



STELLA



Art-Net Node / USB 2.0 DMX512 Interface

MADRIX® STELLA – Quick Start Guide & Technical Manual

1st Edition, Last Update: April 2016

Thank you for purchasing MADRIX® STELLA!

Please read this guide carefully and thoroughly before using MADRIX® STELLA. Make sure that you fully understand all information.

This MADRIX® STELLA Quick Start Guide is written in English and German.

Developed and made in Germany.

Imprint

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Package Contents

- 1x MADRIX® STELLA
- 1x Set of screw terminals (2x 3-pin and 1x 2-pin)
- 1x USB power supply
- 1x USB 2.0 cable (*certified*)
- 1x World power plug adapters kit
- 2x Wall-mount brackets
- 1x Quick start guide
- 1x CD-ROM incl. MADRIX® and USB drivers (*software license not included*)

Please note: Check the package contents and the condition of the interface after unpacking! Contact your supplier if something is missing or damaged. Do not use the device if it seems to be damaged!

Safety Instructions And Limited Warranty

Two years of limited manufacturer's warranty are granted to the purchaser of this product. Warranty applies to constructional fault, material defect, or incorrect assembly the manufacturer has caused or is to be held responsible for. Warranty will be void if the interface is opened, modified, damaged through inappropriate handling and wrong usage, damaged through electric current (electricity), or damaged through any other cause.

Please follow the instructions below to avoid mishandling, damage to the device, or personal injury:



**THE DEVICE WORKS WITH LOW VOLTAGE (DC 5 V – 24 V).
DO NOT USE ANY OTHER VOLTAGE!**



Beware that the interface works with electrical power. Only use the device in dry environments (indoor use). The IP Rating of the device is IP20. Do not use the interface in humid environments and avoid contact with water or any other liquids. Turn off the power if you are not using the device for a long time.

It is recommended to always use galvanic isolation (e.g. an opto-isolator/opto-coupler splitter). Avoid unwanted voltage on the DMX lines/cables at all times. Do not remove any parts from the unit or connect to an ungrounded circuit. Do not connect the unit to LEDs that are switched on. Only connect the unit to DMX fixtures and controllers that are initially powered off.

There are no user serviceable parts inside or outside the interface. Repair service lies only within the responsibilities of the manufacturer. If the interface appears to be defective, please contact your dealer. After expiration of the warranty period you may contact your supplier or the manufacturer to have the unit repaired against payment of an individual service fee if possible.

The interface has several ports and slots. Only connect or insert devices, cables, and connectors to the individual ports and slots using connectors of the same type as the port. Do not use inapplicable equipment. This device should be used by professionals. The device is not designed to be operated by non-professionals or children.

End-Of-Life



This electrical device and its accessories need to be disposed of properly. Do not throw the device into normal trash or household waste. Please recycle packaging material whenever possible.

Usage

In general, this device is designed to be operated as a hardware control interface to be connected towards various types of controllable lights / lighting controllers via DMX512 (USB to DMX) or Art-Net (DMX over Ethernet). Do not use the interface for any other, deviating purpose.

The device can be connected to and disconnected from USB or Ethernet network during use and without a reboot (Hot Swapping & Plug and Play). Multiple interfaces can be used at the same time.

Technical Specifications

Power supply:	DC 5 V – 24 V, connection via 2-pin screw terminal or via 5 V USB (USB power supply included)
Power consumption:	< 1.5 W during normal operation (300 mA max.)
DMX512:	2x 512 DMX channels, input and/or output
DMX512 ports:	2x ports (via 2x 3-pin screw terminals)
Ethernet (Art-Net):	RJ45, 10/100 MBit/s (compatible with 1 GBit/s)
USB port:	USB 2.0, type B plug
Case:	Non-conductive, IP20, UL94 V-0 flammability rating, designed for 35 mm DIN-rails or wall mounting
Dimensions:	92 mm x 70 mm x 45 mm (length x width x height)
Weight:	111 g 130 g incl. screw terminals and wall mounts
Temperature range:	-10 °C to 70 °C (Operating) -20 °C to 85 °C (Storage)
Relative humidity:	5 % to 80 %, non-condensing (Operating / Storage)



THE DEVICE REQUIRES DC 5 V – 24 V TO WORK. DO NOT USE ANY OTHER VOLTAGE BECAUSE IT CAN DAMAGE THE DEVICE.



