MADRIX 3 Fixture Editor Help And Manual

[Software User Guide]

MADRIX Version: 3.6j

Date: September 2019
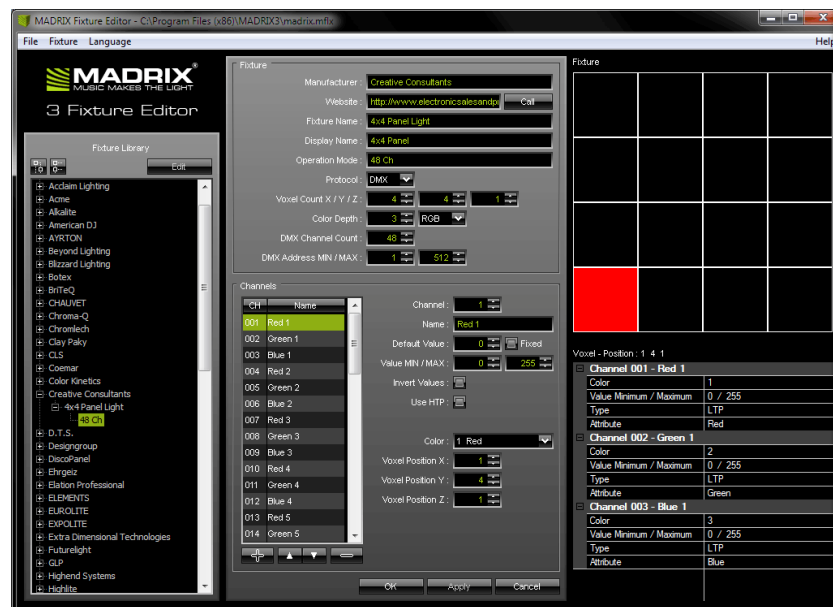
Table Of Contents

//PART A

MADRIX 3 Fixture Editor

1   MADRIX 3 Fixture Editor

This topic includes:

- Introduction
- Usage
- Where To Find The MADRIX Fixture Editor

Introduction

The MADRIX 3 Fixture Editor is a separate application and useful tool to create and configure lighting fixtures for MADRIX.

LED fixtures are implemented into MADRIX using the MADRIX Fixture Editor. All the fixtures, their profiles, and their configurations are stored in the MADRIX Fixture Library (madrix.mflx). This is a separate file. MADRIX will access this file to load all available fixture configurations.

Usage

With the help of the MADRIX Fixture Editor, you can:

- see how fixtures are implemented in MADRIX.
- see how many and which fixtures are already included.
- adjust settings and profiles to your requirements.
- implement and add new fixture configurations to the library yourself.

Where To Find The MADRIX Fixture Editor

The Fixture Editor is automatically installed together with MADRIX. You can access the tool or its documentation by calling up the shortcut in the Windows Start Menu or in the MADRIX installation directory.

- In Windows, go to ***Start > All Programs > MADRIX 3 > Fixture Editor***

The original, executable program can be found in the MADRIX installation directory:

- C:\Program Files (x86)\MADRIX3

1.1   Important Information

This topic includes:

- Important Information

Important Information

- **The MADRIX Fixture Library is loaded into MADRIX, when the MADRIX software is launched. In this way, MADRIX will load the new settings and profiles during startup.**

- **MADRIX needs to be restarted when changes have been made to the fixture library.**

- **MADRIX can only access one MADRIX Fixture Library during run-time. All fixture profiles that are required need to be in one library file.**

- **By default, MADRIX loads the madrix.mflx, which is the original MADRIX 3 Fixture Library.**

- **MADRIX allows you to load a fixture library that is not the default MADRIX Fixture Library [In MADRIX, go to Preferences > Options... > Startup > Load Alternative Fixture Library].**

- **MADRIX 3 Fixture Editor cannot load MADRIX 2.X Fixture Libraries [*.mfl]. They first have to be converted to MADRIX 3.X Fixture Libraries [*.mflx].**

- **MADRIX 3 Fixture Editor can save and load MADRIX 3.X Fixture Libraries [*.mflx].**

