in the list.
- Removes the currently selected cue from the cue list.
- Removes all cues from the cue list.

Saves all changes to the SD card. Shows that the configuration has been modified and that there are unsaved changes.

Shows that the SD card is write-protected [locked] or that no SD card is inserted into the device.

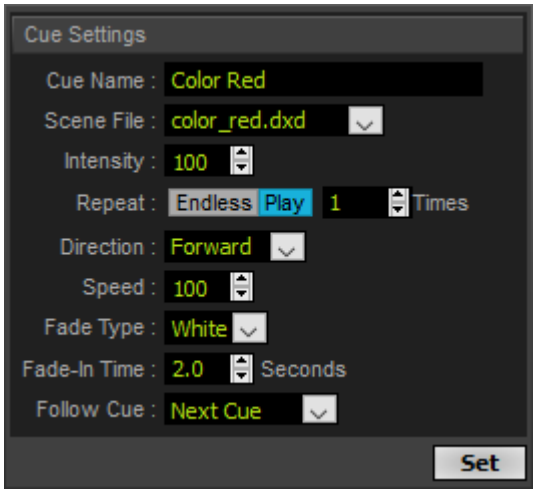
***#*** Shows the order of cues in the cue list.

***Cue Name*** Shows the label of the cue.

***Follow Cue*** Shows if another cue is played back after this cue and which cue that will be.

## Cue Settings

- Shows details and settings of the currently selected cue.
- Confirm any changes with ***Set***.




***Cue Name*** Allows you to change the name of the cue.

***Scene File*** Allows you to assign a specific file to the currently selected cue. Choose from the available scenes or set to ***None***.

- None allows you to configure a cue list without the need to have scene files already available.
- If set to None, playback will stop at this point and MADRIX AURA will report back Error -1 (File Error), which means the file has not been found. A cue list will show a warning sign for your information. 
-  If the selection is empty and shows a warning sign, you may have deleted the scene file from the SD card.

***Intensity*** Sets the individual output brightness for this cue. Valid values range from 0 % to 100 %. The default value is 100 %.

***Repeat*** Allows you to set how many times a cue should be repeated and in this way looped. ***Endless*** will loop it indefinitely. The default value is 1.
**Tip:** Use Fade Type White together with Endless repetition in order to create long-lasting cues that use scenes with only a short recording duration.

***Direction*** Sets the playback direction. Choose from ***Forward***, ***Backward***, or ***Ping Pong*** [which changes the direction each time between forward and backward.]

***Speed*** Sets the playback speed of the cue. Valid values range from 1 % to 200 %. The default value is 100 %.
[This speed is multiplied by the playback speed of the device; for a total maximum speed of 400 %.]

***Fade Type*** Fades at the start of a cue for smooth transitions from the previous cue. Sets how cues are faded. The default value is White.

***None -*** Applies no fade between cues.

***Black -*** Uses the color black between cues.

***Cross -*** Cross-fades between cues

***White -*** Uses the color white between cues.

| | |
|---|---|
| ***Fade-In Time*** | Fades at the start of a cue for smooth transitions from the previous cue. Sets the duration of the fade. Valid values range from 0.0 s to 3600 s. The default value is 2.0. |
| ***Follow Cue*** | Defines what follows after this cue. Choose from ***None***, ***Next Cue***, ***Previous Cue,*** or ***Cue*** [jumping to a specific cue; please enter the correct cue number in this case in the input field to the right side]. |

## 2.5 Timers - Timer Settings

**This topic includes:**


- Overview
- Timer Event List
- Timer Event Settings
- Timer Event Settings
- Timer Event Start Date
- Timer Event Start Time
- Timer Event Validity
- Timer Event Action


# Overview

The Timers section allows you to create time-controlled shows and add various time-based triggers.

- Confirm all changes with ***Set***.
- Save the configuration to the SD card when finished via ***Save***.

# Timer Event List




Control Buttons — Shows all timers that are currently configured.

Adds a new timer event.

Duplicates the currently selected timer event.

Moves the currently selected timer event one item up in the list.

Moves the currently selected timer event one item down in the list.

Removes the currently selected timer event.

Removes all timer events from the list.

Saves all changes to the SD card. Shows that the configuration has been modified and that there are unsaved changes.

Shows that the SD card is write-protected [locked] or that no SD card is inserted into the device.

***#*** — Shows the index number of the timer event in the list.

***Green -*** Shows that the timer event is enabled [***Active***].

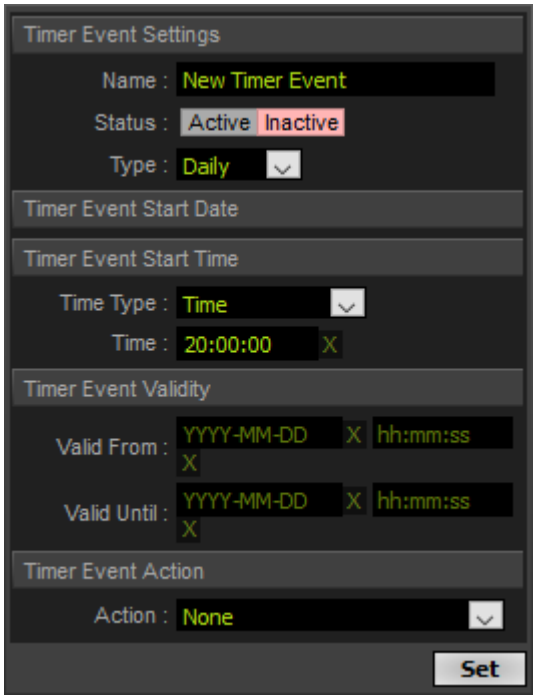
***Red -*** Shows that the timer event is disabled [***Inactive***].

***Name*** — Shows the label of the timer event.

***Action*** — Shows which action is triggered by the timer event.

# Timer Event Settings

Becomes available on the right side when a timer is selected on the left side.




# Timer Event Settings

***Name*** Allows you to change the label of the timer.

***Status*** Allows you to set the timer ***Active*** or ***Inactive***.

***Type*** Defines which kind of timer it is.

***Once -*** Triggers the timer only one time.

***Cycle -*** Triggers and repeats the event according to the Cycle Interval, for example every 10 minutes.

***Cycle Interval -*** Defines a time period for the Type ***Cycle*** in HH:MM:SS [Hours:Minutes:Seconds].

***Daily -*** Triggers the timer one time each day.

***Weekly -*** Triggers the timer once per week.

***Monthly -*** Triggers the timer once per month.

***Yearly -*** Triggers the timer once per year.

## Timer Event Start Date

***Date -*** Available for Type ***Once*** and ***Cycle***. Defines the day in YYYY-MM-DD [Year-Month-Day].

***Day Of Week -*** Available for Type ***Weekly***. Defines which day of the week.

***Day -*** Available for Type ***Monthly*** and ***Yearly***. Defines which day of the month.

***Month -*** Available for Type Yearly. Defines which month of the year.

## Timer Event Start Time

***Time Type***

Defines when a timer is triggered.
Choose from Time, Sunrise, After Sunrise, Before Sunrise, Sunset, After Sunset, Before Sunset.

- ***Time*** uses a specific time of day.
- Choose ***Sunrise*** or ***Sunset*** to begin at sunrise or sunset. Those times will be automatically calculated according to the Location as set in the Device Settings.

- Choose ***After Sunrise***, ***Before Sunrise***, ***After Sunset***, or ***Before Sunset*** to use the automatically calculated sunrise and sunset times together with a time offset.

***Time -*** Sets a specific time [Hours:Minutes:Seconds] for Time Type ***Time***.

***Offset -*** Defines the intended deviation from the sunrise or sunset in HH:MM:SS [Hours:Minutes:Seconds]. Use ***X*** to clear any input.

## Timer Event Validity

***Valid From*** Defines a time interval —together with ***Valid Until***— in which the timer will be triggered. This sets the starting point in YYYY-MM-DD [Year-Month-Day] and HH:MM:SS (Hours:Minutes:Seconds).

- Is only active and valid when a date and time is entered.
- Use ***X*** to clear any input.

***Valid Until*** Defines a time interval —together with ***Valid From***— in which the timer will be triggered. This sets the end point in YYYY-MM-DD [Year-Month-Day] and HH:MM:SS [Hours:Minutes:Seconds].

- Is only active and valid when a date and time is entered.
- Should not be older than Valid From and will be set to this date should that be the case.
- Use ***X*** to clear any input.

## Timer Event Action

***Action*** Defines the type of the timer:

***None -*** Does not assign any action. This can be used as a placeholder.

***Cue -*** Triggers a specific cue to be played. Enter the cue number with the help of ***Value***.

***Next Cue -*** Triggers the next cue.

***Previous Cue -*** Triggers the previous cue.

***Play -*** Starts the playback.

***Pause -*** Halts the playback.

***Toggle Pause -*** Pauses the current playback or starts it again; depending on and in contrast to the current status.

***Stop -*** Ends the playback.

***Intensity -*** Changes the master brightness. Enter the level from 0 to 100 [in % as set in Settings] or 0 to 255 [in DMX as set in Settings] with the help of ***Value***.

***Speed Scaled -*** Changes the master tempo. Enter the level from 1 to 200 [in %] with the help of ***Value***.

***Intensity Group 1 - 8 -*** Changes the brightness value of the specified group. Enter the level from 0 to 100 [in % as set in Settings] or 0 to 255 [in DMX as set in Settings] with the help of ***Value***.

***Record -*** Starts the recording process.

***Speed Increment -*** Increases the speed ranging from 1 to 200 [in %; requires a value to choose which level].

***Speed Decrement -*** Decreases the speed ranging from 1 to 200 [in %; requires a value to choose which level].

***Intensity Increment -*** Increases the master brightness ranging from 1 to 100 [in % as set in Settings] or 1 to 255 [in DMX as set in Settings] [requires a value to choose which level].

***Intensity Decrement -*** Decreases the speed brightness from 1 to 100 [in % as set in Settings] or 1 to 255 [in DMX as set in Settings] [requires a value to choose which level].

***Intensity Group 1 - 8 Increment -*** Increases the group brightness ranging from 1 to 100 [in % as set in Settings] or 1 to 255 [in DMX as set in Settings] [requires a value to choose which level].

***Intensity Group 1 - 8 Decrement -*** Decreases the group brightness from 1 to 100 [in % as set in Settings] or 1 to 255 [in DMX as set in Settings] [requires a value to choose which level].

## 2.6 Recording - Network Recording Settings

**This topic includes:**


- Overview


# Overview

The Recording section defines how incoming data is received over Ethernet network for recording.

- Confirm any changes with ***Set***.




***Port*** Lists the available ports of your device.

- MADRIX AURA 2 offers 2 universes.

- MADRIX AURA 8 offers 8 universes.
- MADRIX AURA 12 offers 12 universes.
- MADRIX AURA 32 offers 32 universes.

***All -*** Sets the corresponding setting for all ports.

123··· Automatically numbers all universes based on the first port [ascending order].

321··· Automatically numbers all universes based on the first port [descending order].

***State*** Defines the current status of each port.

***On -*** Enables the port.

***Off*** - Disables the port.

***Protocol*** Defines the communication standard over Ethernet network.

***Art-Net -*** Activates that Art-Net data is recorded.

***sACN -*** Activates that Streaming ACN data is recorded.

***Universe*** Defines which universe is recorded for the specific port.

- By default, ports 1 - 2 are assigned to universes 1 - 2 for MADRIX AURA 2.
- By default, ports 1 - 8 are assigned to universes 1 - 8 for MADRIX AURA 8.
- By default, ports 1 - 12 are assigned to universes 1 - 12 for MADRIX AURA 12.
- By default, ports 1 - 32 are assigned to universes 1 - 32 for MADRIX AURA 32.
- 123··· Automatically numbers all universes based on the first port [ascending order]. [Enter the start universe for port 1, click the button and all other ports will be numbered consecutively.]
- 321··· Automatically numbers all universes based on the first port [descending order]. [Enter the start universe for port 1, click the button and all other ports will be numbered consecutively.]

## 2.7 Playback - Network Playback Settings

**This topic includes:**

- Overview

# Overview

The Playback section defines how data is sent over Ethernet network as output.




***Port*** Lists the available ports of your device.

- MADRIX AURA 2 offers 2 universes.
- MADRIX AURA 8 offers 8 universes.
- MADRIX AURA 12 offers 12 universes.
- MADRIX AURA 32 offers 32 universes.

***All -*** Sets the corresponding setting for all ports.

123··· Automatically numbers all universes based on the first port [ascending order].

321··· Automatically numbers all universes based on the first port [descending order].

***State*** Defines the current status of each port.

***On -*** Enables the port.

***Off*** - Disables the port.

***Protocol*** Defines the communication standard over Ethernet network.

***Art-Net -*** Activates that Art-Net data is sent.

***sACN -*** Activates that Streaming ACN data is sent.

***Target*** Defines the network receivers.

***Broadcast -*** Sets the port to sent Art-Net over Broadcast.

***Multicast -*** Sets the port to sent Streaming ACN over Multicast.

***Unicast -*** Sets the port to Unicast. Enter the specific IP address in the field to the right [NNN.NNN.NNN.NNN].

***Broadcast Mode -*** Means that every Art-Net packet sent from a single transmitter will be received by all recipients in the network. MADRIX AURA will send data to all devices in the network.

- Advantage: The same data [e.g., DMX universe 1 and 2] can be made available at different points of your setup.
- Disadvantage: A potentially huge number of data packages will be sent over the network. This can reduce the overall network performance and cause data issues or instability.

***Multicast Mode -*** Means that Streaming ACN data is sent in Multicast Mode. Data is automatically sent to all corresponding sACN devices in the network.

***Unicast Mode -*** Means that the specific data will only be sent to the specified recipient as defined by the IP address.

- Advantage: Data traffic is reduced immensely, which means that a larger number of Art-Net devices can be used in one network. Reduced network traffic increases the performance and stability.
- Disadvantage: The network settings of all devices need to be 100% correct.

 ***Duplicate IP -*** Sets the IP address of the first port to all ports for quick configuration.

***Universe*** Defines which universe is sent on the specific port.

- By default, ports 1 - 2 are assigned to universes 1 - 2 for MADRIX AURA 2.
- By default, ports 1 - 8 are assigned to universes 1 - 8 for MADRIX AURA 8.
- By default, ports 1 - 12 are assigned to universes 1 - 12 for MADRIX AURA 12.
- By default, ports 1 - 32 are assigned to universes 1 - 32 for MADRIX AURA 32.
- 123··· Automatically numbers all universes based on the first port [ascending order].
  [Enter the start universe for port 1, click the button and all other ports will be numbered consecutively.]
- 321··· Automatically numbers all universes based on the first port [descending order].
  [Enter the start universe for port 1, click the button and all other ports will be numbered consecutively.]

***Full Frames*** Activates or deactivates sending Full Frames.
Set to ***On*** to activate it. Set to ***Off*** to deactivate it. The default setting is Off.

- Per DMX512 standard, MADRIX AURA only sends the number of DMX channels that is configured. For example, if you are using 312 DMX channels on a DMX universe, only 312 DMX channels will be sent with every single frame on this universe.
- Activate Full Frames if devices should always send full frames on a particular universe, instead of optimized frames. Sending full frames means that always the full 512 DMX channels of a DMX universe will be sent with every frame [even when you are using less than 512 channels].
- Activating Full Frames is recommended if problems with the output of your devices occur.

***Highlight***

 Highlights all ports, or one specific port [and thus the universe defined for this port]:

-  Highlighted ports are shown in green.
- Highlighting means that full-on white will be sent on all 512 channels of a universe [OxFF].
- The output is always sent, independently of the Master Intensity or Channel Mask.
- Highlight remains active for 20 seconds. The time frame starts again each time it is triggered. It is automatically disabled then by sending a single black frame on all 512 channels [0x00].
- If ArtSync is enabled, the Pre-Sync or Post-Sync packet will also be sent.
- If you activate Highlight during active Playback, the playback of the cue list will be stopped. [Exception: Playback will not be stopped in case the AURA has been configured as Slave and the Master is currently sending data. Since the Slave cannot stop any playback of the Master, Highlight is not being executed during Playback of a Slave device.]
- This allows you to test data output and the connection to any lighting fixtures, independently of/without needing any recorded scenes.

## 2.8 Channel Mask - Channel Mask Settings

**This topic includes:**


- **Overview**
- **Presets**
- **User-Defined From SD Card**


# Overview

Channel Masks allow you to control specific channels of a universe using the eight intensity groups [See »Live Control].


Channel Mask Settings
Preset Selection
Port
Preset
All
1 None
2 None
3 None
4 None
5 None
6 None
7 None
8 None
9 None
10 None
11 None
12 None
13 None
14 None
15 None
16 None
17 None
18 None
19 None
20 None
21 None
22 None
23 None
24 None
25 None
26 None
27 None
28 None
29 None
30 None
31 None
32 None
Set

# Presets

***Port***  ***All -*** Allows you to set the same channel mask to all ports. Select the channel mask for Port 1 first [which then gets applied to all other ports].

***1 - 2/8/12/32*** - Allows you to choose a specific channel mask for each port separately. [The number of ports depends on the AURA model: AURA 2, AURA 8, AURA 12, AURA 32.]

***Preset*** Defines how you can use Intensity Groups.

***None -*** Does not apply a channel mask and deactivates Intensity Groups in this way.

***1-Channel Preset (Monochrome)***

**-** Allows you to control the intensity of every single channel with Intensity Group 1.

***2-Channel Preset***

**-** Allows you to control every other channel starting with channel 1 via Intensity Group 1. Allows you to control every other channel starting with channel 2 via Intensity Group 2.

***3-Channel Preset (RGB)***

**-** Allows you to control every third channel with Intensity Group 1, 2, and 3; starting with channel 1, 2, and 3. When having patched only RGB 3-channel fixtures, this would mean that IG1 controls all red channels, IG2 controls all green channels, and IG3 controls all blue channels.

***4-Channel Preset (RGBW)***

**-** Allows you to control every fourth channel with Intensity Group 1, 2, 3, and 4; starting with channel 1, 2, 3, and 4. When having patched only RGBW 4-channel fixtures, this would mean that IG1 controls all red channels, IG2 controls all green channels, IG3 controls all blue channels and IG4 controls all white channels.

***5-Channel Preset -*** Creates a channel mask using 5 intensity groups.

***6-Channel Preset -*** Creates a channel mask using 6 intensity groups.

***7-Channel Preset -*** Creates a channel mask using 7 intensity groups.

***8-Channel Preset -*** Creates a channel mask using 8 intensity groups.

***Assign All Channels To Intensity Group 1 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG1.

***Assign All Channels To Intensity Group 2 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG2.

***Assign All Channels To Intensity Group 3 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG3.

***Assign All Channels To Intensity Group 4 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG4.

***Assign All Channels To Intensity Group 5 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG5.

***Assign All Channels To Intensity Group 6 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG6.

***Assign All Channels To Intensity Group 7 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG7.

***Assign All Channels To Intensity Group 8 -*** Assigns all channels of the universe of the port to only one intensity group, in this case IG8.

***User-Defined From SD Card -*** Loads the settings of a previously saved, custom channel mask. See **below**

Confirm with ***Set***

# User-Defined From SD Card

## Introduction

Not all DMX setups only include RGB fixtures, where the 3-Channel Preset (RGB) may be commonly used as a channel mask.
That is why you can create your individual channel mask in the following way:

## Step 1]

You can save the channel-mask file with the following web-browser command:

- **http://10.84.0.2/chmask.shtml?cmd=save**
  [Whereas you need to replace 10.84.0.2 with the specific IP address of your device.]