WHEN CONNECTING TO USB, ALWAYS USE AN ACTIVE USB 2.0 PORT OR A USB 2.0 HUB WITH ITS OWN POWER SUPPLY.

IP Address And Other Device Information

You will find the following important information on the side of the device:

- Serial number ('Serial')
 - Hardware revision ('Model')
 - Default and preconfigured IP address ('Default IP')
- (See page 11 to reset the device to the default IP address if needed.)

Using Any 3rd-Party Controller Via Art-Net

MADRIX® STELLA is a standard Art-Net node. Because of this, you can use the device with any application, console, or controller that supports Art-Net.

Using MADRIX®

MADRIX® is a professional and advanced LED lighting control software. It is recommended to use MADRIX® in order to access all features of MADRIX® STELLA, including the USB connection, Art-Net, and MADRIX® Sync Mode. MADRIX® STELLA is fully supported by MADRIX® 3.6 or higher. (Art-Net support is already available with previous MADRIX® versions.)

Please note: In order to distribute data via MADRIX® STELLA using MADRIX®, a MADRIX® software license is required (sold separately)!

MADRIX® 3.X Minimum System Requirements

2.0 GHz dual-core CPU, OpenGL 2.1 graphics card (NVIDIA recommended), 2 GB RAM, 1 GB free harddisk space, 1280 x 768 screen resolution, network card, sound card, USB 2.0.

MADRIX® 3.X Supported Operating Systems

MADRIX® 3.X supports the following operating systems:



Microsoft® Windows® Vista | 7 | 8 | 8.1 | 10

Please keep the system up to date.

Compatible with 32 bit and 64 bit.

Installing The MADRIX® Software And Drivers

Insert the CD that comes with MADRIX® STELLA into the CD-ROM drive of your operational computer. The MADRIX® software setup will load automatically. Follow the on-screen installation instructions as described below.



PLEASE INSTALL THE SOFTWARE AND DRIVERS FROM THE CD BEFORE YOU CONNECT MADRIX® STELLA TO YOUR PC.

First, please choose your preferred language and confirm with 'OK'. You may abort the process at any time by clicking 'Cancel'.



Second, the 'Welcome' window appears. Click 'Next >' to start the installation.

Third, the 'License Agreement' will be shown. It outlines the terms you are agreeing to when you install the software. You must accept these terms in order to continue. Please click 'I Agree'.

Fourth, the 'Choose Components' window allows you to select which items you want to install. A description is given for each item. The items 'MADRIX', 'MADRIX Interface Driver', and 'MADRIX KEY Driver' need to be selected and are the most important items for operating the MADRIX® STELLA. Click 'Next >'.



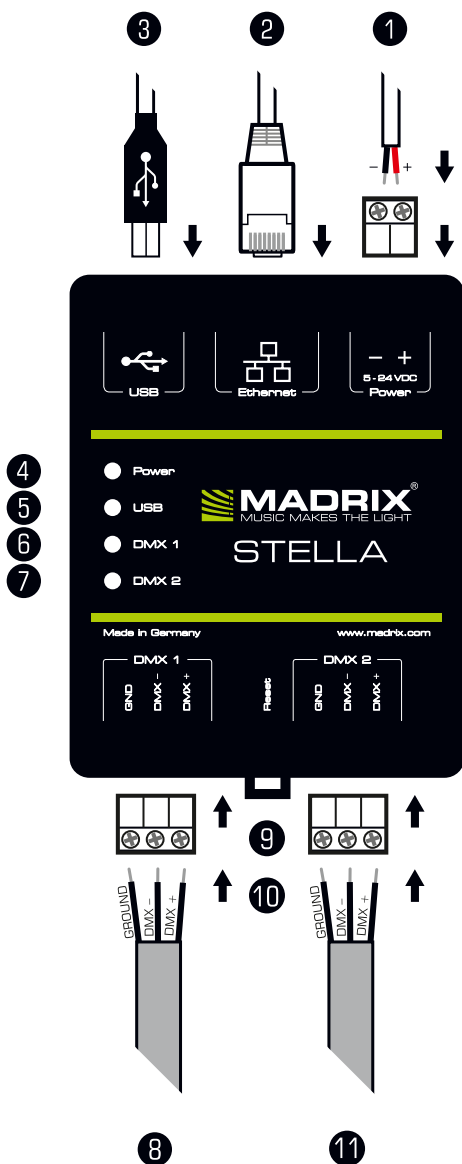
Fifth, the section called 'Destination Folder' allows you to select the location on your harddisk where the software will be installed. Please use the button 'Browse...' to choose a location and then click 'Install'.