- **MADRIX 3 Fixture Editor can save and load MADRIX 3.X Fixtures [*.mfxx].**

- **Always make a backup of the madrix.mflx before and after applying any changes!**

- **When updating your MADRIX software, the Setup (Auto Installer) will completely overwrite the current madrix.mflx in order to update the library.**

- **When updating your MADRIX software, the Setup (Auto Installer) will automatically create a "madrix.mflx.bak". This file is a backup of your previous MADRIX Fixture Library.**

1.2   Converting MADRIX 2 Fixture Libraries

This topic includes:

- How To Convert MADRIX 2 Fixture Library Files Into MADRIX 3 Fixture Library Files

How To Convert MADRIX 2 Fixture Library Files Into MADRIX 3 Fixture Library Files

MADRIX 3 uses its own file types. Please follow these steps to convert your MADRIX 2 Fixture Library file into a MADRIX 3 Fixture Library file:

- Install MADRIX 2.14i [or higher].

- Start the MADRIX 2 Fixture Editor and load your currently used Fixture Library [of the file type *.mfl].
  [Go to **File > Open Library...**]

- Go to **File > Export Library for MADRX3...**

- A new window opens. Simply enter a name for the file and click **Save**

- Start the MADRIX 3 Fixture Editor and load your newly created MADRIX 3 Fixture Library [of the file type *.mflx].
  [Go to **File > Open Library...**]

1.3   Getting Started

This topic includes:

- Getting Started
- Choosing The Language
- Overview
- Fixture Library
- Fixture And Channel
- Fixture Preview

Getting Started

If you open the MADRIX 3 Fixture Editor, you will see that no fixture library is loaded. At first, the tool is empty.

To load the default MADRIX Fixture Library file:

1] Select *File > Open Library...*
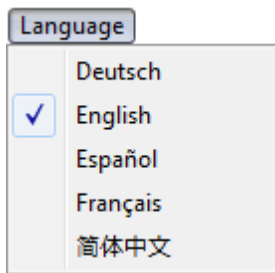
[Keyboard shortcut: *Ctrl+O*]

2] A new window will open.

3] Navigate to the installation directory of MADRIX:

- C:\Program Files (x86)\MADRIX3

4] Choose *madrix.mflx* and press *Open*

Choosing The Language

Language
Deutsch
✓ English
Español
Français
简体中文

Before starting work with the MADRIX Fixture Editor, you can choose the language of the user interface.
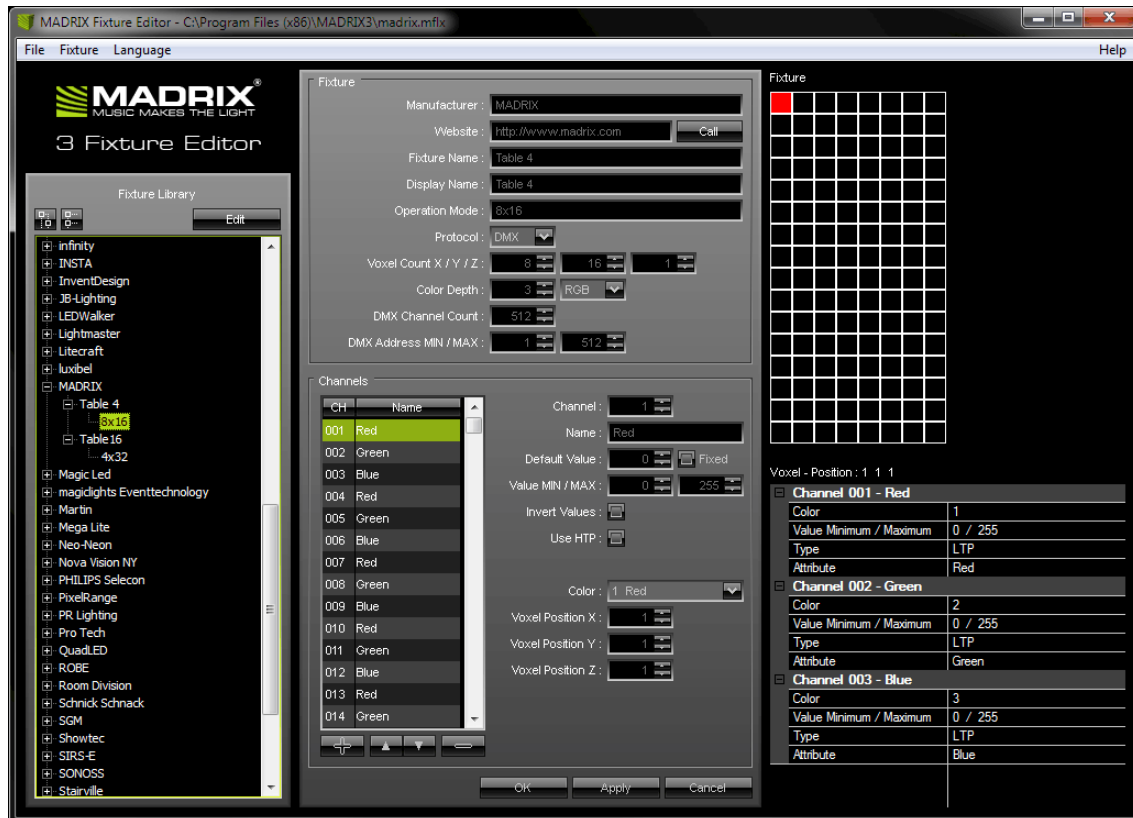
- In the menu **Language**, choose from:
  - **Deutsch** [German]
  - **English**
  - **Español** [Spanish]
  - **- Français** [French]
  - 简 体 中 文 [Simplified Chinese]