## Step 2]

Afterwards, you will find the following file on the SD card of the device:

- ***ChannelConfig.xml***
  [The file can only be created if a writable SD card with enough free space is inserted into the device.]

## Step 3]

You can open the file from the SD card with a standard text-file editor. An empty file looks like this [shortened for readability]:

```
<?xml version="1.0" encoding="utf-8"?>
<ChannelConfig Name="ChannelConfig" Version="2.0">
 <Universe Index="1" Preset="None">
  <Channel Slot="1" Format="1" Flags="24" Data="0" />
  <Channel Slot="2" Format="1" Flags="24" Data="0" />
  <Channel Slot="3" Format="1" Flags="24" Data="0" />
  <Channel Slot="4" Format="1" Flags="24" Data="0" />
  <Channel Slot="5" Format="1" Flags="24" Data="0" />
  <Channel Slot="6" Format="1" Flags="24" Data="0" />
  <Channel Slot="7" Format="1" Flags="24" Data="0" />
  <Channel Slot="8" Format="1" Flags="24" Data="0" />
  <Channel Slot="9" Format="1" Flags="24" Data="0" />
  <Channel Slot="10" Format="1" Flags="24" Data="0" />
  <Channel Slot="11" Format="1" Flags="24" Data="0" />
  <Channel Slot="12" Format="1" Flags="24" Data="0" />
 </Universe>
 <Universe Index="2" Preset="None">
  <Channel Slot="1" Format="1" Flags="24" Data="0" />
  <Channel Slot="2" Format="1" Flags="24" Data="0" />
  <Channel Slot="3" Format="1" Flags="24" Data="0" />
  <Channel Slot="4" Format="1" Flags="24" Data="0" />
  <Channel Slot="5" Format="1" Flags="24" Data="0" />
  <Channel Slot="6" Format="1" Flags="24" Data="0" />
  <Channel Slot="7" Format="1" Flags="24" Data="0" />
  <Channel Slot="8" Format="1" Flags="24" Data="0" />
```

```
  <Channel Slot="9" Format="1" Flags="24" Data="0" />
  <Channel Slot="10" Format="1" Flags="24" Data="0" />
  <Channel Slot="11" Format="1" Flags="24" Data="0" />
  <Channel Slot="12" Format="1" Flags="24" Data="0" />
 </Universe>
...
 <Universe Index="32" Preset="None">
  <Channel Slot="1" Format="1" Flags="24" Data="0" />
  <Channel Slot="2" Format="1" Flags="24" Data="0" />
  <Channel Slot="3" Format="1" Flags="24" Data="0" />
  <Channel Slot="4" Format="1" Flags="24" Data="0" />
  <Channel Slot="5" Format="1" Flags="24" Data="0" />
  <Channel Slot="6" Format="1" Flags="24" Data="0" />
  <Channel Slot="7" Format="1" Flags="24" Data="0" />
  <Channel Slot="8" Format="1" Flags="24" Data="0" />
  <Channel Slot="9" Format="1" Flags="24" Data="0" />
  <Channel Slot="10" Format="1" Flags="24" Data="0" />
  <Channel Slot="11" Format="1" Flags="24" Data="0" />
  <Channel Slot="12" Format="1" Flags="24" Data="0" />
 </Universe>
</ChannelConfig>
```

## Step 4]

### General

- ***<?xml version="1.0" encoding="utf-8"?>* -** Defines an XML file with UTF-8 encoding. This header line is required.
- ***<ChannelConfig Name="ChannelConfig" Version="2.0">* -** Defines that this is the AURA's Channel Configuration as well as its version number.

  - Prior to firmware version 1.10, file version 1.0 was used.

  - With firmware version 1.10, file version 2.0 has been introduced.

  - With firmware version 1.10, MADRIX AURA can read both file versions.

### Universe

- ***Universe Index="32"* -** Each universe is listed with its ***Index;*** up to

  - ***2*** universes for MADRIX AURA 2,

  - ***8*** universes for MADRIX AURA 8,

  - ***12*** universes for MADRIX AURA 12,

  - ***32*** universes for MADRIX AURA 32.

## Preset

- ***Preset="None" -*** A preset can be set for each universe [see Presets listed and explained above for more details]:

  ***- None***

  ***- 1chn***, ***2chn***, ***3chn***, ***4chn***, ***5chn***, ***6chn***, ***7chn***, ***8chn*** [e.g. 8-Channel Preset]

  ***- ag1, ag2***, ***ag3***, ***ag4***, ***ag5***, ***ag6***, ***ag7***, ***ag8*** [e.g. Assign All Channels To Intensity Group 8]

- Enter a particular preset if you would like to assign it to the specific universe.
- Set to None if you would like to customize each channel yourself; as described below.

## Channel

- Within each universe, you can define the settings for each channel separately:

```
<Universe Index="1" Preset="None">
 <Channel Slot="1" Format="0" Flags="0" Data="0"/>
</Universe>
```

- ***Slot="1" -*** A DMX channel is assigned via a slot, which represents the channel number.

  - Valid values range from ***1*** to ***512***

- ***Format="0" -*** Defines the channel type:

  - ***0*** as None

  - ***1*** as Intensity [Can be dimmed the master-intensity fader.]

- ***Flags="0" -*** Defines the channel characteristics:

  - ***0*** as None

  [This channel will not be influenced, such as a color wheel for example.]

  - ***1*** as Intensity Group

  [The channel can be dimmed by one or more intensity groups.]

  - ***8*** as Crossfade

  [During a scene change, the channel smoothly fades from one scene to the next scene. For channels that cannot be faded, it switches over at 50 % of the fade time.]

- ***16*** as Intensity

[The channel can be dimmed by the master-intensity fader and is affected by the scene's color/intensity values.]

- ***32*** as Fixed Value

[The channel is set to a fixed value, independently of the scene.]

- In order to combine several characteristics together, flags can be added up. For example, Flags="9" is the sum of and as such a combination of Flag="1" and Flag="8".
- File version 1.0 of the Channel Configuration automatically set flag to Flag="01" within the device when format was set to Format="01" [and the version did not offer the Intensity and Fixed Value flags].
- File version 2.0 of the Channel Configuration does not automatically set the flag to 01 in this case anymore; and further does not require it anymore. That is why, Intensity and Fixed Value can now be set together independently of the Intensity Group.

- ***Data="0" -*** Defines a value. This value is interpreted according to the flags that are set:
- **A]** If flag is set to Flag="1" for Intensity Group, this data value defines the number of the Intensity Group.

  - ***1*** as Intensity Group 1
  - ***2*** as Intensity Group 2
  - ***4*** as Intensity Group 3
  - ***8*** as Intensity Group 4
  - ***16*** as Intensity Group 5
  - ***32*** as Intensity Group 6
  - ***64*** as Intensity Group 7
  - ***128*** as Intensity Group 8

- **Note:**

  - You can add up the data values for groups in order to control a channel with several groups [e.g. 1+2=3 for IG1 and IG2].
  - Intensity Group values will be multiplied as a result [e.g. IG1 with 50 % and IG2 with 50 % = 25 % for the channel].

- **B]** If flag is set to Flag="32" for Fixed Value, this data value defines the DMX value that is set.

  - Valid values range from ***0*** to ***255***

- Valid combinations are:

```
<Universe Index="1" Preset="None">
  <Channel Slot="1" Format="0" Flags="0" Data="0"/>
  <Channel Slot="2" Format="0" Flags="1" Data="1"/>
  <Channel Slot="3" Format="0" Flags="8" Data="0"/>
  <Channel Slot="4" Format="0" Flags="9" Data="2"/>
```

```
  <Channel Slot="5" Format="0" Flags="16" Data="0"/>
  <Channel Slot="6" Format="0" Flags="17" Data="4"/>
  <Channel Slot="7" Format="0" Flags="24" Data="0"/>
  <Channel Slot="8" Format="0" Flags="25" Data="8"/>
  <Channel Slot="9" Format="0" Flags="32" Data="127"/>
  <Channel Slot="10" Format="0" Flags="33" Data="16"/>
  <Channel Slot="11" Format="0" Flags="40" Data="130"/>
  <Channel Slot="12" Format="0" Flags="41" Data="32"/>
  <Channel Slot="13" Format="0" Flags="48" Data="133"/>
  <Channel Slot="14" Format="0" Flags="49" Data="64"/>
  <Channel Slot="15" Format="0" Flags="56" Data="136"/>
  <Channel Slot="16" Format="0" Flags="57" Data="128"/>
 </Universe>
```

- **Note:**

  - The combinations for slots 11, 12, 15, 16 have been made possible for ease of use, but are not logical in the practical sense and are therefore not necessarily useful.

  - The slot assignments are for sample purposes only and can be changed and assigned as needed as explained above.

- Slot: 1, **Format: 0, Flags: 0, Data: 0**
  - Defines a control channel, which is not affected by any intensity faders.
- Slot: 2, **Format: 0, Flags: 1, Data: 1**
  - Defines a control channel, which can be dimmed by Intensity Group 1.
- Slot: 3, **Format: 0, Flags: 8, Data: 0**
  - Defines a channel that can be faded, without being affected by any intensity faders.
- Slot: 4, **Format: 0, Flags: 9, Data: 2**
  - Defines a channel that can be faded, which can be dimmed by Intensity Group 2. [Adds 8+1]
- Slot: 5, **Format: 0, Flags: 16, Data: 0**
  - Defines a control channel, which can be dimmed by the master-intensity fader.
- Slot: 6, **Format: 0, Flags: 17, Data: 4**
  - Defines a control channel, which can be dimmed by the master-intensity fader as well as Intensity Group 3. [Adds 16+1]
- Slot: 7, **Format: 0, Flags: 24, Data: 0**
  - Defines a channel that can be faded, which can be dimmed by the master-intensity fader. [Adds 16+8] [Default]
- Slot: 8, **Format: 0, Flags: 25, Data: 8**
  - Defines a channel that can be faded, which can be dimmed by the master-intensity fader as well as Intensity Group 4. [Adds 16+8+1]
- Slot: 9, **Format: 0, Flags: 32, Data: 127**
  - Defines a control channel with a fixed value, which is set to DMX value 127.
- Slot: 10, **Format: 0, Flags: 33, Data: 16**
  - Defines a control channel with a fixed value, which can be set by Intensity Group 5. [Adds 32+1]
- Slot: 11, **Format: 0, Flags: 40, Data: 130**
  - Defines a channel with a fixed value, which is set to DMX value 130. Crossfade is enabled, but does not have any effect! [Adds 32+8]

- Slot: 12, **Format: 0, Flags: 41, Data: 32**
  - Defines a channel with a fixed value, which can be set by Intensity Group 6. Crossfade is enabled, but does not have any effect! [Adds 32+8+1]
- Slot: 13, **Format: 0, Flags: 48, Data: 133**
  - Defines a control channel with a fixed value, which is set to DMX value 133 and can be dimmed by the master-intensity fader. [Adds 32+16]
- Slot: 14, **Format: 0, Flags: 49, Data: 64**
  - Defines a control channel with a fixed value, which can be set by Intensity Group 7 and can be dimmed by the master-intensity fader. [Adds 32+16+1]
- Slot: 15, **Format: 0, Flags: 56, Data: 136**
  - Defines a channel with a fixed value, which is set to DMX value 136 and can be dimmed by the master-intensity fader. Crossfade is enabled, but does not have any effect! [Adds 32+8+16]
- Slot: 16, **Format: 0, Flags: 57, Data: 128**
  - Defines a channel with a fixed value, which can be set by Intensity Group 8 and can be dimmed by the master-intensity fader. Crossfade is enabled, but does not have any effect! [Adds 32+8+16+1]

- Channels that should not react to crossfades make a hard cut for scenes that have Fade Type Black set up in the cue list at the start/end of a scene, or they switch over at half the Fade-In Time set up in the cue list for any other fade type.

## 2.9 Remote - Remote Control

**This topic includes:**

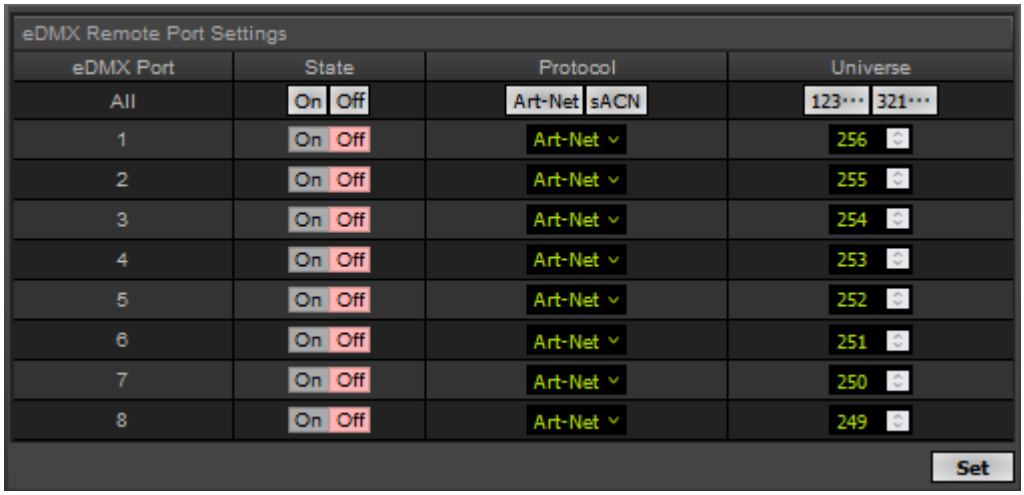

- Overview
- eDMX Remote Port Settings
- Remote Event List
- Remote Event Settings


# Overview

The Remote section includes the configuration for controlling the device remotely. You can trigger MADRIX AURA via HTTP commands and the built-in web server or use Art-Net/sACN.

# eDMX Remote Port Settings

- Applies only to the remote control over Art-Net or Streaming ACN.
- Confirm and save all changes via ***Set***.




***eDMX Port*** 8 individual ports, i.e. universes, are available for remote control over Art-Net or Streaming ACN.

***All -*** Sets the corresponding setting for all ports.

123··· Automatically numbers all universes based on the first port [ascending order].

321··· Automatically numbers all universes based on the first port [descending order].

***State*** Defines the current status of each port.

***On -*** Enables the port.

***Off*** - Disables the port.

***Protocol*** Defines the communication standard over Ethernet network.

***Art-Net -*** Activates that Art-Net data is sent.

***sACN -*** Activates that Streaming ACN data is sent.

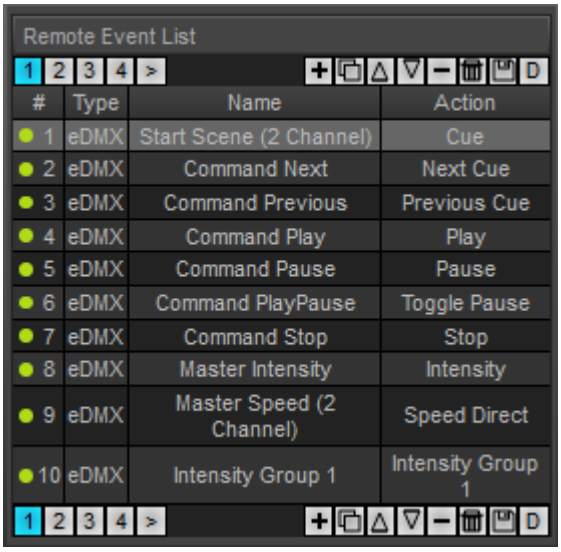
***Universe*** Defines which universe is received on the specific port.

- By default, ports 1 - 8 are assigned to universes 256 -249.

- 123··· Automatically numbers all universes based on the first port [ascending order].
  [Enter the start universe for port 1, click the button and all other ports will be numbered consecutively.]
- 321··· Automatically numbers all universes based on the first port [descending order].
  [Enter the start universe for port 1, click the button and all other ports will be numbered consecutively.]

## Remote Event List

- Shows all timers that are currently configured.




Control Buttons

- Adds a new remote event.
- Duplicates the currently selected remote event.
- Moves the currently selected remote event one item up in the list.
- Moves the currently selected remote event one item down in the list.
- Removes the currently selected remote event.
- Removes all remote events from the list.

Saves all changes to the SD card. Shows that the configuration has been modified and that there are unsaved changes.

Restores the default remote event list and removes all other list items first.

***#*** Shows the index number of the remote event in the list.

***Green -*** Shows that the remote event is enabled [***Active***].

***Red -*** Shows that the remote event is disabled [***Inactive***].

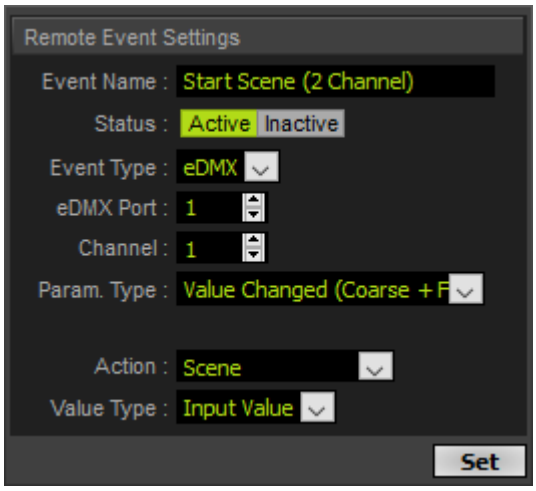
***Type*** Shows the type of communication standard [***eDMX***, which refers to Ethernet DMX incl. Art-Net or Streaming ACN, or ***HTTP***].

***Name*** Shows the currently set Event Name of the remote event.

# Remote Event Settings

- Becomes available when a remote command is selected in the list on the left side.

## eDMX



***Event Name*** Allows you to change the individual label of the remote event.

***Status*** Allows you to set the timer ***Active*** or ***Inactive***.

***Event Type*** Defines the remote source. Choose from ***eDMX*** [Ethernet DMX including Art-Net and Streaming ACN], or ***HTTP***.

***eDMX Port*** Is only available for Event Type eDMX. Defines the universe in which the command should be received. Valid values range from 1 to 8.

***Channel*** Is only available for Event Type eDMX. Defines the channel on which the command should be received. Can define the start channel of two channels in total depending on which Param. Type is set. Valid values range from 1 to 512.

***Param. Type*** Is only available for Event Type eDMX. Defines how incoming values are processed.

**Please note:** Not all Param. Types are useful for all Actions.

***Value Changed -*** The Action is triggered in case the received value changes.

***Value Changed (Coarse + Fine) -*** The Action is triggered in case the received values changes. Hereby, two channels are monitored and added to each other. The first channel is used for coarse values. The second channel is used for fine values.
Example: Speed Scaled
- First input channel with 256 DMX values is mapped to 199 % speed for coarse by using 1 % increase for every 1 or 2 DMX values.
- Second input channel with 256 DMX values is mapped to 1 % speed for fine by using 1 % increase for DMX value 220 and higher.
- Together, a total speed of 200 % can be achieved.

Example: Cue
- First input channel with 256 DMX values selects cue 0 at DMX value 0, cue 256 at DMX value 1, cue 512 at DMX value 2, and cue 768 at DMX value 3.
- Second input channel with 256 DMX values is mapped to 255 for fine by using 1 number increase for each 1 DMX value.

- Together, a total number of 1000 cues can be called [set DMX value 3 on first channel and DMX value 232 on second channel to call cue 1000].

***Value Changed (Fine + Coarse) -*** The Action is triggered in case the received values change. Hereby, two channels are monitored and added to each other. The first channel is used for fine values. The second channel is used for coarse values.

***Value Changed (Medium + Coarse) -*** The Action is triggered in case the received values change. Hereby, two channels are monitored and added to each other. The first channel is used for medium values. The second channel is used for coarse values.