The installation process may take a few minutes.

Sixth, when the 'Installation Complete' window appears, click 'Next >'.

Seventh, uncheck 'Run MADRIX' and then click 'Finish' to complete the installation process.

Connectivity

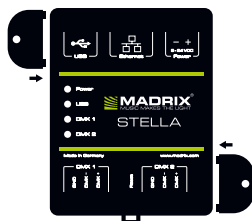


- 1) Power
- 2) RJ45 Ethernet port, incl. 2 status LEDs
- 3) USB port
- 4) Status LED for Power
- 5) Status LED for USB
- 6) Status LED for DMX 1
- 7) Status LED for DMX 2
- 8) DMX 1
- 9) Reset button
- 10) DIN-rail unlocking clip
- 11) DMX 2

Please note:

The package contents do not include network cables, power cables, or DMX fixtures.

2x Mounting brackets:



1) Connecting Your LED Fixtures

See chapter 'Connection Diagram Variations' on page 9 for all possible variations.

Step 1) Switch off completely your supply of power before connecting your DMX fixtures to the device!

Step 2) Connect your DMX fixtures to the provided 3-pin screw terminals:

- » Make sure to choose cable lengths according to the DMX specifications.
- » You may connect only to DMX 1, only to DMX 2, or to DMX 1 and DMX 2.
- » Pay attention where to connect GROUND, DMX –, and DMX +; as indicated on the device.
- » Insert each individual wire consecutively and tighten the corresponding screw with a suitable screw driver.

Step 3) Plug the 3-pin screw terminals into the device. The screws must face upwards.

Step 4) Supply your DMX fixtures with power.

Step 5) Continue with the chapter '2) Connecting To Power And Data' below.

2) Connecting To Power And Data

See chapter 'Connection Diagram Variations' on page 9 for all possible variations.

Step 1) Be careful when handling the device and electrical power! Switch off completely your supply of power before connecting to the device!

Step 2) Connect your power cables to the provided 2-pin screw terminal:

- » Pay attention where to connect + and –; as indicated on the device.
- » Insert each individual wire consecutively and tighten the corresponding screw with a suitable screw driver.

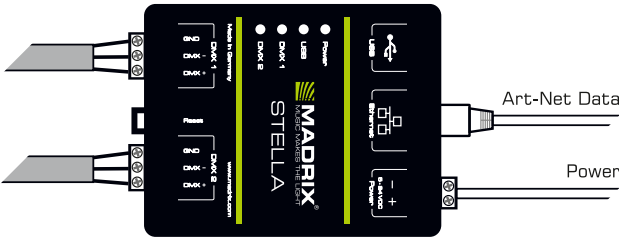
Step 3) Plug the 2-pin screw terminal into the device. The screws must face upwards. Or connect the provided USB power supply.

Step 4) Connect to USB or to Ethernet network for data as required.

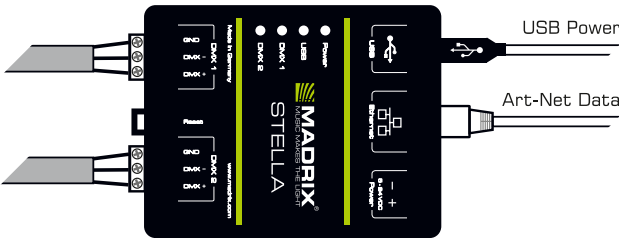
Step 5) Do not switch on your supply of power until all required power cables and DMX fixtures are connected to MADRIX® STELLA.

Connection Diagram Variations

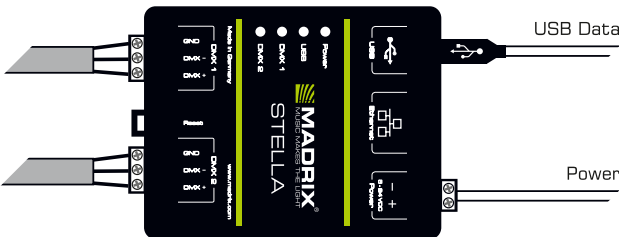
Variation A



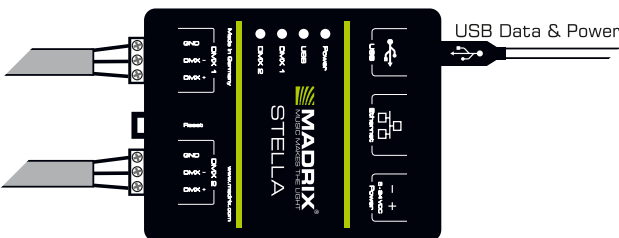
Variation B



Variation C



Variation D



Device Configuration

You can access and change specific device settings, including the IP address, in different ways.