[This user manual is only written in English.]

Overview

The MADRIX 3 Fixture Editor window is divided into 3 parts [from left to right]:

- A **Fixture Library** list

- **Fixture** and **Channel** overviews

- A **Fixture** preview

Fixture Library

- On the left-hand side, a tree structure represents the content of the currently loaded fixture library file.

- The items are arranged in alphabetical order.

- Each top branch of the structure names a lighting fixtures manufacturer.

- Every item has one or more sub-items representing the fixture profile or a variation of the fixture profile for different modes.

	• Expands the complete list of fixtures with all of its entries.
	• Collapses all entries of the list.

Edit   ▪ Allows you to edit the selected fixture profile. First, select one fixture profile from the list.

Fixture And Channels

In the center of the Fixture Editor window, the configuration for the currently selected fixture and channels is displayed and can be changed. Learn more »Configuration Of Fixture Profiles

Fixture Preview

The area on the right-hand side of the Fixture Editor serves as a preview while editing. The upper part shows a graphical model of the fixture. The pixel or voxel belonging to the currently selected channel is highlighted with the specified color. Additionally, the lower part summarizes all information [channels, colors, positions, values, types, and names] of this pixel/voxel. The preview is updated every time you edit the fixture profile.

Fixture

Voxel - Position : 1 1 1

|		
Channel 004 - Red		
Color	1	
Value Minimum / Maximum	0 / 255	
Type	LTP	
Channel 005 - Green		
Color	2	
Value Minimum / Maximum	0 / 255	
Type	LTP	
Channel 006 - Blue		
Color	3	
Value Minimum / Maximum	0 / 255	
Type	LTP	
Channel 007 - White		
Color	4	
Value Minimum / Maximum	0 / 255	
Type	LTP	

1.4　Managing Fixture Libraries

This topic includes:

- Overview
- Creating A New Library
- Loading A Library
- Merging Two Libraries
- Saving A Library
- Checking A Library For Errors

Overview
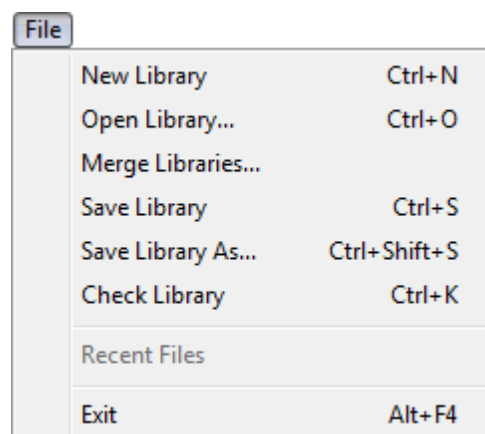
- **File -** Use this menu to manage your original MADRIX Fixture Library [and additional libraries].