Example: Speed Scaled
- First input channel with 256 DMX values is mapped to 100 for medium by using 1 % speed increase increase for every 1 or 2 DMX values.
- Second input channel with 256 DMX values is mapped to 200 for coarse by using 1 % speed increase for every 2 to 3 DMX values.
- Together, a total speed of 200 % can be achieved.

Example: Cue
- First input channel with 256 DMX values is mapped to 255 for medium by using 1 number increase for every 1 DMX values.
- Second input channel with 256 DMX values selects cue 0 at DMX value 0, cue 256 at DMX value 1, cue 512 at DMX value 2, and cue 768 at DMX value 3.
- Together, a total number of 1000 cues can be called. [set DMX value 3 on first channel and DMX value 232 on second channel to call cue 1000].

***Value Above -*** The Action is triggered in case the received value is higher than the defined ***Param. Value***.

***Value Above (Coarse + Fine) -*** The Action is triggered in case the received value is higher than the defined ***Param. Value***. Hereby, two channels are monitored and added to each other. The first channel is used for coarse values. The second channel is used for fine values.

***Value Above (Fine + Coarse) -*** The Action is triggered in case the received value is higher than the defined ***Param. Value***. Hereby, two channels are monitored and added to each other. The first channel is used for fine values. The second channel is used for coarse values.

***Value Below -*** The Action is triggered in case the received value is less than the defined ***Param. Value***.

***Value Below (Coarse + Fine) -*** The Action is triggered in case the received value is lower than the defined ***Param. Value***. Hereby, two channels are monitored and added to each other. The first channel is used for coarse values. The second channel is used for fine values.

***Value Below (Fine + Coarse) -*** The Action is triggered in case the received value is lower than the defined ***Param. Value***. Hereby, two channels are monitored and added to each other. The first channel is used for fine values. The second channel is used for coarse values.

***Value Range -*** The Action is triggered in case the received value is within the value range as defined by ***Param. Value*** and ***Param. Value 2***. Both values are inclusive, which means higher or equal to the minimum value as well as lower or equal to the maximum.

***Value Range (Coarse + Fine) -*** The Action is triggered in case the received value is within the value range as defined by ***Param. Value*** and ***Param. Value 2***. Both values are inclusive, which means higher or equal to the minimum value as well as lower or equal to the maximum. Hereby, two channels are monitored and added to each other. The first channel is used for coarse values. The second channel is used for fine values.

***Value Range (Fine + Coarse) -*** The Action is triggered in case the received value is within the value range as defined by ***Param. Value*** and ***Param. Value 2***. Both values are inclusive, which means higher or equal to the minimum value as well as lower or equal to the maximum. Hereby, two channels are monitored and added to each other. The first channel is used for fine values. The second channel is used for coarse values.

***Equal To 1 Channel -*** The Action is triggered once the received value is the same as the defined ***Param. Value***.

***Equal To 2 Channels (Coarse..Fine) -*** The Action is triggered once the received value is the same as the defined ***Param. Value*** for two channels.

***Equal To 2 Channels (Fine..Coarse) -*** The Action is triggered once the received value is the same as the defined ***Param. Value*** for two channels.

***Param. Value*** Is only available for corresponding Param. Types. Defines the value that the incoming signal is checked and compared against.

***Param. Value 2*** Is only available for Param. Type Value Range, Value Range (Coarse + Fine), Value Range (Fine + Coarse). Defines the second value of the value range in which the incoming signal is checked.

***Action*** Defines the functionality that is controlled remotely.

***Cue -*** Calls a specific cue [requires a value to choose which cue].

***Next Cue -*** Skips to the next cue.

***Previous Cue -*** Skips to the previous cue.

***Play -*** Starts the playback.

***Pause -*** Halts the playback.

***Toggle Pause -*** Pauses the playback or starts it again; depending on and in contrast to the current status.

***Stop -*** Stops the playback entirely.

***Intensity -*** Sets the master brightness ranging from 0 to 255 [requires a value to choose which level].

***Speed Scaled -*** Sets the speed ranging from 1 to 200 in % [requires a value to choose which level].

***Speed Direct -*** Sets the speed to the exact value that is received [requires a value to choose which level; up to 255].

***Intensity Group 1 - 8 -*** Controls the intensity groups ranging from 0 to 255 [requires a value to choose which level].

***Record -*** Starts the recording process.

***Speed Increment -*** Increases the speed ranging from 1 to 200 in % [requires a value to choose which level].

***Speed Decrement -*** Decreases the speed ranging from 1 to 200 in % [requires a value to choose which level].

***Intensity Increment -*** Increases the master brightness ranging from 1 to 255 [requires a value to choose which level].

***Intensity Decrement -*** Decreases the speed brightness from 1 to 255 [requires a value to choose which level].

***Intensity Group 1 - 8 Increment -*** Increases the group brightness ranging from 1 to 255 [requires a value to choose which level].

***Intensity Group 1 - 8 Decrement -*** Decreases the group brightness from 1 to 255 [requires a value to choose which level].

***Value Type*** Defines how the action is triggered.

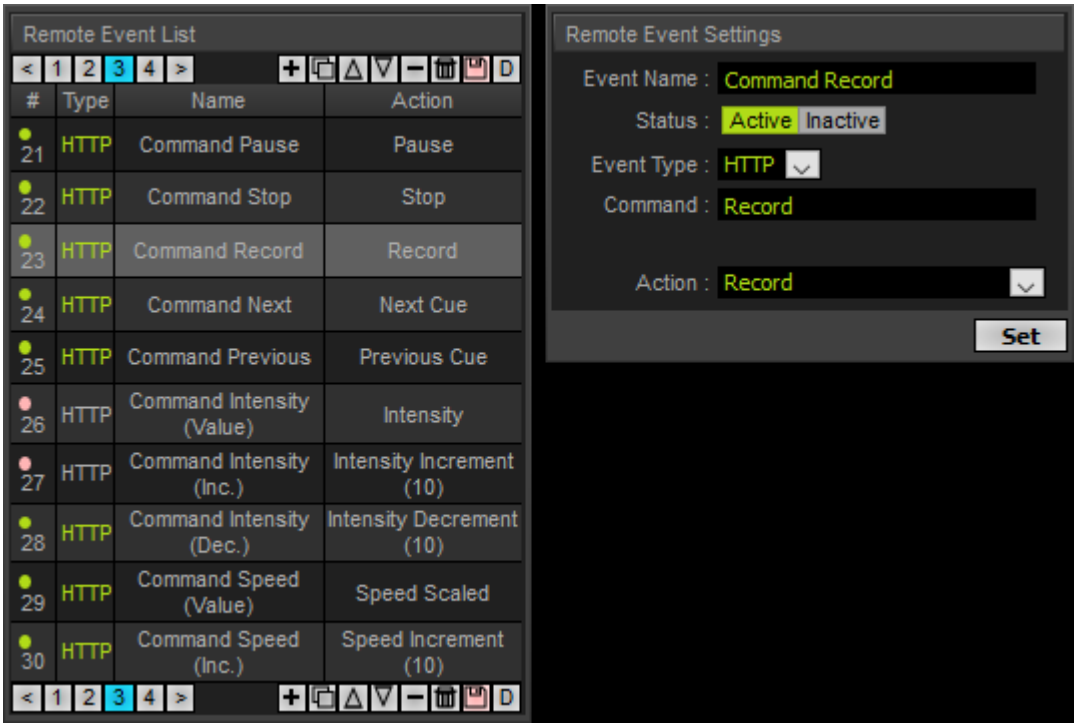
***Fixed Value -*** Uses the defined Value as value for the Action. For example, the device always sets the Master Speed to the fixed value of 100 when the incoming value that is received changes.

***Input Value -*** Uses the incoming signal and received value as the value for the Action. For example, a received value of 50 can set the Master Intensity to 50 %.

***Value*** Defines the exact value that is used for Value Type Fixed Value.

## HTTP

**MADRIX AURA uses HTTP network port: 80.**




***Event Name*** Allows you to change the individual label of the remote event.

***Status*** Allows you to set the timer ***Active*** or ***Inactive***.

***Event Type*** Defines the remote source. Choose from ***eDMX*** [Ethernet DMX including Art-Net and Streaming ACN], or ***HTTP***.

***Command*** Is only available for Event Type HTTP. Allows you to individually define the remote command you would like to use. Simply choose a name.

***Action*** Defines the functionality that is controlled remotely.

***Cue -*** Calls a specific cue [requires a value to choose which cue].

***Next Cue -*** Skips to the next cue.

***Previous Cue -*** Skips to the previous cue.

***Play -*** Starts the playback.

***Pause -*** Halts the playback.

***Toggle Pause -*** Pauses the playback or starts it again; depending on and in contrast to the current status.

***Stop -*** Stops the playback entirely.

***Intensity -*** Sets the master brightness ranging from 0 to 255 [requires a value to choose which level].

***Speed Scaled -*** Sets the speed ranging from 1 to 200 in % [requires a value to choose which level].

***Speed Direct -*** Sets the speed to the exact value that is received [requires a value to choose which level; up to received DMX value 255; up to set 200 % Speed].

***Intensity Group 1 - 8 -*** Controls the intensity groups ranging from 0 to 255 [requires a value to choose which level].

***Record -*** Starts the recording process.

***Speed Increment -*** Increases the speed ranging from 1 to 200 in % [requires a value to choose which level].

***Speed Decrement -*** Decreases the speed ranging from 1 to 200 in % [requires a value to choose which level].

***Intensity Increment -*** Increases the master brightness ranging from 1 to 255 [requires a value to choose which level].

***Intensity Decrement -*** Decreases the speed brightness from 1 to 255 [requires a value to choose which level].

***Intensity Group 1 - 8 Increment -*** Increases the group brightness ranging from 1 to 255 [requires a value to choose which level].

***Intensity Group 1 - 8 Decrement -*** Decreases the group brightness from 1 to 255 [requires a value to choose which level].

***Value Type*** Defines how the action is triggered.

***Fixed Value -*** Uses the defined Value as value for the Action.

***Input Value -*** Uses the incoming signal and received value as the value for the Action.

***Value*** Defines the exact value that is used for Value Type Fixed Value.

***HTTP Remote Control Check*** Click on ***HTTP*** in the Remote Event List in order to call up the site available for check.
Only remote events that are active can be clicked upon and will be shown in the HTTP Remote Control Check.

HTTP Remote Control Check List

| # | Name | Action | Value | Link |
|---|---|---|---|---|
| 19 | Command Scene (Value) | Cue | 1 | http://10.84.0.10/remote.cgi?Scene=1 |
| 20 | Command Play | Play | 0 | http://10.84.0.10/remote.cgi?Play |
| 21 | Command Pause | Pause | 0 | http://10.84.0.10/remote.cgi?Pause |
| 22 | Command Stop | Stop | 0 | http://10.84.0.10/remote.cgi?Stop |
| 23 | Command Record | Record | 0 | http://10.84.0.10/remote.cgi?Record |
| 24 | Command Next | Next Cue | 0 | http://10.84.0.10/remote.cgi?Next |
| 25 | Command Previous | Previous Cue | 0 | http://10.84.0.10/remote.cgi?Previous |
| 26 | Command Intensity (Value) | Intensity | 1 | http://10.84.0.10/remote.cgi?Intensity=1 |
| 27 | Command Intensity (Inc.) | Intensity Increment | 10 | http://10.84.0.10/remote.cgi?IntensityIncrement |
| 28 | Command Intensity (Dec.) | Intensity Decrement | 10 | http://10.84.0.10/remote.cgi?IntensityDecrement |
| 29 | Command Speed (Value) | Speed Scaled | 1 | http://10.84.0.10/remote.cgi?Speed=1 |
| 30 | Command Speed (Inc.) | Speed Increment | 10 | http://10.84.0.10/remote.cgi?SpeedIncrement |
| 31 | Command Speed (Dec.) | Speed Decrement | 10 | http://10.84.0.10/remote.cgi?SpeedDecrement |

**< -** Allows you to return to the previous/normal view.

***#* -** Shows the index number of the command in the Remote Event List.

***Name -*** Shows the Event Name.

***Action -*** Shows which functionality is triggered by the remote command.

***Value -*** Shows the assigned value, which either is a Fixed Value or an Input Value. In case of an Input Value, the input field allows you to test different values ranging from 0 to 255.

***Control -*** Allows you to test the function in case of having Input Value assigned. Valid values for this test features range from 1 to 255.

***Link -*** Shows how the command would look like and allows you to test the functionality by clicking on it since it is a fully functioning link. Learn below how HTTP commands are built and used. **Attention:** This will trigger the configured remote-control command live on the device!

Command Example:
[Which can be chosen by you]

- **Play**

Action Example:
[Which is selected in the Remote Event Settings]

- **Play**

Link Example:
[By adding a special string in front of each command]

- **remote.cgi?**
- **remote.cgi?Play**

Assigning A Value:
[By adding =VALUE to the command]

- **Scene=10**

Calling The Device:
[By using the IP address]
[MADRIX AURA uses HTTP network port 80.]

- **http://10.84.0.2/**

Examples Of Full Single Commands:

- **http://10.84.0.2/remote.cgi?Play**

- **http://10.84.0.2/remote.cgi?Scene=10**

Example Of Full Chained Commands:

[Several commands can be called at the same time with one function call]

- **http://10.84.0.2/remote.cgi?Intensity=70&Speed=80&Scene=10&Pause**

## 2.10 Settings - Device Settings

**This topic includes:**


- Overview
- General
- Network
- RDM
- Synchronization
- Website
- Startup
- Date And Time
- Location
- Network Time Protocol
- Recording
- Backup
- Logfile
- Web Panel Access Control
- Special Commands


# Overview

The Settings section defines important device settings.

- Confirm and save each setting via ***Set***.

# General




***Device Name*** Allows you to change the main label of the device by entering a name. The default setting is MADRIX AURA.

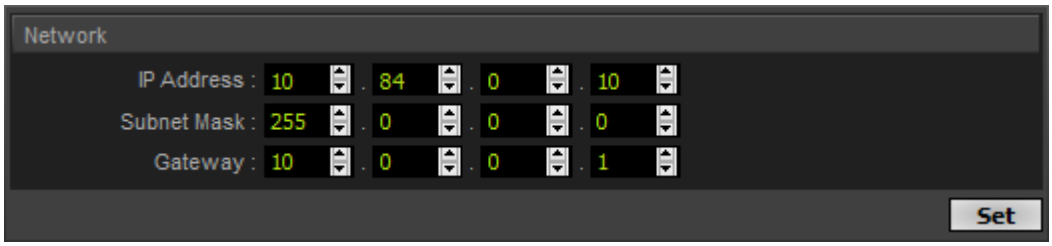
- This refers to LongName within Art-Net with a maximum of 64 characters.
- This refers to Source Name within sACN with a maximum of 63 characters.
- This refers to the communication with the MADRIX 5 Software over Ethernet network or USB.

***Author Name*** Allows you to set an author name, which is then also part of the scene details of a recorded scene.

***Short Name (Art-Net)*** Allows you to change the ShortName identifier used by Art-Net. The default setting is the IP address of the device.

***LED Brightness*** Allows you to change the maximum brightness level of the status LEDs on top of the device, including the MADRIX Logo. Valid values range from 10 % to 100 %.

# Network

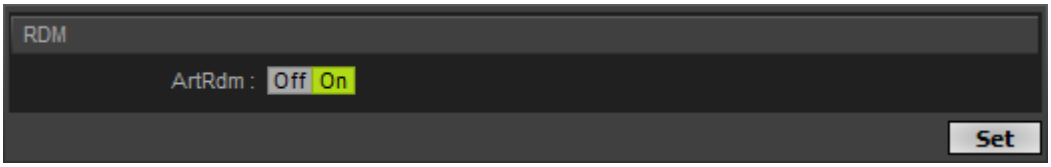



***IP Address*** Is an identifier for devices that enables network communication. When using network protocols, it needs to be unique and set up for each individual sender or recipient in the network. Your MADRIX AURA already has set a valid IP address by default [for example, 10.84.0.10].
[Since this may change back the IP address to the original setting, the website will automatically be reloaded after 10 seconds and you will automatically be redirected to the correct website and IP address.]

***Subnet Mask*** Is a technical grouping mechanism for network devices. When using network protocols, it needs to be set up for each sender or recipient in the network for correct data routing. Your MADRIX AURA already has set a valid subnet mask by default [255.0.0.0].

***Gateway*** Is a technical routing mechanism for Ethernet networks, which acts as the main receiver in case the original network recipients are not available anymore. When using network protocols, it needs to be in the same network as the IP address and in this way set up correctly for network communication to work. Your MADRIX AURA already has set a valid gateway by default [10.0.0.1].

# RDM

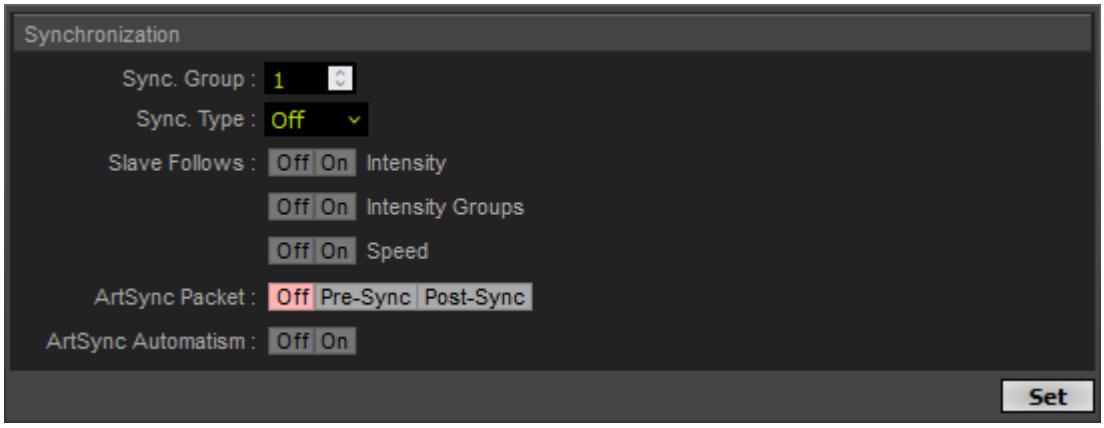



***ArtRdm*** Activates [***On***] or deactivates [***Off***] ArtRdm to be able to reply to RDM requests by an RDM controller [for example, MADRIX RADAR] over Art-Net with status and sensor data. MADRIX AURA mainly provides data regarding:

- Input Voltage
- System Voltage 5 V
- System Voltage 3.3 V
- System Voltage 2.5 V
- System Voltage 1.2 V
- USB Power
- Temperature
- Device Model [incl. Hardware Version]
- Software Version [of the Firmware]
- And device information, such as IP Address, Device Short/Long Name, etc.

# Synchronization

This refers to the Master-Slave Synchronization.




- These settings are part of the Master-Slave Synchronization.
- You can manage large projects simply by connecting several MADRIX AURA devices to the same network.
- You can also use MADRIX AURA 2, 8, 12, or 32 together in any combination.
- In addition, the entire group can automatically be synchronized across all DMX universes for flawless and uninterrupted playback.

- First, Master-Slave-Synchronization allows cues to be triggered simultaneously (at the same time) on several, different devices. In this way, your LED installation will show the same effects (or one overlapping effect), although it is controlled by 2 or more interfaces!
- Second, time stamps will be sent between interfaces to ensure time synchronicity.

**Tips:**

**1]** Make sure to correctly configure and assign all universes in your sender before you receive them and start recording on your AURA devices.

**2]** Make sure to correctly configure and assign all universes in your sender before you receive them and start recording on your AURA devices.

