MADRIX® AURA 32 –

1st Edition – 10/2020

Product Specifications

General Purpose

1. The device should be designed and engineered as a lighting-control unit for use in static-lighting or dynamic-lighting applications.
2. The controller should be a hardware interface that can be connected towards various types of compatible controllable lights or other lighting controllers over standard communication protocols and connections.
3. The controller is required to record the lighting-control data it receives over Ethernet network using standard control protocols.
4. The controller should be a stand-alone unit that supports independent playback of the light show from the internal memory card.
5. The controller should store data on a non-volatile, digital storage medium that is easily removable for backup, swapping, and restore scenarios.
6. The controller should encrypt show data on the storage medium by default, thereby offering measures against manipulation or theft of said data.

Communication

1. The controller should support the standard Art-Net and/or Streaming ACN protocols.
2. The controller should output up to 16384 DMX channels over network.
3. The controller should receive up to 16384 DMX channels over network for recording.
4. The controller should be able to receive commands over standard protocols to control the unit remotely (including Art-Net, Streaming ACN, and HTTP).
5. The controller should support remote control commands, including full control over playback and operating mode as well as main parameters (such as output intensity and playback speed).

Handling

1. The configuration of the controller and its status information should be easily accessible via a web interface through a standard web browser.
2. There should be the option to restrict access to the web interface of the controller with the help of a customizable login with username and password.
3. The controller should have built-in control buttons on the device for full control over playback and operating mode as well as main parameters (such as output intensity and playback speed).
4. The controller should have LED status indicators for visual indication of the operating mode and the device and connectivity status.
5. The device should support connecting to and disconnecting from USB or Ethernet network during use and without a reboot (Hot Swapping & Plug and Play).
6. The controller should provide service functions via the web interface without requiring any additional steps, such as rebooting, resetting to manufacturer default settings, and formatting the SD card.

Features

1. The controller should be a fully scalable solution. It should work in such a way that it can be used alone or as multiple units together to control larger projects.
2. It should be possible to assign multiple controllers to a group, which then is automatically synchronized regarding playback and operating mode, and optionally the main parameters (such as output intensity and playback speed).
3. The controller should allow file management of scenes in the web interface (including showing details, deleting, renaming, sorting, and organizing in a cue list for automatic playback).
4. It should be possible to fully customize the cue-list settings for each individual cue (including intensity, repetition, direction, speed, crossfades, and following cues).
5. The controller should allow time-based and trigger-based events in order to programm partially or fully time-controlled and/or trigger-controlled shows.
6. The controller should allow changing the Ethernet-network settings, such as IP address, subnet mask, and gateway, via the web interface.
7. Startup of the controller should only take up to 5 seconds, independently of how much data is stored on the storage medium.
8. The controller should feature autoplay after startup.
9. The controller should support SD, SDHC, and SDXC cards.
10. It should be possible to dim or completely switch off the status LED indicators of the controller.
11. The user should be able to enter location coordinates via the web interface (latitude and longitude) on which sunrise and sunset times are internally calulated on the device, which then can be used as time-based triggers.
12. The controller's operating software should be stored in dedicated memory, which is fast and secure.
13. The controller should support firmware updates via USB and/or Ethernet network.

Connectivity

1. Required is the Ethernet-based connection over standard RJ45 connectors with support for Auto MDI-X and 10/100/1000 MBit/s speeds.
2. The controller should feature 2x RJ45 ports with daisy-chain support.

Hardware Design

1. The controller should meet high requirements regarding quality and reliability (Made in Germany is preferred).
2. The manufacturer has to offer a limited warranty of at least 5 years for the controller.
3. The controller needs to support DC 5 V – 24 V via a 2-pin, pluggable screw terminal or over 5 V USB.
4. Required is an energy-efficient device with a maximum power consumption of 1.5 W during normal operation (300 mA / 500 mA max. fused).
5. The controller should feature a design that is entirely solid-state, without any spinning or moving parts.
6. All ports of the controller should feature surge protection against static discharges.
7. The power port of the controller should be protected against voltage reversal at 5 V – 11 V for several minutes.
8. The power port of the controller should be protected against voltage reversal at 12 V – 24 V indefinitely.
9. The power port of the controller should be protected against short DC overvoltage up to ~60 V.
10. The case of the controller should be non-conductive.
11. The controller should be mountable on DIN rails or solid surfaces (walls).
12. The controller should operate in temperatures of -10 °C to 70 °C (14 °F to 158 °F).
13. The controller should support storage in temperatures of -20 °C to 85 °C (-4 °F to 185 °F).
14. The controller should comply with CE, FCC, and RoHS.