- **File > Recent Files -** Displays libraries that were previously loaded.

- **File > Exit -** Closes the Fixture Editor.

Creating A New Library

- **File > New Library -** Creates a new library. This library will not include any fixture profiles yet.

Loading A Library

- **File > Open Library... -** Loads a fixture library into the MADRIX Fixture Editor. This will open a new window for yout to choose the fixture library. [A fixture library file has the extension *.mflx.]

If you open the MADRIX 3 Fixture Editor, you will see that no fixture library is loaded. At first, the fixture library is empty.

To open the default MADRIX Fixture Library file:

1] Select **File > Open Library...**

[Keyboard shortcut: **Ctrl+O**]

2] Navigate to the installation directory of MADRX:

- C:\Program Files (x86)\MADRIX3

3] Choose **madrix.mflx** and press **Open**

Merging Two Libraries

- **File > Merge Libraries... -** Allows you to add another library to the currently loaded library in order to merge several library files.

Saving A Library

- **File > Save Library -** Saves a library file including all the changes you have made. This will change your currently loaded fixture library.

- ***File > Save Library As... -*** Saves a library file including all the changes you have made into a new file. This will open a new window. Choose the location, enter a name for the new file, and press ***Save***

- Modifications to your library cannot simply get lost. You will have to confirm it if you want to quit the MADRIX 3 Fixture Editor without having saved.

- If the library was modified, the title bar shows an asterisk, too.

Checking A Library For Errors

- ***File > Check Library -*** Checks the fixture library for logical errors. The Fixture Editor will look for logical errors, such as having a defined a Color Depth of 4, but only including 3 channels for the fixture. This option is useful if you want to have an automatic check up after having implemented new fixtures. But the option should not replace checking the fixture profile for errors yourself.

1.5   Managing Fixtures

This topic includes:

Overview

Fixture
Add New Fixture	Ctrl+Alt+N
Copy Fixture	Ctrl+Alt+C
Edit Fixture	Ctrl+Alt+E
Delete Fixture	Ctrl+Alt+D
Open Fixture...	Ctrl+Alt+O
Save Fixture...	Ctrl+Alt+S

- **Fixtures -** Use this menu to manage your fixture profiles.

Creating A New Fixture

- **Fixtures > Add New Fixture -** Allows you to create a new fixture profile. Make sure to edit all **Fixture** and **Channel** settings afterwards.

  Learn more »Configuration Of Fixture Profiles

Copying A Fixture

- **Fixtures > Copy Fixture -** Allows you to copy a current fixture profile and edit the settings in order to create a new fixture profile based on another profile. Make sure to edit all **Fixture** and **Channel** settings afterwards.

  Learn more »Configuration Of Fixture Profiles

Editing A Fixture

- **Fixtures > Edit Fixture -** Allows you to edit all settings of a fixture profile.

  Learn more »Configuration Of Fixture Profiles

Deleting A Fixture

- **Fixtures > Delete Fixture -** Instantly removes the currently selected fixture profile from the library.

Loading And Saving A Fixture

- **Fixtures > Open Fixture... -** Allows you to load a fixture from an external file [MADRIX Fixture of the file type *. mfxx]. The fixture profile will be added to the fixture library.

- **Fixtures > Save Fixture... -** Allows you to save a fixture to an external file [MADRIX Fixture of the file type *. mfxx]. First, select a fixture. Second, go to Fixtures > Save Fixture.... Third, a new window opens. Fourth, enter a file name, open the correct location to save the file, and press Save.

1.6   Configuration Of Fixture Profiles

This topic includes:

- Introduction
- Step-By-Step Configuration
- Settings

Introduction

This topic describes how to create and how to set up a new fixture.

> **This is the most important part when creating a new fixture profile.**

Step-By-Step Configuration

1] Load a MADRIX Fixture Library.