**3]** Make sure to correctly assign the recording universes in the web configuration of the AURA devices under Recording – Network Recording Settings [for example, universes 1 to 32 for AURA #1 as Master and universes 33 to 64 for AURA #2 as Slave].

**4]** Make sure to correctly assign the output universes in the web configuration of the AURA devices under Playback – Network Playback Settings [for example, universes 1 to 32 for AURA #1 as Master and universes 33 to 64 for AURA #2 as Slave].

**5]** Simply record data [scenes] simultaneously on all devices. The Network Record function of MADRIX 5 makes this incredibly easy [Learn more »**Recording Overview**]. When using other senders, you can start the recording process on the Master [via the on-device buttons, the Control panel of the web configuration, Timer Events, or Remote Events]. Slaves will automatically start recording as well.

***Sync. Group*** The Sync. Group assigns devices to a specific group in which they operate. That means you can set up several different Master-Slave clusters in the same network. They will run independently and do not affect each other. Valid values range from 1 to 256.

A Master dictates the playback. Slaves can optionally follow intensity, intensity groups, and speed.

**Please note:**

**1]** Devices that should communicate with each other should be assigned to the same sync. group and physically connected to the same Ethernet network.

**2]** All synchronized devices need to run the same firmware version.

**3]** Since timers on the Master affect playback, intensity, intensity groups, and speed, Slaves react accordingly based on their synchronization settings.

**4]** You will have to configure the Cue List on each of your devices [Master and Slaves]. Such a configuration is not synced between devices.

**5]** If a device does not receive data, while other sync.-group devices are receiving data, placeholder scenes will be created on affected devices to ensure overall playback synchronicity.

**6]** Slave devices will have certain functionality locked and disabled in case a master is actively controlling the group. The following areas are locked and inaccessible:

- The on-device buttons
- Timers [except actions the slave has been set not to follow]
- Remote Events
- Live Control: Intensity [except when the slave has been set not to follow]
- Live Control: Intensity Groups [except when the slave has been set not to follow]
- Live Control: Speed [except when the slave has been set not to follow]

***Sync. Type*** Defines if synchronization is disabled [***Off***] or if the device is the main device in the group [***Master***], or a secondary device that reacts to a master [***Slave***]. A master may set everything

regarding playback and cue list, intensity, intensity groups, and speed.

***Slave Follows*** Defines which parameters are synchronized. This means that Slaves react to changes made or triggered on the Master device. Set to ***On*** for each parameter that should be synchronized [***Intensity***, ***Intensity Groups***, ***Speed***]. Set to Off if a parameter should not be synced.

***ArtSync Packet*** Defines if and how the Art-Net protocol synchronization is used. Your receiving Art-Net devices need to support this feature in order for it to work correctly.

***Off -*** Disables ArtSync. This does not only disables sending ArtSync, but also stops receiving it. [This is the default setting.]

***Pre-Sync -*** Sends the synchronization packet before the main DMX/Art-Net data.

***Post-Sync -*** Sends the synchronization packet after the main DMX/Art-Net data.

- Only Master devices will send ArtSync packets in a Master-Slave-Synchronization.
- Slave devices in a Master-Slave-Synchronization will not send ArtSync.
- If Sync. Type is set to Off, you can choose if and how ArtSync is used.

***ArtSync Automatism*** Helps with ArtSync in case of using sACN.

***Off -*** Always sends ArtSync packets; independently of the playback settings of the ports. Either Art-Net or sACN may be configured as output.
[You may want to use ArtSync to sync your sACN universes. If you do, choose this setting.]

***On -*** Is the default setting. Only sends ArtSync packets if at least one playback port is set to Art-Net, otherwise it does not. If only sACN is configured, no ArtSync packets will be sent.

# Website



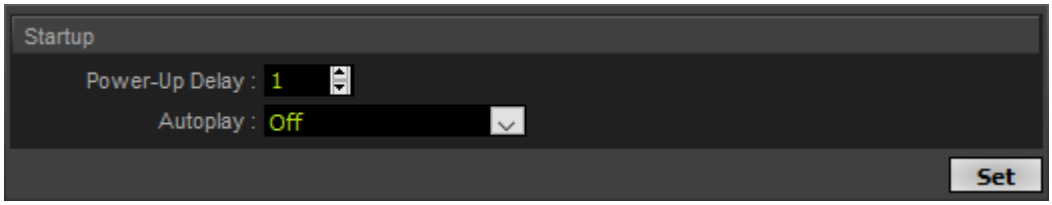

***List Entries Per Page*** Defines how many items are shown per page in lists of items, such as Cue List, Timers, or Remote Control. This is especially useful to better organize and view lists that could potentially become very long otherwise. The default setting is 10.

***View Intensity In***

***DMX -*** Shows values regarding the Intensity in the DMX range from 0 to 255 under Control - Live Control.

***% -*** Shows values regarding the Intensity as percentage in the range from 0 to 100 % under Control - Live Control.

# Startup




***Power-Up Delay*** Defines the wait time before the device fully starts after supplying power to it [in seconds].

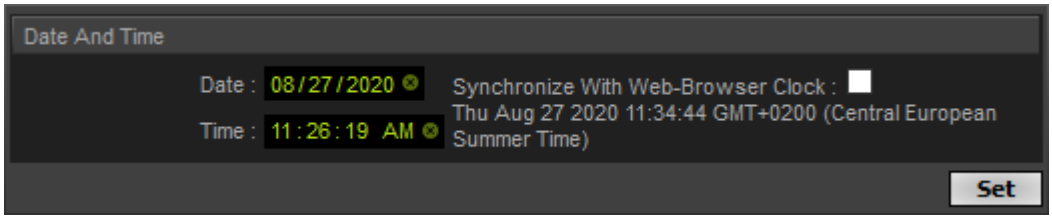
***Autoplay*** Defines if the device automatically starts playback after startup.

***Off -*** Disables autoplay.

***Last Played Cue -*** Plays back the cue that was played last.

***First Cue In Cue List -*** Plays back the first cue of the cue list.

# Date And Time




***Date And Time Settings***

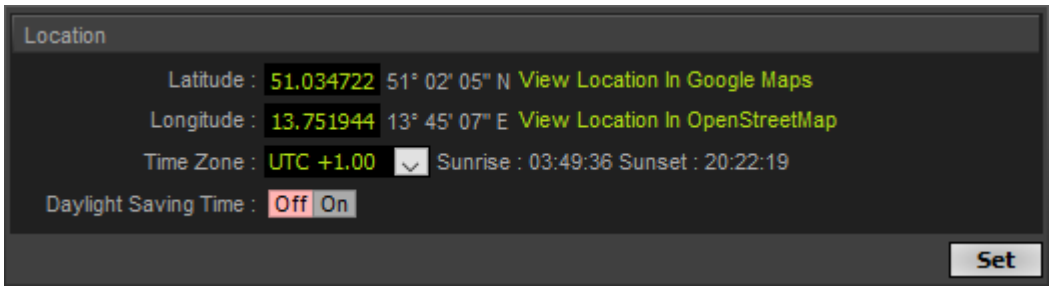
***Date -*** Sets the current date. Correct settings are extremely important for the cue list and timers.

***Time -*** Sets the current time. Correct settings are extremely important for the cue list and timers.

***Synchronize With Web-Browser Clock -*** Allows you to use your system to quickly set the device date and time settings.

**Note: Please expect on average a time deviation of +/- 10 minutes per year.** [Actual time differences mainly depend on the component and ambient operating temperature of the device.]

# Location




***Location Settings***

***Latitude -*** Defines the geographical location of the device; together with Longitude. This information needs to be correct and is required to calculate the corresponding sunrise and sunset times.

***Longitude -*** Defines the geographical location of the device; together with Latitude. This information needs to be correct and is required to calculate the corresponding sunrise and sunset times.

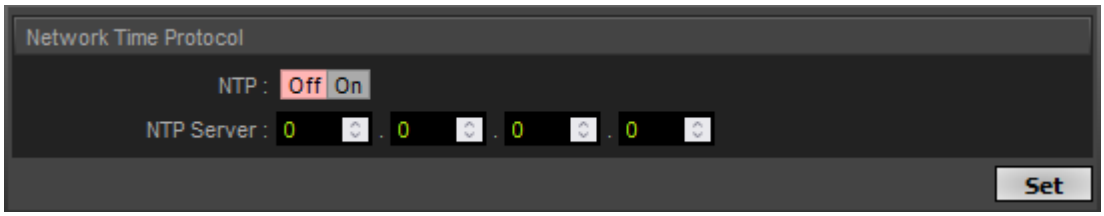
***View Location In Google Maps -*** Opens your default web browser to show the geographical location of the device in Google Maps.

***View Location In OpenStreetMap -*** Opens your default web browser to show the geographical location of the device in OpenStreetMap.

***Time Zone -*** Defines the time zone of the geographical location of the device. This information needs to be correct and is required to calculate the corresponding sunrise and sunset times.

***Daylight Saving Time -*** Activates [***On***] or deactivates [***Off***] DST for your device.

# Network Time Protocol




***NTP*** Activates [***On***] or deactivates [***Off***] usage of the Network Time Protocol on your device. This protocols can be used to synchronize the clock of your device.
By default, it is deactivated.

***NTP Server*** Enter the IP address of the NTP server [using 4 octets].

**Please note:**

**1]** Make sure the connection to your NTP server is working.

**2]** The NTP server can be in your local network [recommended], or it could be external, in which case the network gateway needs to work correctly [which might require a DNS].

**3]** The settings regarding ***Time Zone*** and ***Daylight Saving Time*** influence the usage of NTP. Make sure these settings are correct!

**4]** The clock is synchronized 1x per hour, or in case:

- The IP of the MADRIX AURA has been changed,

- NTP is being activated in the Settings,

- The device is newly booted [if NTP is enabled and configured].

[However, changing the IP of the NTP server will not cause the clock to be synchronized immediately again, but following the regular interval of 1x per hour.]

# Recording




***Create Cues*** Activates [***On***] or deactivates [***Off***] automatically adding [recorded] scenes to the Cue List. The default setting is On.

# Backup




***Autosave*** Activates [***On***] or deactivates [***Off***] automatic saving for your device. This saves the settings and configuration automatically to SD card when using Set in the Cue List, Timers, Channel Mask, and Remote. The default setting is On.

***Execute Function***

***None -*** Does not execute a function.

***Back Up Settings For Recording, Playback, and eDMX Remote Ports To SD Card -*** Saves all settings for Recording, Playback, and eDMX Remote Ports that are currently set in the web configuration to the SD card.

***Reload Settings For Recording, Playback, and eDMX Remote Ports From SD Card -*** Applies all settings that were saved to the SD card.

**Note: Make a backup before updating (or downgrading) the firmware of your**

**MADRIX AURA devices!**

**[In this way, you can reload your settings after updating. New firmware versions may introduce new features, which requires a reset of all parameters. Downgrades to older firmware versions usually require a full reset to factory default settings.]**

# Logfile




***Logging*** Activates [***On***] or deactivates [***Off***] automatically writing system messages into logfiles on the SD card. These are always helpful in case of sending requests to the MADRIX technical-support team. The default setting is On.
Learn more »**View Logfile**

***File Count*** Defines the maximum number of logfiles that will be created before starting to delete older files. Valid values range from 2 to 99. The default setting is 5.

***Maximum File Size*** Defines how large each logfile can become before creating a new file [in KiB]. Valid values range from 8 to 8000, which is 8 MB. The default setting is 4096.

# Web Panel Access Control




***Access Control*** Allows you to restrict access to the MADRIX AURA web configuration by requiring a login with username and password if set to ***On***. Otherwise, the device's web configuration can be accessed without any login credentials [***Off***].

**Attention:**

- Make sure to remember or safely store the login details [username and password]!
- If the login details are lost, access to the device can only be restored by resetting the device to manufacturer default settings.
- The access restrictions will automatically disabled if no username or password have been set.

***Username*** Allows you to define the username for the login.

***Password*** Allows you to define the password for the login.

***Verify Password*** Requires you to repeat the password as entered above in order to verify it.

***Remove Password*** Removes the password and disables the access restrictions. You need to confirm the original password by first entering it into Verify Password.

# Special Commands




***Execute Function***

***None -*** Does not execute a function.

***Reboot System -*** Restarts the device completely. [The website will automatically be reloaded after 15 seconds.]

***Reset To Factory Default Settings -*** Restores the original settings of the device. [Since this may change back the IP address to the original setting, the website will automatically be reloaded after 15 seconds and you will automatically be redirected to the correct website and IP address.]

***Format SD Card -*** Deletes and erases all files from the SD card by setting up the file system anew.

## 2.11 Information - Device Information

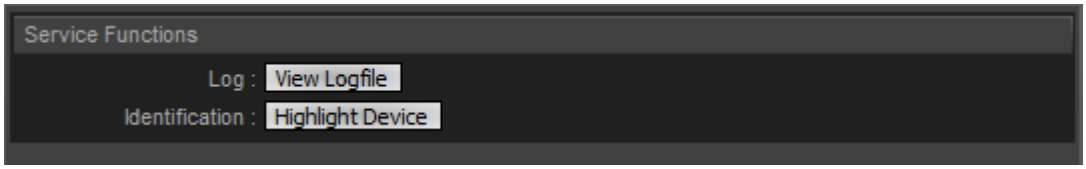
**This topic includes:**


- Overview
- Service Functions
- Device Help
- Device Information
- Status Information

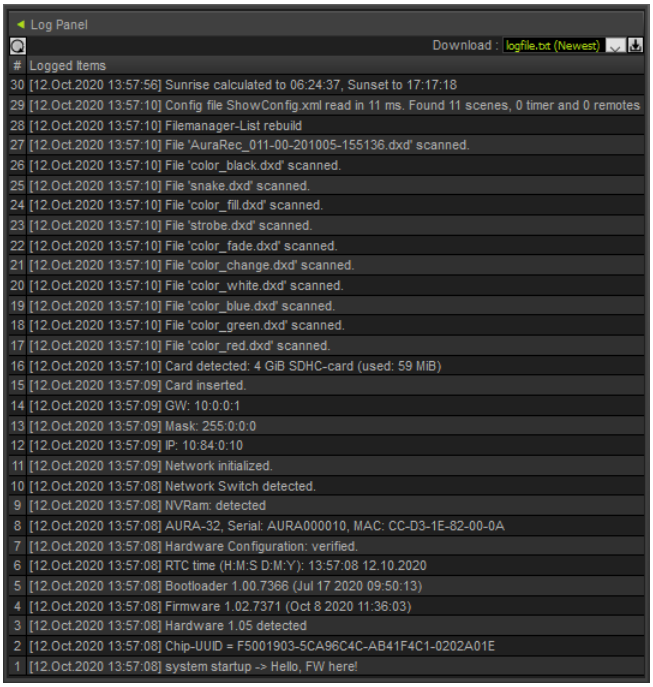

# Overview

The Information section displays various details about the device.

# Service Functions




***View Logfile*** Shows a new Logfile view including the last 30 entries of the logfile for technical support; beginning with the latest entry.




Refreshes the list of entries.

Downloads the selected logfile. Make sure to select the correct logfile first from the drop-down list.

***Highlight Device*** Activates the highlight mode [ArtAddress > AcLedLocate]. The corresponding status indicators of the selected interfaces will flash for a better identification or tests. This makes it easier to see

them on site/stage. It considerably speeds up the procedure of programming or testing the selected interfaces.

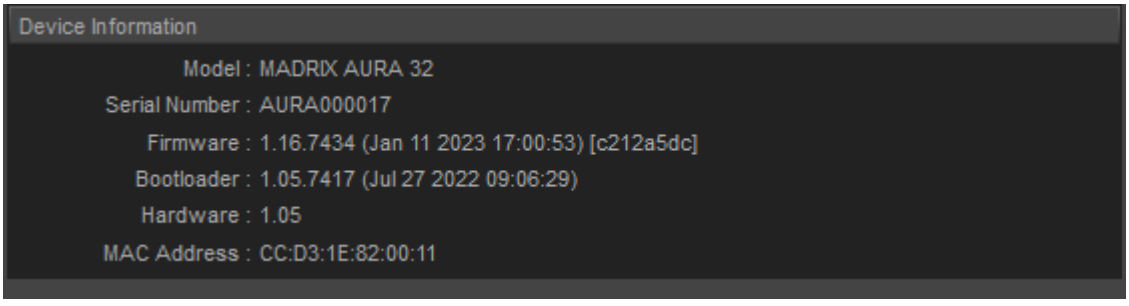
See also »LED Status Indicators [ArtAddress]

# Device Help




***Online Help*** Opens »help.madrix.com where you can find user guides and technical manuals.

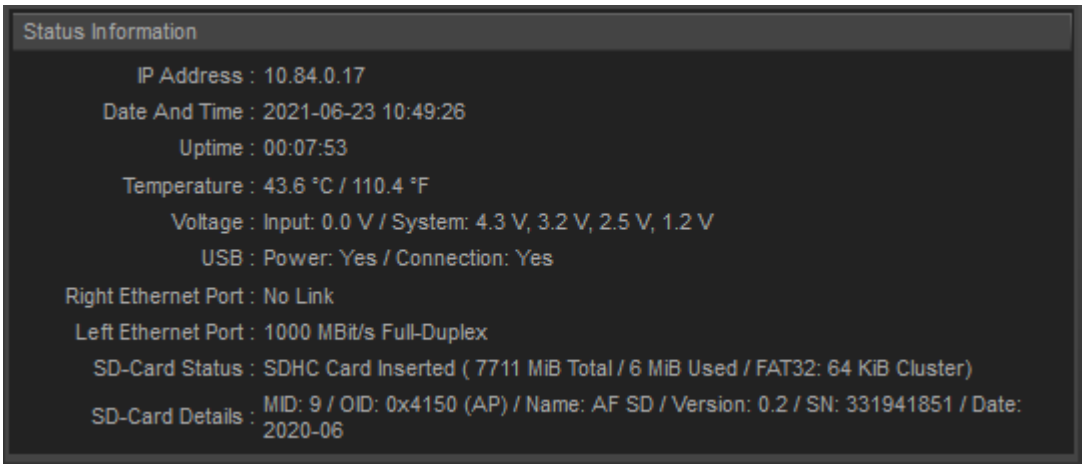
# Device Information




***Model*** Shows if the device is a MADRIX AURA 2, MADRIX AURA 8, MADRIX AURA 12, or MADRIX AURA 32.

| | |
|---|---|
| ***Serial Number*** | Shows the individual and unique number of the device. |
| ***Firmware*** | Shows the current version of the device's firmware. |
| ***Bootloader*** | Shows the current version of the device's bootloader. |
| ***Hardware*** | Shows the hardware revision of the device. |
| ***MAC Address*** | Shows the permanent, unique address for identification in Ethernet networks. |

## Status Information




| | |
|---|---|
| ***IP Address*** | Shows the IP address set for the device as common identifier in Ethernet networks. |
| ***Date And Time*** | Shows the date and time settings the device is currently working with. |

| | |
|---|---|
| ***Uptime*** | Shows how much time has passed since the last startup after a power cycle or system reboot [HH:MM:SS]. |
| ***Temperature*** | Show the ambient temperature the device currently measures in its case. |
| ***Voltage*** | Shows the currently measured voltages for Power and System, which includes USB, processor, and network switch. |
| ***USB*** | Shows if the device is connected and/or powered over a USB connection. |
| ***Right Ethernet Port*** | Shows the current status of the right network connection [***No Link***, ***10 MBit/s***, ***100 MBit/s***, ***1000 MBit/s***, ***Full-Duplex***, ***Half-Duplex***]. |
| ***Left Ethernet Port*** | The current status of the left network connection [***No Link***, ***10 MBit/s***, ***100 MBit/s***, ***1000 MBit/s***, ***Full-Duplex***, ***Half-Duplex***]. |
| ***SD-Card Status*** | Shows which kind of memory card is currently inserted into the device, incl. total capacity [in MiB], currently used capacity [in MiB], and file system as well as its cluster size [FAT32 and 64 kilobytes Allocation Unit Size is required]. |
| ***SD-Card Details*** | Shows detailed information about the memory card that is currently inserted into the device, which can help in technical support cases. |