Web Configuration Through A Web Browser

- Step 1) Connect MADRIX® STELLA and your computer to the same network.
- Step 2) Assign correct network settings in the Windows operating system.
(Recommended default settings:
IP address 10.0.0.1 and Subnet mask 255.0.0.0)
- Step 3) Open your web browser and enter the IP address of MADRIX® STELLA.
(You can find the default IP address on the side of the device.)
- Step 4) The web configuration interface will be launched.
- Step 5) Change any settings as required. Apply changes with 'Set'.

MADRIX Device Configuration In MADRIX®

- Step 1) Connect MADRIX® STELLA to your computer via USB or via Ethernet.
- Step 2) Start the MADRIX® software.
- Step 3) For the USB connection, Microsoft® Windows® will install the interface drivers automatically. When ready, the status LED for USB will fade between red and green; as described on page 11. Then, enable USB drivers in MADRIX®. Go to 'Preferences' → 'Options...' → tab 'Devices USB'. Activate 'MADRIX STELLA' and click 'OK'.
(The driver is activated by default.)
- Step 4) For the Ethernet connection, enable network drivers in MADRIX®. Go to 'Preferences' → 'Options...' → tab 'Devices Network'. Activate 'Enable LUNA / NEBULA / PLEXUS / STELLA' and click 'OK'.
(The driver is activated by default.)
- Step 5) In MADRIX®, go to 'Tools...' → 'MADRIX Device Configuration...'. A new window will open. Click on the search button (magnifying glass icon) and the software will search for connected devices. Select your device in the list and click on the configuration button (gear wheel icon).
- Step 6) Change any settings as required. Apply changes with 'Set'.

For more information, please read the MADRIX® user manual.

Description Of Status LED Codes

STATUS	POWER
Powered off	Power not connected. → The device has no power.
Permanently green	Connected to power. → The power is on.
Blinking green	Bootloader activated. → Reset the device (see below).

STATUS	USB
Powered off	USB not connected.
Red + blinking green	Communicating over USB. → Sending or receiving data over USB. The USB port works.
Fading between red + green	Connected to USB; Drivers installed correctly. → No data is sent over USB.
Orange	Connected to USB; No drivers installed. → Reinstall software and drivers or try a different USB port.

STATUS	DMX 1	DMX 2
Powered off	No data is sent.	No data is sent.
Blinking green	Sending or receiving data. → The DMX port works.	Sending or receiving data. → The DMX port works.

STATUS	ETHERNET
Green off	10 MBit/s connected.
Green on	100 MBit/s connected.
Orange on	Network connected.
Orange blinking	Sending or receiving data. → The Ethernet port works.

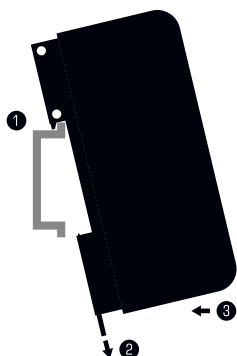
Reset To Factory Default Settings

In rare cases you might need to do a reset to factory default settings:

- Step 1) Disconnect all connections from the device (power, data, DMX).
- Step 2) Use a suitable tool to press the reset button (between DMX 1 and 2).
- Step 3) Continue to press the reset button and supply power again over 'Power' or USB.
- Step 4) Continue to press the reset button and wait until all status LEDs of the device flash repeatedly or wait 10 seconds.

Please note: Simply repeat these steps should the process fail.

How To Install On DIN-Rails

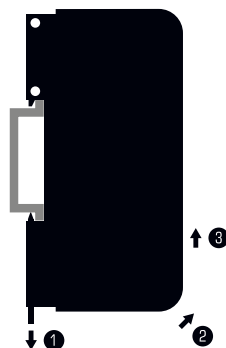


Mounting (Pictured Left)

- Step 1) Hook the device in an angle onto the upper edge of the rail.
- Step 2) Pull the unlocking clip.
- Step 3) Press the lower part of the device against the rail and let the clip snap into position.