2] Create a new fixture or copy an existing profile.

3] Configure all fixture settings.

4] Save the fixture library.

1] Loading A Library

- First, make sure to load an existing MADRIX Fixture Library or create a new library.

  Learn more »Managing Fixture Libraries

2] Creating Or Copying A Fixture

- Create a completely new fixture profile or copy a profile to edit its available settings.

  Learn more »Managing Fixtures

3] Setting Up A Profile

- Make sure to set up all settings, including Fixture Settings as well as Channel Settings.

- Press **Apply** and **OK** to confirm your changes!

  Learn more below

4] Saving The Library

- Make sure to save your library after making any chances.

  Learn more »Managing Fixture Libraries
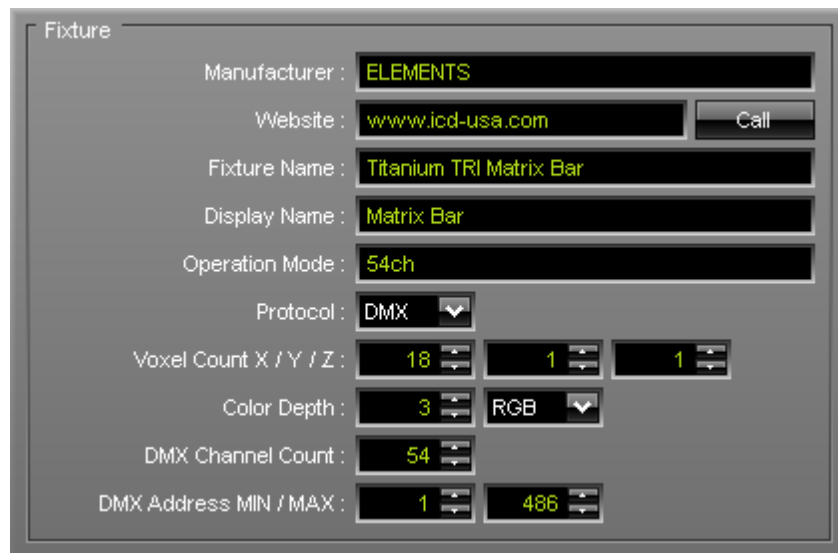

Settings

Overview

Each fixture profile includes two types of settings:

- Fixture Settings

  [Includes data about the fixture in general]

- Channel Settings

  [Includes detailed data about each DMX channel/color channel]

Edit Fixture

- Go to **Fixtures > Edit Fixture** in order to be able to edit all settings as described below [Edit mode].

  Or **Double-click** on a fixture in the Fixture Library list.

Fixture Settings


Set up the following settings:

- **Manufacturer -** Enter the name of the manufacturer.

- **Website -** Enter the website of the manufacturer. Press **Call** to let Windows automatically open your default web browser and launch the website.

- **Fixture Name -** Enter the complete name of the fixture.

- **Display Name -** Enter a short label for the fixture.

- **Operation Mode -** Fixtures might have several modes or come in different types. Specify the type or mode here [e.g., 54 CH for the 54 DMX channel mode].

- **Protocol -** Specify if the fixture is controlled via DMX512 [or DMX-based in general] or via DVI [or DVI-based in general]. DMX-based types include protocols that are based on DMX512 or function similar [e.g., KiNet or Art-Net].

- **Voxel Count X / Y / Z -** Specify how many pixels/voxels the fixture has in X [horizontal], Y [vertical], and Z [depth].

- **Color Depth -** Specify the color mixing mode of your fixture or in other words how many channels one voxel/ pixel of your fixture requires [e.g., RGB fixtures use 3 channels per voxel/pixel, while RGBW fixtures require a color depth of 4.] You can enter the values directly, or you can use the drop-down list to define the color mode: **White**, **RG**, **RGB**, or **RGBW**

- **DMX Channel Count -** Is only available for DMX-based fixtures. Enter the total number of DMX channels which the fixture requires [e.g., a 16-pixel RGB fixture usually requires 48 DMX channels per fixture].