MADRIX
LIGHTING CONTROL

# //PART 3

## *MADRIX HARDWARE MANAGER*

# 3 MADRIX HARDWARE MANAGER

## Topics Of This Chapter


- Using MADRIX HARDWARE MANAGER [USB / Ethernet]


## 3.1 Using MADRIX HARDWARE MANAGER [USB / Ethernet]

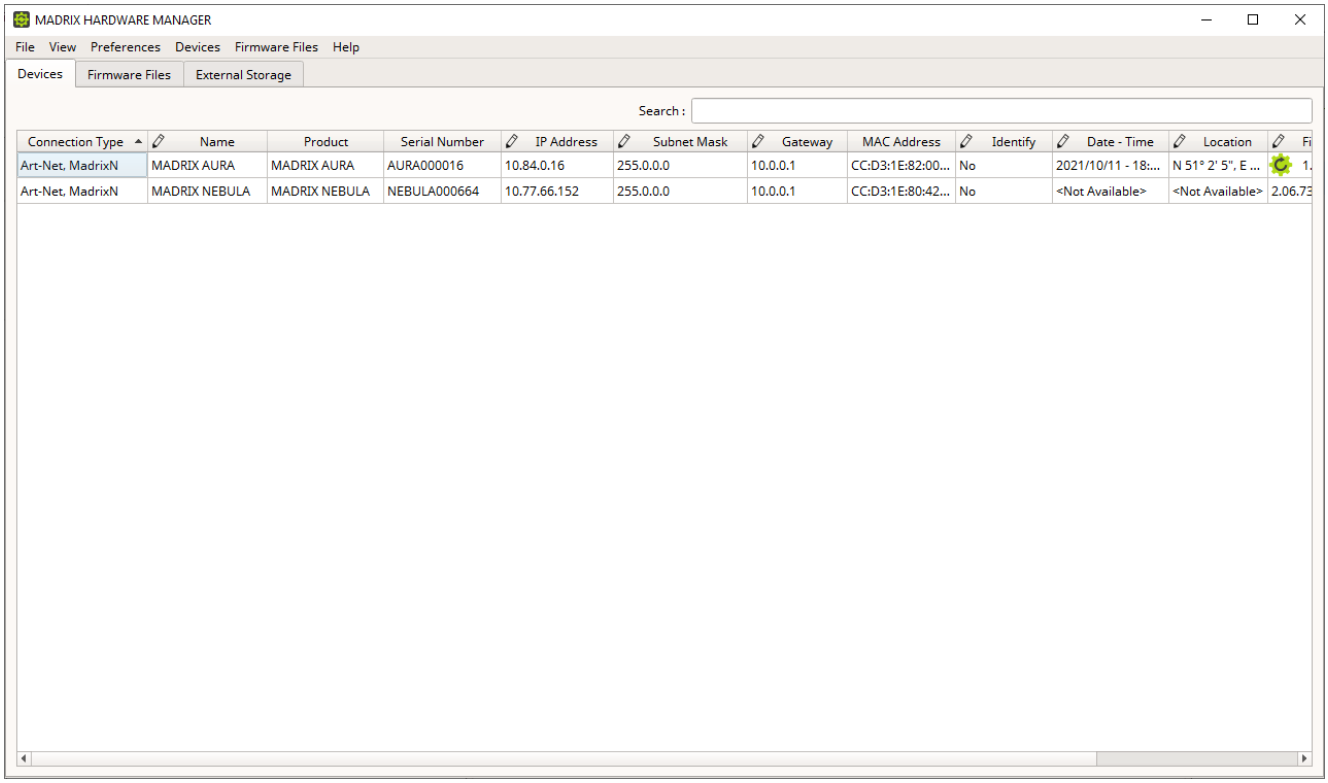
**This topic includes:**


- Overview
- Device Configuration
- Firmware Updates
- File Upload
- More Information


## Overview

MADRIX HARDWARE MANAGER is a software tool that is available separately and allows you to manage MADRIX hardware products.
It can be used for basic device configuration, to update the firmware of your device, and to upload files.

Download from »www.madrix.com




# Important Information

- **Either use USB or the Ethernet connection!**

  **When using both connection types devices will be shown with two different entries in the list, which may lead to severe issues when accidentally updating the device over both connections simultaneously.**

- **Make sure to -stop- sending data to your devices when managing them with MADRIX HARDWARE MANAGER.**

  **This refers to input and/or output over Art-Net, sACN, DMX512, etc.**

  **Otherwise, changes and updates might fail.**

# Device Configuration

## Basic Configuration

- **1]** In ***MADRIX HARDWARE MANAGER***, navigate to the ***Devices*** tab.
- **2]** You will see connected devices in a list including their current main settings.
- **3]** Basic settings can be changed and configured, including ***Name***, ***IP Address***, ***Subnet Mask***, ***Gateway***, and more.

## Open Web Configuration

- **1]** In ***MADRIX HARDWARE MANAGER***, navigate to the ***Devices*** tab and select a device/devices in the list.
- **2]** ***Right Mouse Click > Open Device Configuration Via HTTP...*** opens your standard web browser and the built-in web configuration of the selected device.
- Learn more »Web Configuration [Ethernet]

## Restore Factory Default Settings

- **1]** In ***MADRIX HARDWARE MANAGER***, navigate to the ***Devices*** tab and select a device/devices in the list.
- **2]** ***Right Mouse Click > Restore Factory Default Settings*** restores the original settings of the device. [Since this may change back the IP address to the original setting, the website will automatically be reloaded after a few seconds and you will automatically be redirected to the correct website and IP address.]

# Firmware Updates

- **1]** In ***MADRIX HARDWARE MANAGER***, navigate to the ***Firmware Files*** tab and make sure you have the right [the latest] firmware version already downloaded and available. An active internet connection is required.
- **2]** Go to the tab ***Devices*** and select a device/devices in the list.

- **3]** Navigate to the column ***Firmware*** and select the firmware you wish to install on the devices.

## File Upload

- **1]** In ***MADRIX HARDWARE MANAGER***, navigate to the ***External Storage*** tab. The External Storage view allows you to manage files on devices that offer storage as part of their feature set, mainly MADRIX AURA.
- **2]** ***Right Mouse Click*** on a device, click ***Upload Files...*** and choose and select the corresponding files on your harddrive. MADRIX AURA Scene Files are required in *.dxd file format. Confirm with ***Open***

## More Information

Please see the ***MADRIX HARDWARE MANAGER User Manual*** for more information.

See »help.madrix.com

MADRIX
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# //PART 4

*MADRIX 5 Software*

# 4 MADRIX 5 Software

## Topics Of This Chapter


- Using MADRIX 5


## 4.1 Using MADRIX 5

**This topic includes:**


- Overview
- MADRIX 5 Software License
- Recording Overview
- Main Output Recording
- Cue List Recording
- Timeline Recording
- Record Editing
- Usage
- DXD Conversion


## Overview

The MADRIX AURA works great in combination with the MADRIX 5 Software.

This chapter explains a variety of features. For more information, see the ***MADRIX 5 User Manual***.

## MADRIX 5 Software License

**In order to record data (effects and visuals) from MADRIX 5, a MADRIX 5 software license is required (sold separately)!**

# Recording Overview

## Initial Configuration

### Target And Other Options

First, you need to decide what kind of record you wish to create:

- ***Network Record***

  - Is only available for MADRIX AURA. By starting a ***Network Record***, MADRIX AURA will automatically start the recording process, when you start recording in MADRIX 5.

  **- Make sure to send data to the device [Art-Net or Streaming ACN] before you start a recording process!** For more information, see the ***MADRIX 5 User Manual***.

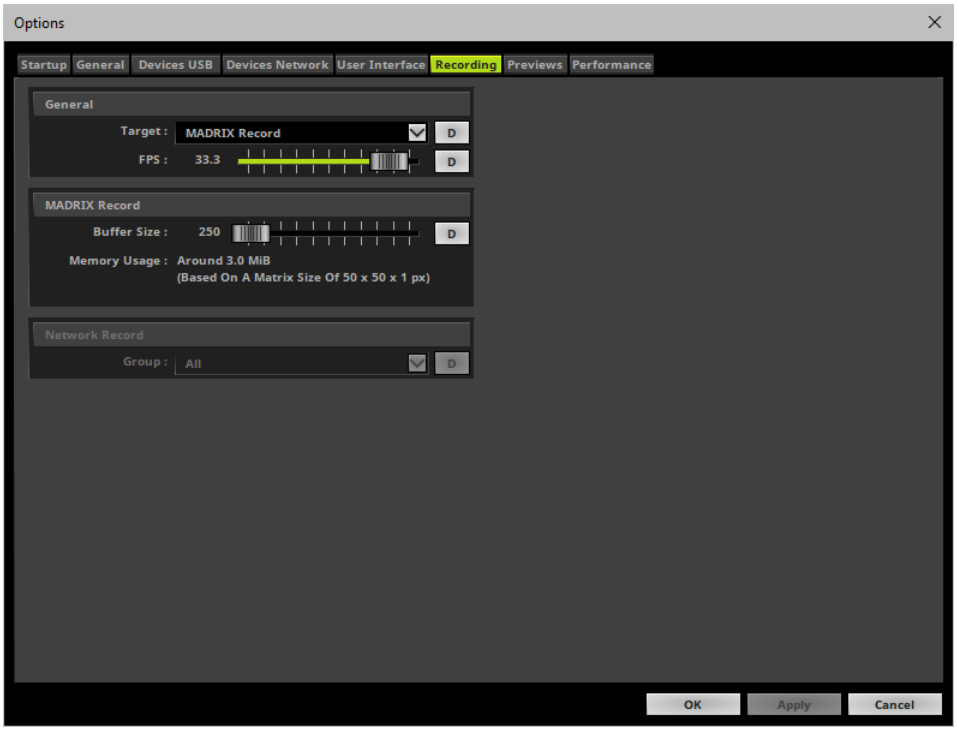
  - [For any recording over Art-Net with MADRIX 5, enabling **ArtSync > Pre-Sync is recommended**.]

- ***MADRIX Record***

  - MADRIX 5 Record files [of the file type *.mrec] can be used for MADRIX AURA [further conversion required as explained below], MADRIX PLEXUS [further conversion required as explained below], and SCE Video [direct playback available; no conversion required].

- **1]** Go to the menu ***Preferences > Options... > Recording***
  [Keyboard shortcut: ***Ctrl+Alt+O > Recording***]
- **2]** Choose the type of record under ***General > Target***

- **3]** In addition, set up the required frequency [***FPS***]
  - This refers to the main mixer of MADRIX 5 and its recording processing thread.
  - If you are recording MADRIX Record *.mrec files, this is also the frame rate of the resulting file.
  - If you are creating Network Records, the output settings of the Device Manager set the recorded frame rate for each device for unicast connections.
  - If you are creating Network Records with broadcast connections, this is also the frame rate of the resulting file.
- **4]** Set up the ***Buffer Size*** for MADRIX Records.
- **5]** Set up ***Group*** if you have chosen Network Record. Depending on your ***Group*** settings, the record will be started for all connected MADRIX AURA or only for the devices in a specific sync group.




## Patching

**Configure your virtual LED matrix with the help of the Matrix Generator or Patch Editor to define the correct patch for your record.**

## Recording Locations

In order to record, there are several locations in the MADRIX 5 Software where you can create records.

- Main Output Recording
- Cue List Recording
- Timeline Recording

# Main Output Recording

## Overview

You can find the Main Output Recording directly on the main user interface.

As the name implies, you will record everything from your Main Output. This will include any crossfades, effect changes, brightness changes, etc.




## Important Note

- **Only the Main Output will be recorded. Make sure that your content is displayed on Preview Output before you start to record.**

## How To Record

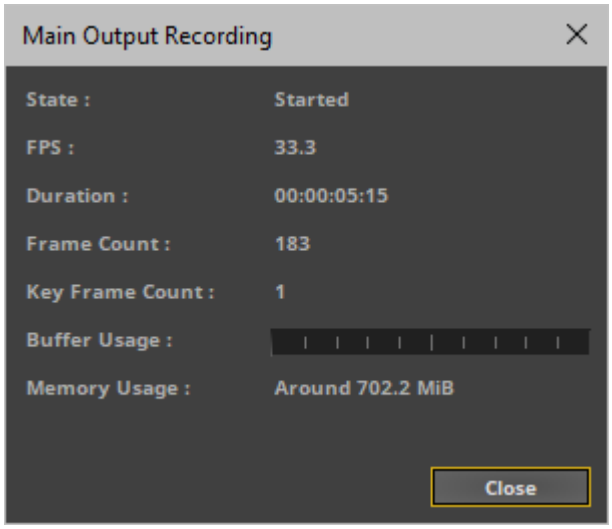
- ***Left Mouse Click -*** Click ***REC*** in order to start the recording process.

  - The context menu allows for more options. Learn more below.

- The button will now pulsate in red and a new window will open to see more details.

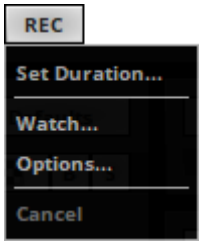



- ***State -*** Shows the current status of the recording process [***Started***, ***Stopped***].
- ***FPS -*** Shows the currently set recording frequency in Frames Per Second.
- ***Duration -*** Shows how long the record currently is in ***HH:MM:SS:FF*** [hours:minutes:seconds:frames].
- ***Frame Count -*** Shows the total number of single frames that has been recorded and created.
- ***Key Frame Count -*** Shows the total number of frames that differ from each other. The MADRIX 5 Software will automatically optimize the file size of records if recorded frames are identical. Hence, the total number of frames can be different to the number of recorded key frames. For example, a color change [without a fade] might use only two colors. In this case, the record may have 400 frames in total, but just 2 key frames.
- ***Buffer Usage -*** Shows the status of the temporary memory when creating a MADRIX Record. The higher the progress bar, the more memory is used. You can set the Buffer Size in the Options.
- ***Memory Usage -*** Shows the currently used main memory [RAM] when creating a MADRIX Record. You will receive a warning icon if the recording process is likely to use too much memory with the following tooltip: ***The required memory has reached a critical amount in relation to the total physical memory (RAM)!***
- ***Close -*** Only closes the watcher window, but does not stop the recording process.

- ***Left Mouse Click -*** Click ***REC*** a second time in order to stop the recording process.
- Please wait a few seconds to let the software process the data. You will be asked for the location to store the record file on your hard drive as well as a name for the file. Click ***Save*** in order to confirm.
- If needed, you can edit your records after the initial recording process. Learn more below.

### Context Menu

- ***Right Mouse Click -*** Click ***REC*** in order to call up the context menu.




- ***Set Duration... -*** Allows you to set a specific time that the record should last [HH:MM:SS].

- ***Watch... -*** Calls up the ***Main Output Recording*** window again for more details.
- ***Options... -*** Calls up the ***Recording Options***.

- ***Cancel -*** Aborts the recording process without asking you to save the file.

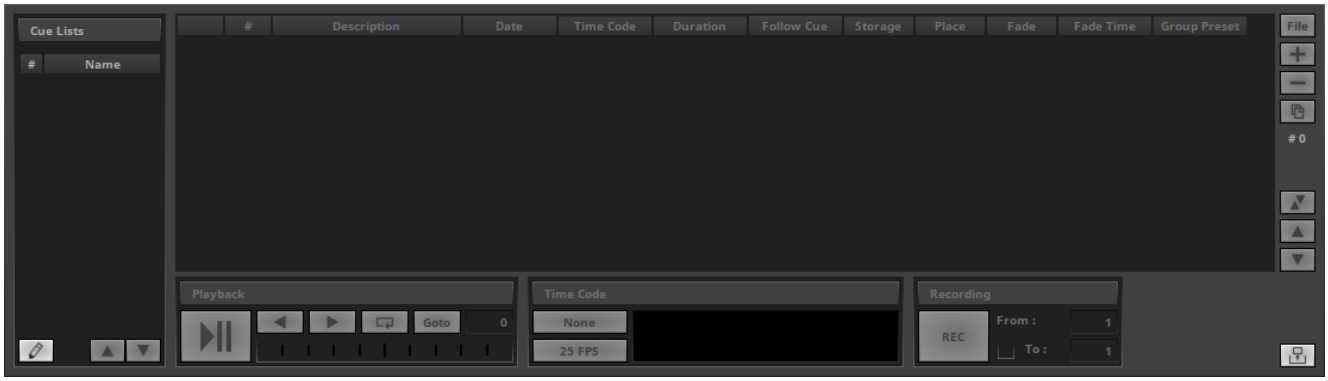
## Cue List Recording

### Overview

The Cue List Recording features are part of a Cue List.

You can open the Cue List Editor in 3 ways:

- Go to the menu ***Tools > Cue Lists...***
- Or press ***F7***
- Or click ***Layer Control > Cue Lists*** on the user interface.




## Important Note

- **Make sure to create a Cue List first. Otherwise, Cue List Recording is not available to you.**
- **All cues need to have a Duration.**

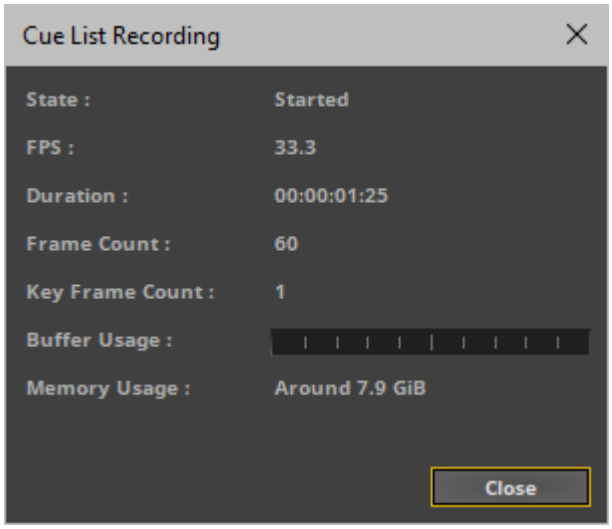
## How To Record

- ***From* -** Defines the cue to start with. Enter the desired value. The default value is 1.
- ***To* -** Needs to be activated first. Allows to set the last cue to record to and thus create a range from cue to cue. If deactivated, the recording will automatically stop at the last cue.
- ***Left Mouse Click* -** Click ***REC*** in order to start the recording process.




- The button will now pulsate in red and a new window will open to see more details.



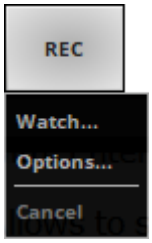



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- ***Key Frame Count -*** Shows the total number of frames that differ from each other. The MADRIX 5 Software will automatically optimize the file size of records if recorded frames are identical. Hence, the total number of frames can be different to the number of recorded key frames. For example, a color change [without a fade] might use only two colors. In this case, the record may have 400 frames in total, but just 2 key frames.
- ***Buffer Usage -*** Shows the status of the temporary memory when creating a MADRIX Record. The higher the progress bar, the more memory is used. You can set the Buffer Size in the Options.
- ***Memory Usage -*** Shows the currently used main memory [RAM] when creating a MADRIX Record. You will receive a warning icon if the recording process is likely to use too much memory with the following tooltip: ***The required memory has reached a critical amount in relation to the total physical memory (RAM)!***

- The software will automatically stop the recording process according to your settings.
- Please wait a few seconds to let the software process the data. You will be asked for the location to store the record file on your hard drive as well as a name for the file. Click ***Save*** in order to confirm.
- If needed, you can edit your records after the initial recording process. Learn more below.