Unmounting (Pictured Right)

- Step 1) Pull the unlocking clip.
- Step 2) Lift the lower part of the device from the rail in an angle.
- Step 3) Lift the device from the rail.



Using MADRIX® And USB

You can connect MADRIX® STELLA directly over USB to the computer that runs the MADRIX® software. Data is sent to MADRIX® STELLA via USB cabling and distributed to the two ports ('DMX 1' and 'DMX 2'):

- Step 1) Put MADRIX® STELLA into operation by connecting the DMX fixtures and supplying power; as described above.
- Step 2) Connect MADRIX® STELLA to a free USB 2.0 port of your computer using the provided USB cable.
- Step 3) Start MADRIX® and configure your virtual LED matrix using 'Preferences...' → 'Matrix Generator...' or → 'Patch Editor...'.
- Step 4) Enable USB drivers in MADRIX®. Go to 'Preferences...' → 'Options...' → tab 'Devices USB'. Activate 'MADRIX STELLA' and click 'OK'.
- Step 5) Configure DMX output. Go to 'Preferences...' → 'Device Manager...' → tab 'DMX Devices'. Activate 'Enable' for each required port.

For more information, please read the MADRIX® user manual.

Using MADRIX® And Art-Net

You can connect MADRIX® STELLA over Ethernet network to the network card of the computer that runs the MADRIX® software. Data is sent to the device over network cabling and distributed to the two ports ('DMX 1' and 'DMX 2'). Follow these quick steps to configure Art-Net in MADRIX®:

- Step 1) Put MADRIX® STELLA into operation by connecting the LEDs and supplying power; as described above.
- Step 2) Connect STELLA to your computer using Ethernet network cabling.
- Step 3) Assign correct network settings in the Windows operating system.
(Recommended default settings:
IP address 10.0.0.1 and Subnet mask 255.0.0.0)
- Step 4) Start MADRIX® and configure your virtual LED matrix using 'Preferences...' → 'Matrix Generator...' or → 'Patch Editor...'.
- Step 5) In MADRIX®, go to 'Preferences...' → 'Device Manager...' → tab 'Art-Net' and activate 'Enable'. Click on the search button (magnifying glass icon) and the device appears in the list.
- Step 6) Go to 'Preferences...' → 'Device Manager...' → tab 'DMX Devices' to configure DMX output. Activate 'Enable' for each required port in the section 'Settings'.

For more information, please read the MADRIX® user manual.

How To Update The Firmware

It is highly recommended to update the firmware of MADRIX® STELLA should a new firmware version become available. You can do so in different ways. Follow these quick steps to update the firmware in MADRIX® over USB:

- Step 1) Connect MADRIX® STELLA to your computer over USB.
- Step 2) Start the MADRIX® software.
- Step 3) In MADRIX®, go to 'Tools...' → 'MADRIX Device Configuration...'. A new window will open. Click on the search button (magnifying glass icon) and the software will search for connected devices. Select your device in the list, click on the 'Firmware' button, and follow any instructions.

For more information, please read the MADRIX® user manual.

Updates And Further Information


Digital documentation files are automatically installed with MADRIX®. More information about the software and how to connect MADRIX® STELLA is provided in the **MADRIX® Help And Manual**. You can access this user manual by pressing 'F1' on your keyboard while using the MADRIX® software, by navigating to the menu 'Help' → 'User Manual...', or online at help.madrix.com

The latest quick start guide and MADRIX® software, including drivers, firmware updates, and documentation, are available from www.madrix.com

Support


In case of further questions concerning handling of MADRIX® STELLA or technical problems, please read the MADRIX® Help And Manual first, contact your dealer, or have a look at the website www.madrix.com
You can also directly contact info@madrix.com

CE And RoHS Declaration Of Conformity

 **RoHS**
compliant

The device complies with the requirements set forth in the council Directive of the law of the Member States relating to electromagnetic compatibility (2014/30/EU), the Low Voltage Directive (2014/35/EU), and the Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (2011/65/EU) (RoHS). Compliance with these has been evaluated in acc. with the following standards: DIN EN 55011 (2009) + A1 (2010), DIN EN 55015 (2013), DIN EN 55024 (2010), DIN EN 61000-4-2 (2009), DIN EN 61000-4-3 (2006) + A1 (2008), DIN EN 61000-4-4 (2013), DIN EN 61000-4-6 (2014).

FCC Declaration Of Conformity

 The device has passed the following tests of compliance:
FCC (2003) - Title 47, Part 15, class A, Radio frequency devices.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