- **DMX Address MIN / MAX -** Is only available for DMX-based fixtures. Enter the lowest DMX channel address possible for this fixture and power supply/controller [usually 1]. Enter the highest DMX channel address possible for this fixture and power supply/controller [usually 512; but if you have a 150-channels fixture and you can only address one fixture per controller for example, then DMX Address Max should be 150. In this way, you can only add one fixture per controller and DMX universe].

Channel Settings
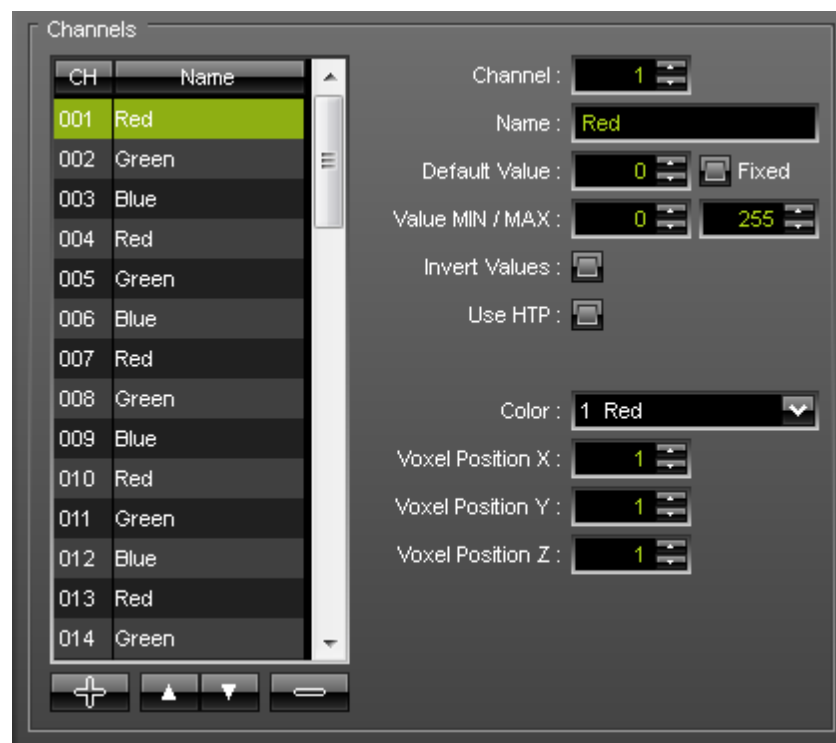
- **+ -** Creates a new channel and adds it to the fixture profile. Make sure to correctly set up all settings for this channel as explained below.

- **—** - Deletes a channel from the list of channels.

- ▲ **-** Moves an entry one place up in the list of channels. Select the particular channel first.

- ▼ **-** Moves an entry one place down in the list of channels. Select the particular channel first.

- *OK* **-** Confirms your settings for the fixture profile and leaves Edit mode.

- *Apply* **-** Confirms your settings, but you will stay in Edit mode and you can change further settings.

- *Cancel* **-** Aborts the process and does not confirm any changes. All changes will be discarded. You will leave Edit mode.

Set up the following settings:

- *Channel* **-** Specifies the channel number. Especially, when using DMX-based fixtures, every channel has a specific function. Make sure to set up the channels correctly.

- *Name* **-** Allows you to change the name of the channel. This name will be displayed in the list of channels to the left and in the preview to the right.

- *Default Value* **-** Specifies the default value for this channel [initial value].
  Fixed **-** Sets the channel always to the Default Value and does not allow any changes to the values, when working with the fixture in MADRIX. [E.g, a fixture might require the master channel to always be 255 in order to work correctly].

- *Value MIN / MAX* **-** Limits the value range with an lower and upper limit. By default, the values of a DMX channel range from 0 to 255. 0 represents Off, while 255 represents Full On. Some fixtures might work with a different range of values or require a certain minimal value to avoid flickering.

- *Invert Values* **-** Some fixture might work the other way around [0 = On and 255 = Off]. Activate this option in this case.