### Context Menu

- ***Right Mouse Click -*** Click ***REC*** in order to call up the context menu.




- ***Watch... -*** Calls up the ***Cue List Recording*** window again for more details.
- ***Options... -*** Calls up the ***Recording Options***.

- ***Cancel -*** Aborts the recording process without asking you to save the file.

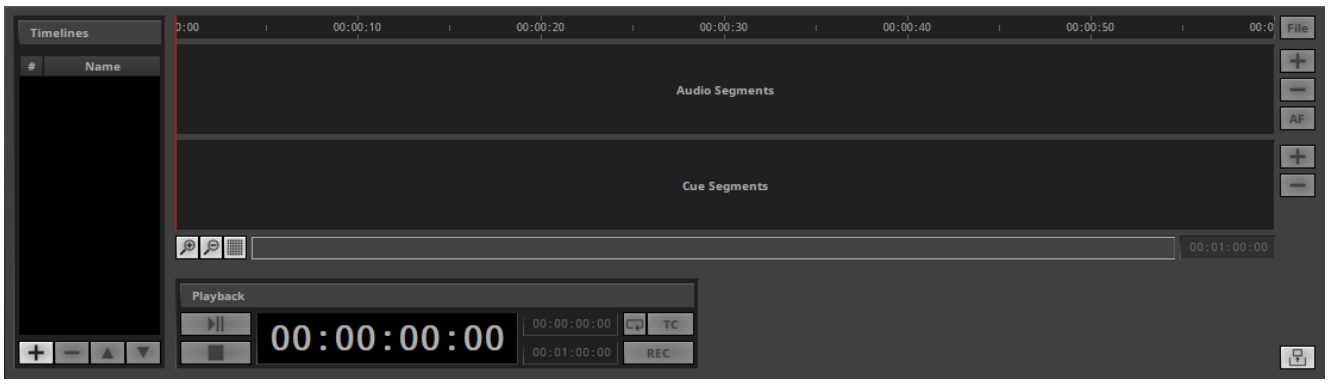
## Timeline Recording

### Overview

The Timeline Recording feature is part of the Timeline and Timeline Editor.

You can open the Timeline in 3 ways:

- Go to the menu ***Tools > Timelines...***
- Or press ***F10***
- Or click ***Layer Control > Timelines*** on the user interface.



## Important Note

- **Make sure to create a Timeline first. Otherwise, Timeline Recording is not available to you.**

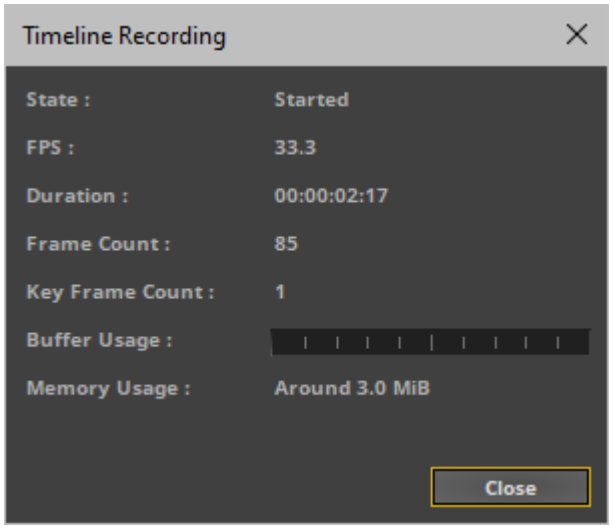
## How To Record

- Set up ***Playback > Start Time*** and ***Playback > End Time*** to define the length of the record.
- ***Left Mouse Click -*** Click ***REC*** in order to start the recording process.
  - Playback of the Timeline will start automatically.
  - The context menu allows for more options. Learn more below.




- The button will now pulsate in red and a new window will open to see more details.



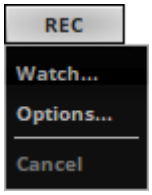

- ***State -*** Shows the current status of the recording process [***Started***, ***Stopped***].
- ***FPS -*** Shows the currently set recording frequency in Frames Per Second.
- ***Duration -*** Shows how long the record currently is in ***HH:MM:SS:FF*** [hours:minutes:seconds:frames].
- ***Frame Count -*** Shows the total number of single frames that has been recorded and created.
- ***Key Frame Count -*** Shows the total number of frames that differ from each other. The MADRIX 5 Software will automatically optimize the file size of records if recorded frames are identical. Hence, the total number of frames can be different to the number of recorded key frames. For example, a color change [without a fade] might use only two colors. In this case, the record may have 400 frames in total, but just 2 key frames.

- ***Buffer Usage -*** Shows the status of the temporary memory when creating a MADRIX Record. The higher the progress bar, the more memory is used. You can set the Buffer Size in the Options.
- ***Memory Usage -*** Shows the currently used main memory [RAM] when creating a MADRIX Record. You will receive a warning icon if the recording process is likely to use too much memory with the following tooltip: ***The required memory has reached a critical amount in relation to the total physical memory (RAM)!***
- ***Close -*** Only closes the watcher window, but does not stop the recording process.

- ***Left Mouse Click -*** Click ***REC*** a second time in order to stop the recording process.
- Please wait a few seconds to let the software process the data. You will be asked for the location to store the record file on your hard drive as well as a name for the file. Click ***Save*** in order to confirm.
- If needed, you can edit your records after the initial recording process. Learn more below.

## Context Menu

- ***Right Mouse Click -*** Click ***REC*** in order to call up the context menu.




- ***Watch... -*** Calls up the ***Timeline Recording*** window again for more details.
- ***Options... -*** Calls up the ***Recording Options***.

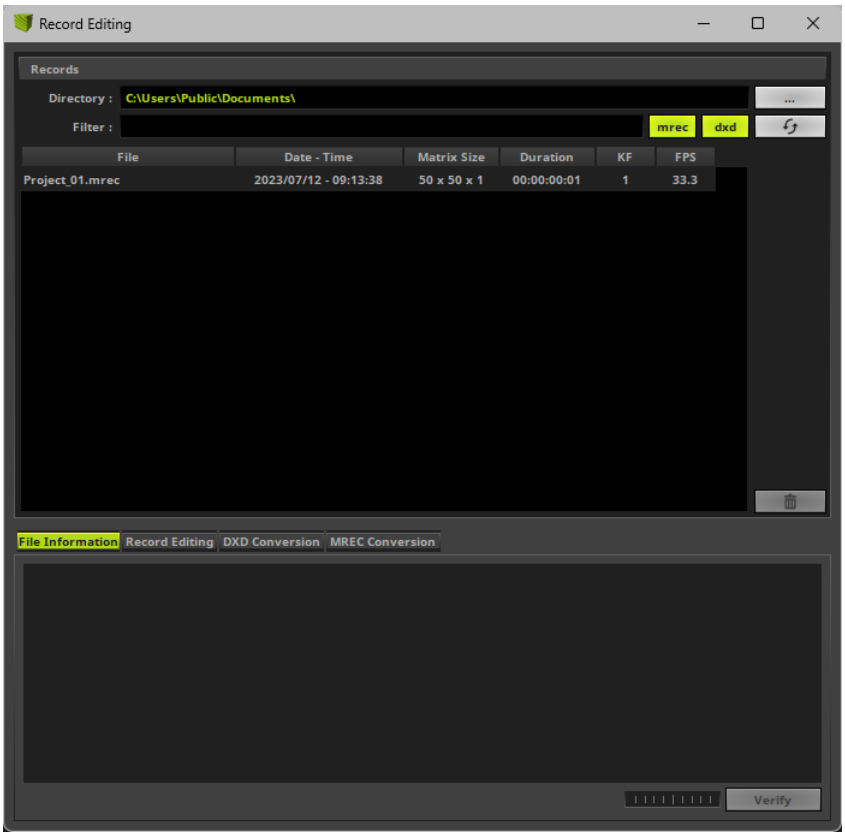
- ***Cancel -*** Aborts the recording process without asking you to save the file.

# Record Editing

## Overview

It is possible to edit MADRIX Record files for additional fine tuning.

- Go to the menu ***Tools > Record Editing...***
  [Keyboard shortcut: ***Ctrl+Alt+R***]
- A new window will open.




## Records

This section allows you to work with your record files.

***Directory***




- Defines a directory on your harddisk/computer. All record files will be saved in this folder. By default, a useful folder is automatically already chosen for you [For example C:\Users\USERNAME\Documents\MADRIX5\records].
- Use ***...*** to choose a different folder.

***Filter***

- Simply enter a name/word and the filter will only show files that include these characters in their file name. Delete any input to show all files again.

**List**

- Files, i.e. records, will be displayed in the large list of the Recording window. If you did not create any records yet, the list is empty [as shown above].




- Shows all MADRIX 5 Record files [of the file type *.mrec] in the list that could be found in the specified directory. When activated, the button is green. Disable the option to hide all Record files.




- Show all DMX Data files [of the file type *.dxd] in the list that could be found in the specified directory. When activated, the button is green. Disable the option to hide all DMX Data files.



- Refreshes the list of records. Please make sure to select your preferred records directory first.

***File***

- Shows the name of the record and its file type [of the file type *.mrec or *.dxd]. Double-click on the list entry to change the name of the file.

***Date - Time***

- Shows the time and date when the record was created.

***Matrix Size***

- Shows the size of the virtual matrix [Matrix Size] used for this record.

***Duration***

- Shows the length of the record, i.e. how long it is. The format is HH:MM:SS:FF [Hours:Minutes:Seconds:Frames].

***KF***

- Stands for Key Frames. MADRIX 5 will automatically optimize the file size of records if recorded frames are identical. Hence, the total number of frames can be different to the number of recorded key frames. For example, a color change [without a fade] might use

only two colors. In this case, the record may have 400 frames in total, but just 2 key frames.

***FPS***

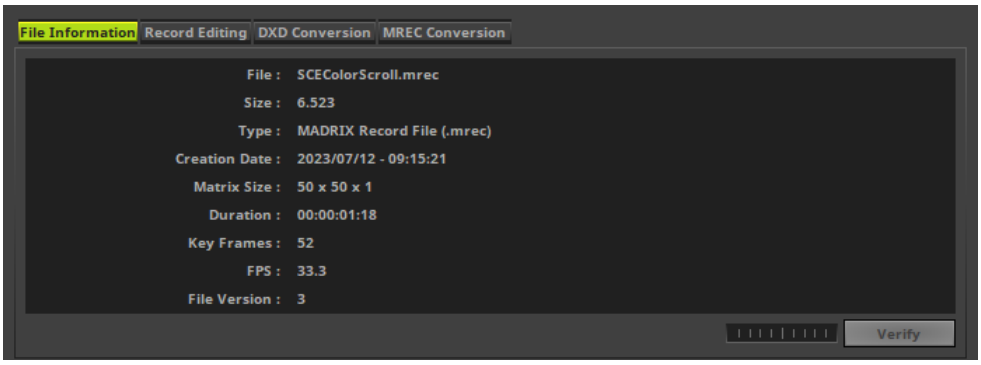
- Stands for Frames Per Second. Shows the number of frames recorded per second of the record file.



- Deletes selected files from your harddisk. You can also use the ***Del*** key on your keyboard.

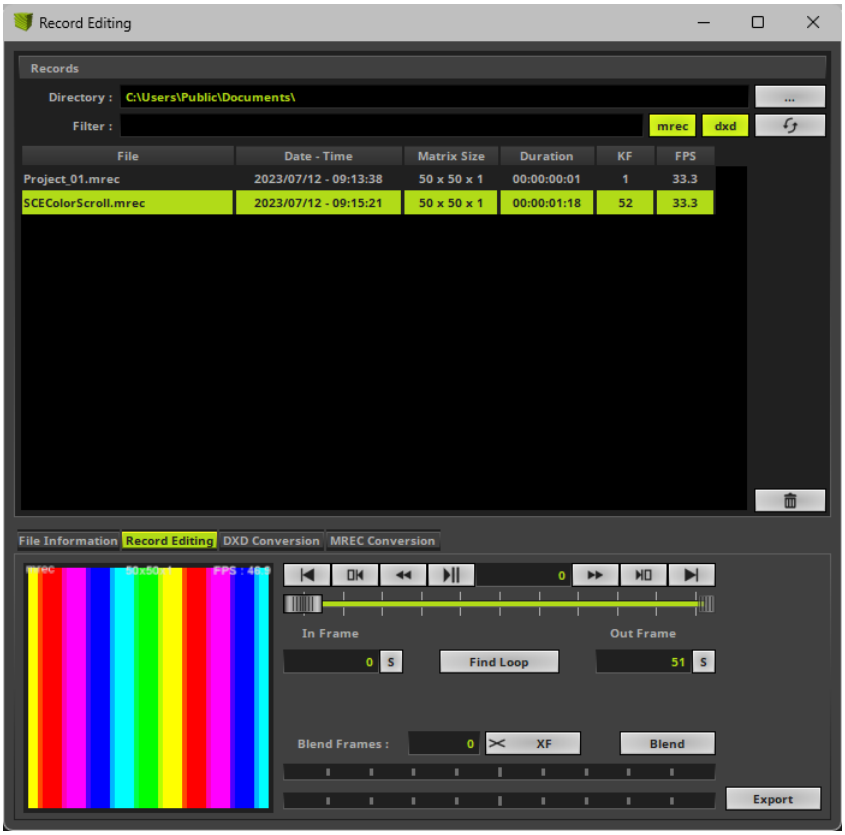
## File Information

- Select a file in the list.
- Go to the tab ***File Information*** to show detailed information about the record file you have created.




## Record-Editing Process

- **1]** Select your Record file in the list.
- **2]** Select the tab ***Record Editing***




- A small preview window is provided in the lower left to inspect the record.
- **Please note:** If you see the message ***!NO MADRIX 5 KEY!*** in the preview window and a rotating cross, that means that you are using MADRIX 5 in demo mode. However, this is no problem. Your record will NOT include this text!

- **3]** Use the provided controls to edit your record:



- Use the slider to select a specific frame.
- Use the small, white triangles to manually set up the In Frame [start frame] and the Out Frame [end frame] for the record.




- This field displays the current frame that is also shown in the small preview window. Enter a number to jump directly to this frame.



- Start or stop the preview playback.



- Rewind or forward one frame per click.



- Skip directly to the In Frame or the Out Frame.



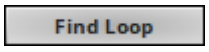
- Skip to the beginning or the end of the record.




- Enter a number or use the slider to select a specific frame. Then, use the ***S*** button to set the ***In Frame*** [start frame].




- Enter a number or use the slider to select a specific frame. Then, use the ***S*** button to set the ***Out Frame*** [end frame].

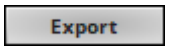



- MADRIX 5 will search the Record File in order to find a segment that is loopable. It will automatically set the In Frame and Out Frame afterwards. Use the button ***Export*** to export your loop. Before that, you can also insert Blend Frames.




- Insert ***Blend Frames*** into your record if you want to.
  - First, enter the number of frames you wish to use. This defines the length.
  - Second, choose the fade mode [***XF***: Cross-Fade, ***WF***: White-Fade, ***BF***: Black-Fade.
  - Third, click ***Blend***.
  - Fourth, use ***Play/Pause*** to preview the edited record.
  - Fifth, use the button ***Export*** to export your loop.

  **Note:** The beginning of your record will be cut by the defined frame number. This is indicated by a red line below the slider.
  Example: If you enter ***100*** frames, MADRIX 5 will create the fade using the first 100 frames and the last 100 frames. Those frames will blend into each other. To have a smooth fade, the record is then cut by 100 frames and starts at frame 101.




- Use this button to export the edited record. Choose a name in the second step.

# Usage

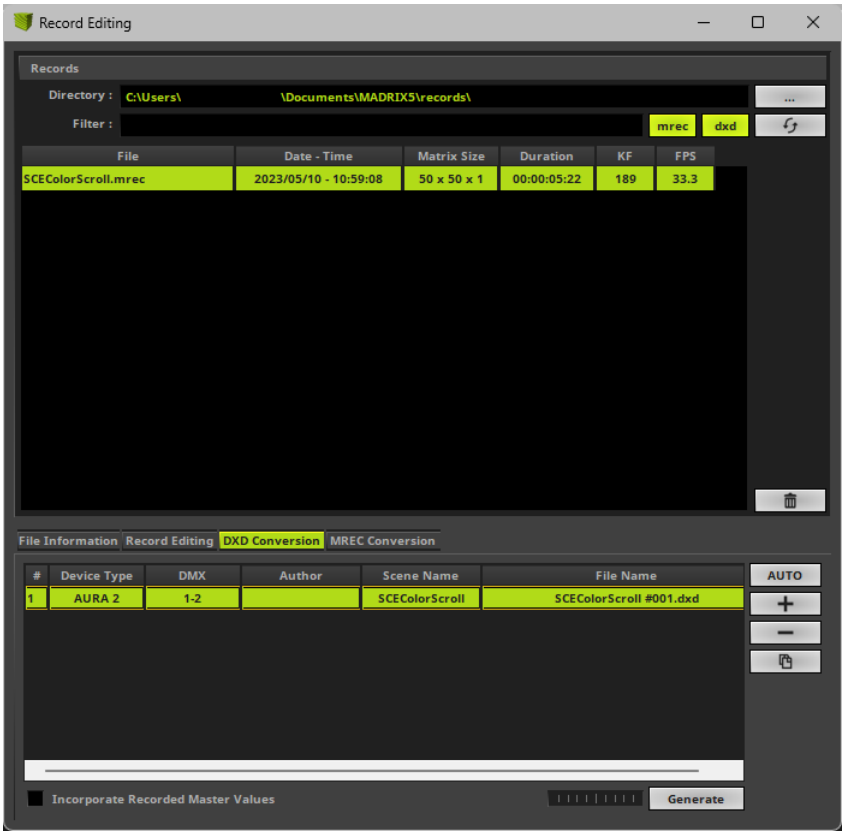
## Overview

Edited or unedited MADRIX Record files can be played back directly in SCE Video.
MADRIX AURA and MADRIX PLEXUS require additional conversion, as explained below.

# DXD Conversion

## Overview

MADRIX Record files cannot be used with MADRIX AURA or MADRIX PLEXUS without converting them into DMX Data files [of the file type *.dxd] first.




## Requirements

### MADRIX 5 License

- **A MADRIX KEY with a valid MADRIX 5 License that unlocks the needed DMX channels is required in order to use this feature!**

### Patching

**Configure your virtual LED matrix with the help of the Matrix Generator or Patch Editor to define the correct patch for your record.**

### Note

- The DXD Conversion tab only factors in the settings of the Patch and not the settings of the Device Manager.

- If your live output via the Device Manager works and you have changed the assignment of DMX universes, please make sure to adjust the settings in the DXD Conversion tab as well!

## Step-By-Step Instructions

- **1]** Go to the menu ***Tools > Record Editing... > DXD Conversion***
  [Keyboard shortcut: ***Ctrl+Alt+R***]

- **2]** First, select one *.mrec file from the list of Records at the top.

- **3]** Add new items for the conversion in the following way:
  **Note:** If your are using more than 1 device at the same time [for example, 3x MADRIX AURA 2 in Master-Slave Synchronization], make sure to create a list entry for each device.




***AUTO -*** Automatically adds items to the list for the conversion. Choose the type of device first: ***AURA 2***, ***AURA 8***, ***AURA 12***, ***AURA 32***, ***PLEXUS***

The number of entries will automatically be added according to the number of patched DMX universes in your Patch in the Patch Editor. The more universes are configured, the more entries will be added.