- *Use HTP* **-** Activates Highest Takes Precedence mode for this channel.
  [Is a feature only used in special cases. For example, you have 2 fixtures with the same DMX address. But due to their different locations in the MADRIX Patch, they receive different color values. If HTP is activated for these fixtures, the highest color value will be put out onto the LEDs. Otherwise, the position in the patch decides which color value is send out. The latter position wins.]

- *Color* **-** Defines which color the channel controls. Choose from *Red*, *Green*, *Blue*, or *White* [according to the Color Depth].

- *Voxel Position X* **-** Defines the horizontal position of the channel on the fixture. [Fixtures of MADRIX work on a voxel/pixel basis. For example, 1/1/1 for example represents the upper left voxel/pixel.]

- ■ ***Voxel Position Y -*** Defines the vertical position of the channel on the fixture. [Fixtures of MADRIX work on a voxel/pixel basis. For example, 1/1/1 for example represents the upper left voxel/pixel.]

- ■ ***Voxel Position Z -*** Defines the depth position of the channel on the fixture. [Fixtures of MADRIX work on a voxel/ pixel basis. For example, 1/1/1 for example represents the upper left voxel/pixel.]

Confirming Your Settings

- ■ Press ***Apply*** and ***OK*** to confirm any changes.

1.7   Troubleshooting

This topic includes:

- Error When Saving Files

Error When Saving Files

If you are experiencing issues when trying to save a Fixture Library file or a Fixture file, there are two solutions to this problem:

- ***Right Click > Run as administrator***

    - In order to save files as a user that is logged-in into Windows, you need to have the permissions set by Windows to do so.

    - When you do not have the right permissions, saving files can lead to errors.

    - To circumvent such issues, you can run the MADRIX Fixture Editor as administrative computer user, the so-called administrator.

    - Perform a ***right mouse click*** on the ***FixtureEditor.exe*** [or a shortcut to the MADRIX Fixture Editor] and choose ***Run as administrator***

    - **Note:** You need to have access to the administrator account (i.e., password).
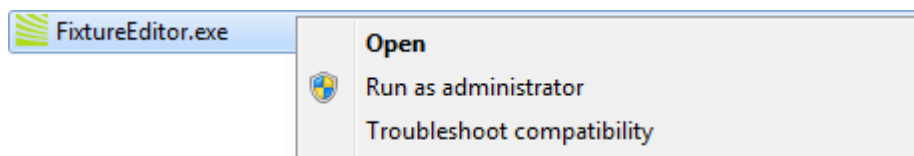
- ***Choose A Different Directory***

    - When you are experiencing issues and running as administrator is not an option, choose a different directory on your harddisk to save the files.

    - There are locations on your computer/harddisk where you will have the permission to save files. Choose such a location.

    - Examples are:

    C:\Users\USERNAME\Desktop

    C:\Users\USERNAME\Documents

    [***USERNAME*** specifies your Windows account name.]

MADRIX
MUSIC MAKES THE LIGHT

//PART B
Imprint And Copyright

2   Imprint And Copyright

This topic includes:

- Company And Address
- Copyright
- Third Parties

Company And Address

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Third Parties

Qt

Included Libraries

MADRIX [in this case the MADRIX Fixture Editor] uses the following libraries of the Qt development framework. The libraries and their use are covered by GNU LGPL v.2.1.

- QtCore4.dll
- QtGui4.dll
- QtOpenGL4.dll
- QtXml4.dll
- QtSvg4.dll
- QtNetwork4.dll

- qgif4.dll (Qt Plugin DLL)

- qico4.dll (Qt Plugin DLL)

- qjpeg4.dll (Qt Plugin DLL)

- qmng4.dll (Qt Plugin DLL)

- qsvg4.dll (Qt Plugin DLL)

- qtiff4.dll (Qt Plugin DLL)

The complete, corresponding, and machine-readable source code of these files, incl. the license text, is available:

- On the MADRIX product CD, in the subfolder ThirdParty. For example, D:\MADRIX3\ThirdParty

- Online at http://www.madrix.com/en/home/download/madrix-software.html

Copy of License

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Version 2.1, February 1999


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[This is the first released version of the Lesser GPL.  It also counts

 as the successor of the GNU Library Public License, version 2, hence

 the version number 2.1.]

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d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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