**+ -** Allows you to manually add items to the list for the conversion. Choose the type of device first: ***AURA 2***, ***AURA 8***, ***AURA 12***, ***AURA 32***, ***PLEXUS***

Add as many entries as needed. For example if you want to convert one record file for different types of devices or if one record file should be played back simultaneously by several devices with different universe assignments each.



**— -** Removes an item from the list. Select an item in the list first.
[Keyboard shortcut: ***Del***]



***Duplicate -*** Creates copies of list items. Select one or several items in the list first. The File Name will automatically be adjusted.

- **4]** Edit the properties in the following way:

***#*** ***Index -*** References the number of items in the list.

***Device Type*** Shows the device type that had been chosen before creating the list item.

***Left Mouse Double-Click -*** Allows you to edit the value. Choose a different device type if needed [***AURA 2***, ***AURA 8***, ***AURA 12***, ***AURA 32***, ***PLEXUS***].

***DMX*** Defines which DMX universes of your Patch (virtual LED matrix) will be used for the output ports of the chosen device type. Please assign the correct universes.

At least one universe needs to be assigned. Universes that are not included in the Patch will be automatically removed.

- AURA 2 - A maximum of 2 DMX universes can be assigned.
- AURA 8 - A maximum of 8 DMX universes can be assigned.
- AURA 12 - A maximum of 12 DMX universes can be assigned.
- AURA 32 - A maximum of 32 DMX universes can be assigned.
- PLEXUS - A maximum of 2 DMX universes can be assigned.

***Left Mouse Double-Click -*** Allows you to edit the value. Simply enter each number of the required universes you would like to assign. Separate multiple universes by entering a ***,*** [comma] in-between. Use ***Enter*** to apply the changes.

- The software will automatically fill in default values according to the assigned DMX universes in your Patch in the Patch Editor.
- Adding additional devices manually to the list will automatically increase the assigned DMX universes, starting with the next free number.
- You can enter ranges of values. For example: '1-2' or '1-8' or '1-32' or '3-4' or '9-16' or '33-64'. Values can only be entered according to the assigned DMX universes in your Patch in the Patch Editor.
- You can enter multiple ranges. For example: '1-4, 9-12' or '24-27, 32-35'. [Make sure to separate ranges with a ,]. Values can only be entered according to the assigned DMX universes in your Patch in the Patch Editor.

**Please note:**

If the universes in your MADRIX 5 Patch aren't numbered one after the other but have gaps between them, for example if you only have patched fixtures in universe 1 and universe 5, then the converted DXD file will group the universes together again and remove those gaps. For example, the DXD file will include universe 1 and universe 2 then; as universe 5 has been moved to fill the gap. Then, you have the following options:

1) In MADRIX AURA, re-assign the Ports to match your original Patch. [The Ports of MADRIX AURA represent the universes of the DXD file.] For example, set Port 2 to universe 5.

2) When your controllers receive Art-Net data in Broadcast Mode, change the received universes to match the adjusted assignment. For example, change from universe 5 to universe 2.

3) Add a single pixel to the empty universes in the MADRIX 5 Patch [by using fixture profile '!generic RGB light 1 pixel'] and make sure that they only receive black color values [DMX value = 0].

***Author***

Is automatically filled in by the software by using the name of your Windows account.

***Left Mouse Double-Click -*** Allows you to edit the value. Simply enter a different name. Use ***Enter*** to apply the changes.

***Scene Name***

Is automatically filled in by the software by using the name of the record file.

***Left Mouse Double-Click -*** Allows you to edit the value. Simply enter a different name. Use ***Enter*** to apply the changes.

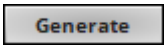
***File Name***

Is automatically filled in by the software by using the name of the record file and adding an index number.

***Left Mouse Double-Click -*** Allows you to edit the value. Simply enter a different name. Make sure that the file name has the ending ***.dxd***. Use ***Enter*** to apply the changes.

***Incorporate Recorded Master Values*** Can be activated if you have used the Master during recording. Then, your converted record will include the brightness levels set by the Master during the recording. Leave the option unchanged if your did not use the Master or do not want to include it.

- **5]** Convert record files by generating the final DXD files:




***Generate -*** Starts the conversion process to convert MADRIX Record files [*.mrec] into DMX Data files [*.dxd].
You will find the converted files in the Records list at the top of the Record Editing window.

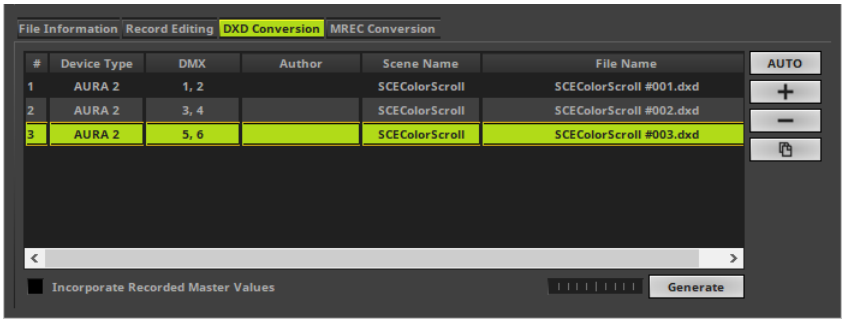
- Generate DMX Data files [*.dxd] for each of your recordings.
- You may create several, different DMX Data files [*.dxd] from a single MADRIX Record file [*.mrec]
- Your MADRIX Record file [*.mrec] will not be deleted when DMX Data files [*.dxd] are generated.
- When using multiple devices at the same time in one installation, you will need multiple DMX Data files [*.dxd]. Usually, each device receives its own file or files with their specific universe assignments.



***Progress Bar -*** Shows the progression of the current conversion with the help of a progress bar.

- **6]** Upload the DXD files to your devices and create a configuration [PLEXUS] or Cue List [AURA] according to your requirements.

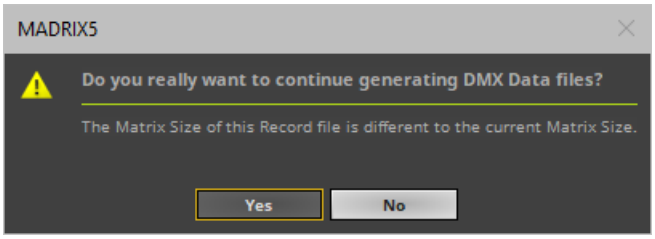
- Example:
  Creating DXD files from one record file for 3x MADRIX AURA 2 in Master-Slave Synchronization could look like this for example:




## Warnings

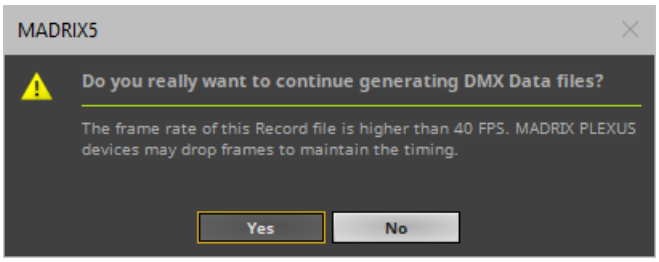
You might encounter certain warnings during your workflow.

### Correct Patch




- As described above, you need to configure your virtual LED matrix (Patch with Matrix Size) correctly, before generating DMX Data files. This message box is a reminder to check if your Patch settings in the ***Patch Editor*** are configured correctly.
- Click ***Yes*** if you would like to proceed with your current settings.
- Click ***No*** if you would like to change your settings.

## Frame Rate For MADRIX PLEXUS




- The maximum recommended frame rate for the MADRIX PLEXUS is 40 FPS (a frame time of 25ms). This message box is a reminder to check if your frame rate settings in the ***Preferences > Options > Recording*** are configured correctly.
- Click ***Yes*** if you would like to continue with your current settings.
- Click ***No*** if you would like to change your settings.

MADRIX
LIGHTING CONTROL

# //PART 5

*Technical Support*

# 5 Technical Support

## Topics Of This Chapter


- Firmware Updates
- Tips And Tricks
- Troubleshooting


## 5.1 Firmware Updates

**This topic includes:**


- Overview
- MADRIX HARDWARE MANAGER
- Available Firmware Updates


## Overview

It is highly recommended to update the firmware should a new firmware version become available.

You can update the device in different ways.

## Important Information

- **Note: Make a backup before updating (or downgrading) the firmware of your MADRIX AURA devices!**
  **[In this way, you can reload your settings after updating. New firmware versions may introduce new features, which requires a reset of all parameters. Downgrades to older firmware versions usually require a full reset to factory default settings.]**

# MADRIX HARDWARE MANAGER

To update your devices, please use the separate MADRIX HARDWARE MANAGER software.

Learn more »**Using MADRIX HARDWARE MANAGER [USB / Ethernet]**

# Available Firmware Updates

| Version | Highlights |
|---|---|
| AURA Firmware<br>**1.00**<br><br>MADRIX Version<br>**-**<br><br>Release Date<br>**June 2020** | ▪ Initial firmware release. |
| AURA Firmware<br>**1.01**<br><br>MADRIX Version<br>**-**<br><br>Release Date<br>**July 2020** | ▪ Added support for MADRIX AURA 2 (#6268).<br>▪ It is now possible to rename scene files under Scenes > Scene File Details (#6319).<br>▪ It is now possible to delete single scene files from the SD card under Scenes > Scene File List (#5945).<br>▪ It is now possible to delete all scene files from the SD card under Scenes > Scene File List (#6334).<br>▪ Files that are used in the cue list will now be shown as linked files under Scenes > Scene File List (#6354).<br>▪ Linked files that have been deleted will not be selected as source anymore under Cue List > Scene Details. A warning sign will be shown (#6368).<br>▪ It is now possible to start playback of the cue list starting with the currently selected scene under Cue List > Cue List Scenes (#6320).<br>▪ It is now possible to duplicate scenes under Cue List > Cue List Scenes (#6182).<br>▪ It is now possible to move scenes up and down in the list under Cue List > Cue List Scenes (#6342).<br>▪ It is now possible to remove all scenes from the cue list under Cue List > Cue List Scenes (#6334).<br>▪ It is now possible to duplicate timers under Timers > Timer Event List.<br>▪ It is now possible to move timers up and down in the list under Timers > Timer Event List (#6342).<br>▪ It is now possible to delete all timers from the list under Timers > Timer Event List (#6334). |

| | |
|---|---|
| | ▪ Timers are now shown as active or inactive with a green or red dot in the Timers > Timer Event List.<br>▪ Timers can be set to Action > None to be used as a placeholder (#6360).<br>▪ New timers are now set to Inactive and Action > None by default to prevent any triggering before the timer is configured correctly (#6360).<br>▪ It is now possible to create custom, user-defined channel masks (#5974).<br>▪ It is now possible to duplicate remote events under Remote > Remote Event List (#6183).<br>▪ It is now possible to move remote events up and down in the list under Timers > Timer Event List (#6342).<br>▪ It is now possible to delete all remote events from the list under Remote > Remote Event List (#6334).<br>▪ Remote events are now shown as active or inactive with a green or red dot in the Remote > Remote Event List (#6361).<br>▪ Remote events can now be set as Active or Inactive in the Remote > Remote Event Settings (#6361).<br>▪ Remote events can be set to Action > None to be used as a placeholder (#6360).<br>▪ New remote events are now set to Inactive and Action > None by default to prevent any triggering before the remote event is configured correctly (#6360).<br>▪ Restoring the default settings under Remote > Remote Event List now requires additional user confirmation (#6369).<br>▪ It is now possible to change the maximum brightness of the status LEDs on top of the device (#5994).<br>▪ It is now possible to require a login in order to access the device's web configuration via username and password under Settings > Web Panel Access Control (#6392).<br>▪ The time before reloading the website after a reboot or reset to manufacturer's default settings has been increased to 15 seconds to avoid unsuccessful reloads (#6251).<br>▪ The current file system of the SD card and its cluster size are now shown under Information > Status Information (#6245).<br>▪ It is now possible to use the Highlight Device functionality via the website under Information > Status Information (#6382).<br>▪ Up to 10 logfiles are now automatically saved directly on the SD card for technical assistance (#5849).<br>▪ Improved synchronization process for multiple devices and Master-Slave Synchronization (#6001).<br>▪ Improved the recording process to ensure a synchronized recording start of multiple devices and Master-Slave Synchronization (#6263).<br>▪ Improved saving processes to ensure responsiveness of the website (#6257)<br>▪ File names can now include additional characters, such as (,),#,{,} (#6395).<br>▪ Fixed an issue that did not save the Remote settings when using Autosave (#6124).<br>▪ Fixed several issues when trying record for master and slave devices, while have Network Recording Universes deactivated for master devices, slaved devices, or both (#6223).<br>▪ Fixed an issue that did not allow to continue playback after trying to play back a scene with a size of 0 bytes (#6254). |

| | |
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| | ▪ Fixed an issue that set all inactive timers to active after a restart of the device or reset to manufacturer default settings (#6289).<br>▪ Fixed an issue that did not show error messages completely under Control > Control Panel (#6301).<br>▪ Fixed an issue that played large scene files backwards very slowly instead of smoothly (#6304).<br>▪ Fixed an issue that only allowed to play back *.dxd files, and excluded *.DXD files (#6353).<br>▪ Fixed an issue that did not save and remember None for Follow Scene under Cue List > Scene Details after a device restart (#6390).<br>▪ Fixed an issue that shortly made previous cues visible when skipping to the next cue (#6408). |
| AURA Firmware<br>**1.02.7380**<br><br>MADRIX Version<br>**-**<br><br>Release Date<br>**October 2020** | ▪ Added Toggle Pause for Timers > Timer Event Action > Action (#6458)<br>▪ Added controls to adjust all ports at once regarding state, protocol, and universe under Remote > eDMX Remote Port Settings (#6422).<br>▪ Added new actions for Timers and Remote Control, incl. Speed Increment, Speed Decrement, Intensity Increment, Intensity Decrement, Intensity Group 1 - 8 Increment, Intensity Group 1 - 8 Decrement (#6480).<br>▪ Added a duplicate IP address feature to quickly set the same IP address for all ports under Playback (#6499).<br>▪ It is now possible to stop playback of the cue list under Cue List > Cue List Scenes (#6384).<br>▪ It is now shown if the device has been set as Master or Slave as Sync. Type under Live Control > Operating Panel (#6470).<br>▪ Slave devices have functionality locked and disabled while a Master is actively controlling the group (#6494).<br>▪ Added a logfile view under Information > Service Functions (#5993).<br>▪ Added the option to download logfiles directly from the web configuration (#6518).<br>▪ Changed the default value range from percent to DMX for Control > Output Panel > Intensity (#6186).<br>▪ Changed the default value range from percent to DMX for Control > Output Panel > Intensity Group Panel (#6186).<br>▪ Changed the value range from percent to DMX for Timers > Timer Event Settings and all Intensity-related Actions (#6186).<br>▪ Changed the value range from percent to DMX for Remote > Remote Event Settings and all Intensity-related Actions (#6186).<br>▪ It is now possible to switch from DMX to percent for Control - Live Control under Settings > Website > View Intensity In (#6186).<br>▪ Renamed the Control Panel and Master Panel to Operating Panel and Output Panel to better differentiate towards Master-Slave Synchronization (#6470).<br>▪ Renamed Scene to Cue in the majority of cases in order to clarify the connection to the cue list as several cues can be based on a single scene file, for example (#6423, #6443).<br>▪ Renamed Toggle Play to Toggle Pause for Remote > Remote Event Settings > Action (#6458). |

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| | ▪ Only remote events that are set to active can be clicked and are shown in the HTTP Remote Control Check under Remote > Remote Event List (#6559).<br>▪ The main menu now shows which item is currently selected (#6093).<br>▪ It is now shown with the help of a red save icon if a configuration has been modified and that there are unsaved changes for the Cue List, Timers, and Remote Control (#6233).<br>▪ Setting up access control via a login now requires explicit confirmation (#6392).<br>▪ Changing the network settings, such as the IP address, now requires explicit confirmation (#6512).<br>▪ Improved the playback synchronization of the Master-Slave Synchronization and fixed accompanying issues (#6383, #6492).<br>▪ Improved the recording synchronization of the Master-Slave Synchronization and fixed accompanying issues; especially with lower frame rates (#6570).<br>▪ Improved the recording and playback behavior of the Master-Slave Synchronization when devices are not receiving any incoming data by creating placeholder scenes (#6355).<br>▪ It will now be checked if Valid Until is not an older data than Valid From and automatically set to Valid From if that is indeed the case (#6389).<br>▪ Improved how the web panel access control is shown, implemented that the access restriction will now be disabled again if no username or password have been set, and added the option to remove the password again (#6421).<br>▪ Added and improved various tooltips (#6388, #6443).<br>▪ Improved various labels (#6443, #6568).<br>▪ Fixed an issue that the web browser did not display SVG icons after a site refresh (#6326).<br>▪ Fixed several user interface inconsistencies of Remote > Remote Event List > HTTP Remote Control Check (#6357).<br>▪ Fixed an issue that did reset a yearly timer to the current month instead of the selected value under Timers > Timer Event Start Date (#6432).<br>▪ Fixed an issue that showed the time incorrectly under Information > Status Information when the SD card in use returned an incorrect OID (#6453).<br>▪ Fixed an issue that endless repetition of a cue in the cue list only worked for the first cue (#6454).<br>▪ Fixed an issue that did not save the remote command Toggle Play in the show configuration(#6457).<br>▪ Fixed an issue that could halt the device completely when receiving the ArtIpProg command (#6464).<br>▪ Fixed minor issues regarding unwanted line breaks in the user interface (#6509).<br>▪ Fixed an issue that applied an incorrect year when entering a past date under Timers > Timer Event Validity (#6510).<br>▪ Fixed an issue that caused cues with White Fade Type and endless repetition to flicker under Cue List > Cue Settings (#6537). |

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| AURA Firmware<br>**1.03.7381**<br><br>MADRIX Version<br>**-**<br><br>Release Date<br>**November 2020** | ▪ Renamed the settings to activate or deactivate Full Frames from Y/N to On/Off under Playback (#6589).<br>▪ Fixed an issue that did not allow to set follow functionality for slave devices if all parameters were not checked (#6582).<br>▪ Fixed an issue that did not allow to enter all possible numbers as IP address under Playback (#6595).<br>▪ Fixed a critical issue that did not allow to record all available universes from a large number of senders by increasing the number of possible ARP requests (#6602). |
| AURA Firmware<br>**1.04.7384**<br><br>MADRIX Version<br>**MADRIX 5.4**<br><br>Release Date<br>**December 2020** | ▪ Fixed an issue that the playback time of cues did not correspond to the record time of scenes if different frame rates were received on the different universes during recording (#6679, #6680).<br>▪ Fixed a critical issue that could halt the device when changing the IP address with help of the MADRIX Device Configuration window (#6706). |
| AURA Firmware<br>**1.05.7389**<br><br>MADRIX Version<br>**MADRIX 5.4a**<br><br>Release Date<br>**February 2021** | ▪ Added support for hardware version/model 1.6 (#6418, #6657).<br>▪ Added support for ArtRdm under Settings > RDM to be able to reply to RDM requests by an RDM controller over Art-Net with status and sensor data (#6596).<br>▪ The default setting for Autosave under Settings > Backup is now On [instead of Off] (#6761).<br>▪ It is now possible to number Universes automatically in reverse/descending order under Recording > Network Recording Settings > Network Recording Universes > Universe (#6325).<br>▪ It is now possible to number Universes automatically in reverse/descending order under Playback > Network Playback Settings > Network Sending Universes > Universe (#6325).<br>▪ It is now possible to number Universes automatically in reverse/ascending order under Remote > Remote Control > eDMX Remote Port Settings > Universe (#6325). |
| AURA Firmware<br>**1.06.7396**<br><br>MADRIX Version<br>**MADRIX 5.4b**<br><br>Release Date<br>**May 2021** | ▪ Added DMX_PERSONALITY and DMX_PERSONALITY_DESCRIPTION for improved RDM compatibility (#7146).<br>▪ Improved and streamlined how the device replies to ArtTodData with Unicast, Directed Broadcast, or Limited Broadcast (#7006).<br>▪ Art-Net Broadcast addresses and sACN Multicast addresses have always been fixed and are now also shown as disabled to prevent editing under Playback > Network Playback Settings (#6956).<br>▪ Fixed an issue that replied to ArtTodControl/ArtTodRequest referring to the wrong Universe for RDM since it did not check if the Universe was correct first (#6948).<br>▪ Fixed a minor issue that showed the tooltip of the Apply button within the confirmation message when changing the IP address of the device (#6970).<br>▪ Fixed an issue that assigned the BindIndex incorrectly to the eDMX Ports for Remote Control (#6980).<br>▪ Removed unnecessary CSS commands from the web interface (#7084).<br>▪ Fixed an issue that did not check the RDM Destination UID sufficiently (#7121).<br>▪ Fixed an issue that did not allow to change the values for Latitude and Longitude under Settings > Location (#7133). |

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| | ▪ Fixed an issue that only returned 12 bytes of the device name when requested over USB (#7187).<br>▪ Fixed an issue that did not allow to save the ChannelConfig.xml to the SD card via its command (#7220). |
| AURA Firmware<br>**1.07.7398**<br><br>MADRIX Version<br>**MADRIX 5.4c**<br><br>Release Date<br>**July 2021** | ▪ The Uptime of the device is now shown under Information > Status Information (#7312).<br>▪ Improved the timing of sending an Art-Net PollReply when a network cable is connected to one of the Ethernet ports by adding a small delay in order for network switches to be able to route the packet (#7254).<br>▪ Optimized internal files and data storage (#7276).<br>▪ Streamlined internal controller communication (#7277).<br>▪ Fixed that the Intensity buttons on the device now both operate with the same +/-26 values (#7255).<br>▪ Fixed that the Locate flag is now set correctly in the Art-Net PollReply (#7259).<br>▪ Fixed that ArtIpProgReply now correctly sets unused values to 0 (#7266).<br>▪ Fixed an issue that did not allow to switch from Art-Net to sACN and back again under Recording - Network Recording Settings (#7332).<br>▪ Fixed an issue that did not refresh the Web Configuration correctly or waited for buffered data to be written completely when formatting the SD card in certain cases (#7327).<br>▪ Fixed an issue that did not report information about the ports in the PollReply over network (#7354).<br>▪ Fixed an issue that reported incorrect temperature values via RDM (#7380).<br>▪ Fixed an issue that did not provide the file name and file path over network (#7402).<br>▪ Fixed an issue that did not allow to read a file over network (#7405).<br>▪ Fixed an issue that reported the recording status incorrectly over network (#7431).<br>▪ Fixed an issue that did not allow to read subdirectories on the SD card correctly over network (#7455).<br>▪ Fixed an issue that did not allow to write files to the SD card correctly over network (#7463). |
| AURA Firmware<br>**1.08.7401**<br><br>MADRIX Version<br>**MADRIX 5.4e**<br><br>Release Date<br>**October 2021** | ▪ Updated the system of the device (#7443).<br>▪ Updated the network interface and optimized the timing of writing files to the SD card over network (#7443, #7467).<br>▪ Prepared the firmware and bootloader for possible future hardware revisions (#7740, #7741).<br>▪ Fixed an issue that only allowed to record 17 universes over sACN (#7663).<br>▪ Fixed an issue that did not initiate a PollReply when changing the IP address using the web configuration page (#7667). |

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| AURA Firmware<br>**1.09.7403**<br><br>MADRIX Version<br>**MADRIX 5.4f**<br><br>Release Date<br>**January 2022** | ▪ Supports the RDM flag per universe/port according to the latest Art-Net 4 protocol revision 1.4dd2 (#7902).<br>▪ Fixed an issue that would cause the web configuration to not react anymore in random cases (#7811).<br>▪ Fixed a critical issue that could crash the device when recording to an SD card that was write-protected (#7824).<br>▪ Fixed an issue that produced incorrect recordings when receiving from two different sources in case the IP addresses only differed in the last octet (#7833).<br>▪ Fixed an issue that showed the Logfile view incorrectly in the web configuration (#7841).<br>▪ Fixed an issue that incorrectly updated the device-configuration file on the SD card when selecting the Playback tab, although no changes were made to the configuration (#7842).<br>▪ Fixed an issue that prevented playback after changing the write-protection state of the SD card as the device no longer tries to save the show configuration when no SD card is inserted or if it is write-protected or does not have enough free space (#7890).<br>▪ Fixed an issue that calculated entered values for Power-Up Delay in milliseconds instead of seconds (#7917).<br>▪ Fixed a critical issue that would halt the device when creating the ChannelConfig.xml (#7925).<br>▪ Fixed an issue that would only use the Channel Mask of the first universe for all channels of all universes when using a custom ChannelConfig.xml (#7925). |
| AURA Firmware<br>**1.10.7410**<br><br>MADRIX Version<br>**MADRIX 5.4g**<br><br>Release Date<br>**March 2022** | ▪ Supports the Network Time Protocol (NTP) for clock synchronization (#6068).<br>▪ Added Highlight to Network Playback Settings to directly test the connection to lighting fixtures (#7647).<br>▪ Channel Masks can now be applied to each port/universe separately; instead of only one mask per device (#7931).<br>▪ Improved the Channel Mask for user-defined configurations with additional functionality (#7631, #7927, #7932).<br>▪ Added new presets for the Channel Mask (Assign All Channels To Intensity Group) (#7932).<br>▪ Introduced file version 2.0 of the Channel Mask. For downward compatibility, devices can read file version 1.0 and file version 2.0 (#7956).<br>▪ Added a command to be able to reload the ChannelConfig.xml of the Channel Mask over network (#7979).<br>▪ Removed the unnecessary CSS class .bs for buttons in the Web Configuration (#8026).<br>▪ Fixed an issue that incorrectly reduced the intensity during cross fades or white fades of endlessly repeated scenes (#7661).<br>▪ Fixed slow writing speeds and reading speeds over network (#7746).<br>▪ Fixed an issue that incorrectly sent output value 1 on the blue color channel when fading from red scene (255, 0, 0) to a green scene (0, 255, 0) in the Cue List (#7945).<br>▪ Fixed an issue that did not update the web configuration when inserting an SD card that now held fewer files, cues, timers, or events than previously shown (#7979). |

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| | ▪ Fixed an issue that did not factor in the Master Intensity when Fade Type White was used in the Cue List and always increased the intensity to 255 during a fade (#8063).<br>▪ Fixed an issue in the firmware and bootloader that showed incorrect states for the status LEDs of the second Ethernet network port of hardware revision 1.9 (#8076, #8084).<br>▪ Fixed an issue that did not allow to output intensity value 127 and falsely sent out 2 instead of 1 (#8075). |
| AURA Firmware<br>**1.11.7411**<br><br>MADRIX Version<br>**MADRIX 5.4h**<br><br>Release Date<br>**April 2022** | ▪ Fixed a critical issue that did prevent Master-/Slave Recording from working (#8230). |
| AURA Firmware<br>**1.13.7413**<br><br>MADRIX Version<br>**MADRIX 5.5**<br><br>Release Date<br>**June 2022** | ▪ Fixed an issue that remained at the last frame of a scene after a run for the total duration when setting Repeat to > 1 in the Cue List (#8381).<br>▪ Fixed an issue that playback of scenes became asynchronous for Masters/Slaves the higher Repeat/the loop count was set due to a difference of 1 frame during recording (#8383). |
| AURA Firmware<br>**1.14.7416**<br><br>MADRIX Version<br>**MADRIX 5.5a**<br><br>Release Date<br>**July 2022** | ▪ Added the setting to edit the ShortName identifier for Art-Net (#8167).<br>▪ Added the setting to disable automatically adding scenes to the Cue List (#8217).<br>▪ The active state of highlighting ports is now communicated by showing the buttons in green (#8573).<br>▪ Now automatically reloads the configuration including files after uploading scene files (*.dxd) with the help of the MADRIX HARDWARE MANAGER (#8579).<br>▪ Optimized the web-configuration page (#7930).<br>▪ Massively decreased the time that is required to upload files over USB (#8050).<br>▪ Scene File Details: Removed Frame Rate and Frame Count as they could show incorrect values for files that were not recorded with a constant frame rate (#8587).<br>▪ Prepared the device to receive the Scene Name from the source when using Network Records (#6386).<br>▪ The status and type of the SD card can now be queried over USB (#8747).<br>▪ Optimized fast memory usage (#8730).<br>▪ Fixed an issue that caused incorrect fades between scenes with different Fade-In Times (#7143).<br>▪ Fixed an issue that incorrectly showed the File Time of recordings at 61 seconds in certain cases (#8337).<br>▪ Fixed an issue with web browsers regarding the parsing of XML (#8507).<br>▪ Reduced data traffic by removing unnecessary parts of specific requests when using the web-configuration page (#8516).<br>▪ Fixed that the Fade-In Time did not match when starting a scene via the Cue List or remotely while another scene was still running (#8522). |

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| | ▪ Fixed an issue that displayed page numbers incorrectly when removing all scenes via the Delete All button under Scenes, Cue List, Timers, and Timer Events (#8232).<br>▪ Fixed an issue that displayed page numbers incorrectly when removing all scenes via the - button in the Cue List and under Scenes (#8584).<br>▪ Fixed an issue that could cause the device to become unresponsive since a reset of the switch could fail by disconnecting from and connecting to power again (#8691).<br>▪ Fixed an issue that prevented Settings > Backup > Execute Function > Reload Settings For Recording, Playback, and eDMX Remote Ports From SD Card to work correctly (#8699).<br>▪ Fixed an issue that used Action Stop instead of Pause in the default remote remote event list (#8702).<br>▪ Fixed several issues with Remote Event Actions that used Increment or Decrement when reaching value 128 (#8703).<br>▪ Fixed an issue that did not show the correct playback time for scenes during playback when the Speed was set to a value other than 100 (#8718).<br>▪ Fixed an issue that added a fade for scenes set to endless repetition in case the Speed was set to lower than 100 (#8719).<br>▪ Fixed an issue that did not initialize parts of the systems memory correctly after startup, which could lead to errors when trying to access the SD card after performing a factory reset with MADRIX HARDWARE MANAGER (#8729). |
| AURA Firmware<br>**1.15.7433** | ▪ Added support for UTF-8 character encoding to show file names; thus enabling support of basically characters of any language, such as Chinese (#6452, #8864).<br>▪ Added an ArtSync Automatism for more granular usage of ArtSync in combination with sACN under Settings > Synchronization (#8698).<br>▪ The bootloader version can now be provided by the firmware over USB (#8873).<br>▪ The progress bar of the Live Control – Operating Panel now only shows the position in % for playback to avoid any deviating values when changing the Output Speed during playback (#8934/ #9064).<br>▪ Added a symbol/icon to show that the SD card is write-protected/locked or that no SD card is inserted into the device for the Scenes, Cue List, and Timers (#8946).<br>▪ Improved durability of the EEPROM by increasing the write timeout (#8996).<br>▪ Improved reliability by ensuring that network settings are always properly saved (#9220).<br>▪ Improved the recording process when receiving data with different frame rates on different universes, avoiding juddering records in case a universe was sent with low frame rates in case of sACN or Art-Net without ArtSync (#9230).<br>▪ Added more information about the device and its state to the logfile at startup (#9262).<br>▪ Streamlined internal error codes over USB and network communication (#9237).<br>▪ Fixed an issue that did cancel the recording process when the file size reached 4 GB (#8809).<br>▪ Fixed an issue that Slave devices did not continue the recording process when the file size reached 4 GB and a new file had to be created (#8821).<br>▪ Fixed an issue that produced flickering when fading two scenes in Master-Slave Synchronization of scenes without ArtSync that included empty frames on Slave devices (#8842). |

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| | ▪ Fixed an issue that cause Fade Type None to flicker when using Master-Slave Synchronization (#8851).<br>▪ Fixed an issue that Slave devices had 1 frame less than Master devices when using Post-Sync recording; which caused None-fades to be uneven for example (#8855).<br>▪ Fixed an issue that did not correctly set the Scene Name from the source when using Network Records (#8859).<br>▪ Fixed an issue that ignored the write-protection of the SD card in certain cases when working with files (#8861).<br>▪ Fixed an issue that did not allow to download the logfile with the MADRIX HARDWARE MANAGER (#8869).<br>▪ Fixed an issue that showed logfiles twice in the selection (#8871).<br>▪ Fixed an issue that allowed directories with the file extension *.dxd to be added as a cue to the Cue List (#8891).<br>▪ Fixed an issue that did not allow to change the month to anything else than September for the Timer Type Yearly (#8991).<br>▪ Fixed an issue that did not allow to set the Day to 31 for a Timer (#8991).<br>▪ Fixed a memory leak for certain routines (#9026).<br>▪ Fixed an issue that would cancel a fade an switch to the next scene if the playback speed changed and then restored to normal again (#9059).<br>▪ Removed a number of unnecessary logfiles entries (#9062).<br>▪ Fixed an issue that did not send the default short name of the device (i.e. the IPv4 as string) when the Art-Net Short Name had been left empty (#9169).<br>▪ Fixed an issue that did not provide enough multicast groups for 32 sACN universes plus 8 sACN remote universes (#9171).<br>▪ Fixed an issue that did not allow to start recording while controlling the device remotely with 8 sACN remote universes (#9173).<br>▪ Fixed issues that returned incorrect states when sending commands over USB (#9203).<br>▪ Fixed quick flashes of the previous scene, when changing scenes while fading from one scene to another scene (#9219). |
| AURA Firmware<br>**1.16.7447**<br><br>Release Date<br>**February 2023** | ▪ Prevents browsers to incorrectly cache values for Output Intensity, Output Speed, and Intensity Groups (#9286).<br>▪ Added the development hash to the firmware version to Information > Device Information (#9274).<br>▪ Added a timestamp of the real-time clock to the logfile to show the actual runtime even in case of power loss (#9372).<br>▪ Improved synchronized playback in a Master-Slave Synchronization (#9429).<br>▪ Fixed deviating frame counts of 1 frame in a Master-Slave Synchronization (#7542).<br>▪ Fixed a critical issue that could halt the web configuration of devices in a Master-Slave Synchronization after a few hours of playback (#8841).<br>▪ Fixed an issue that caused a Master frame to be shown with incorrect brightness that was too high when starting a new fade while another fade was already in process (#9280).<br>▪ Fixed an issue that did not allow to pause playback during a fade (#9254).<br>▪ Fixed an issue that prevented Slave devices to record data correctly in a Master-Slave Synchronization (#9360). |

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| | ▪ Fixed an issue that could start a manual recording process even though devices were actively playing back scenes in a Master-Slave Synchronization (#9388).<br>▪ Fixed an issue that could freeze devices in a Master-Slave Synchronization when quickly changing the speed during playback (#9402).<br>▪ Fixed an issue that did not fully end scenes during a fade while changing the speed (#9418).<br>▪ Fixed an issue that showed incorrect recording start times for consecutive recordings (#9438). |
| AURA Firmware<br>**2.00.7470**<br><br>Release Date<br>**May 2023** | ▪ Web Configuration: A Cue with Endless Repeat and Ping Pong Direction no longer fades when switching directions (#9477).<br>▪ Web Configuration: The maximum speed for the device under Control - Live Control is now 200%; previously 1000% (#9497).<br>▪ Web Configuration: The maximum speed for a Cue under Cue List - Cue List Editor is now 200%; previously 1000% (#9497).<br>▪ Web Configuration: The maximum value for the Actions Speed Scaled, Speed Increment, and Speed Decrement under Timers - Timer Settings is now 200% (#9497).<br>▪ Web Configuration: The maximum value for the Actions Speed Scaled, Speed Increment, and Speed Decrement under Remote - Remote Control is now 200% (#9497).<br>▪ Fixed an issue that could introduce asynchronicity in Master-Slave Synchronization after having playback paused and started again (#6411).<br>▪ Fixed a critical issue that could halt slave devices during startup when a master device was already sending sync commands for Master-Slave Synchronization (#8854).<br>▪ Fixed an issue that could disrupt long runtimes (#9275).<br>▪ Fixed an issue that could result in outgoing Scenes being stopped during a fade to the next Scene for certain Speeds after changing the Speed in the Control - Live Control > Output Panel (#9419).<br>▪ Fixed a critical issue that could halt the device after receiving a large number of ArtsAdress pakets at once (#9475).<br>▪ Fixed an issue that did not activate Highlight Device mode via ArtAddress (#9476).<br>▪ Fixed unnecessary delays in processing Ethernet packets (#9481).<br>▪ Fixed an issue that a file with 0 byte file size could not be deleted anymore (#9527).<br>▪ Fixed a critical issue that could halt the device when playing back Scenes endlessly (#9640).<br>▪ Fixed an issue that could omit the decimal place of Cues in case of whole numbers (#9651). |

## 5.2 Tips And Tricks

**This topic includes:**

▪ Overview

# Overview

- Make sure that MADRIX AURA is the only sender in the network when playing back scenes.
  [You will run into issues if the original sender from which the device recorded its data from is still sending to the same universes.]
- When using MADRIX 5 to send data to MADRIX AURA for recording, it is recommended to use the MADRIX 5 option ***Preferences > Options... > Performance > Suspend DMX Output On Output Value 0***
  - In this way, you can test the recorded scenes directly using MADRIX AURA, when both senders are in the same network by setting the Master to 0 in MADRIX 5 after recording.
- Make sure to send control data to the device before you start a recording process [Art-Net or Streaming ACN]!
- Based on the FAT32 file system, files on the SD card can only have a maximum file size of 4 GB. Should the current recording process create files with such a file size, MADRIX AURA will automatically create new files and continue recording, and add a second index number to the file name in addition to the original index.
- Format SD cards for usage with MADRIX AURA with FAT32 File System and 64 kilobytes Allocation Unit Size.
  You can use the special function provided on the device's website. Learn more »Special Commands
- For the best performance and operation, always use a freshly formatted SD card.
- You will see a status message, when the inserted memory card is not ready for recording [***No SD Card***, ***SD Card Full***, ***SD Card Protected***].

## 5.3 Troubleshooting

**This topic includes:**


- Technical Support
- Troubleshooting


# Technical Support

- MADRIX AURA creates and saves logfiles directly on the SD card.
- Our technical support may request that you send in such small text files via e-mail in order to help you with any requests you might have.

- A maximum of 10 files is managed.

# Troubleshooting

- MADRIX AURA devices with ***Model: AURA V1.0*** [see label on the device] and ***Hardware 1.05*** [see the web configuration under ***Information > Device Information > Hardware***] may run into compatibility issues in rare cases when connecting over USB 3.0 to update the device firmware via the MADRIX 5 Device Updater / MADRIX 5 AURA Updater. In case of problems, try the firmware update over Art-Net instead.

# //PART 6

*Legal*

# 6 Legal

**This topic includes:**


- Introduction
- Topics Of This Chapter


## Introduction

Legal includes all legal documents and information, including copyright and more.

## Topics Of This Chapter


- Imprint And Copyright


## 6.1 Imprint And Copyright

**This topic includes:**


- Company And Address
- Copyright
- Credits

# Company And Address



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