USER GUIDE

Version 1.0
9/25/2025

Backing Track Workstation 1.0
User Guide
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System Requirements

The application is compatible with Windows 10 or Windows 11 operating systems with Microsoft .Net 4.8.1 installed. (Most systems will have .Net 4.8.1 already installed by default)

Software Installation

Make sure you download the latest version of the software from the website: www.BackingTrackWorkstation.com

If you are upgrading or re-installing the software, make sure you uninstall the previous version first.

In the zip file, select and run the "setup" file.

Note: You may get a few prompts regarding security scans and "unknown publisher". These appear because it cost money to make the prompts go away. We prefer to keep offering the software for free rather than pay for the subscription to make the prompts go away.

Launching the Application: Edit Mode vs Performance Mode

There are two modes to choose from when you start the application. **Edit Mode** is where you setup the songs and settings for the equipment you are using. Edit Mode is formatted as a desktop application for detailed selection of keyframes and editing. **Performance Mode** is where you load a setlist containing songs that can be quickly selected and performed. Performance Mode is formatted for quick and easy control of playback and song selection using a touching screen.
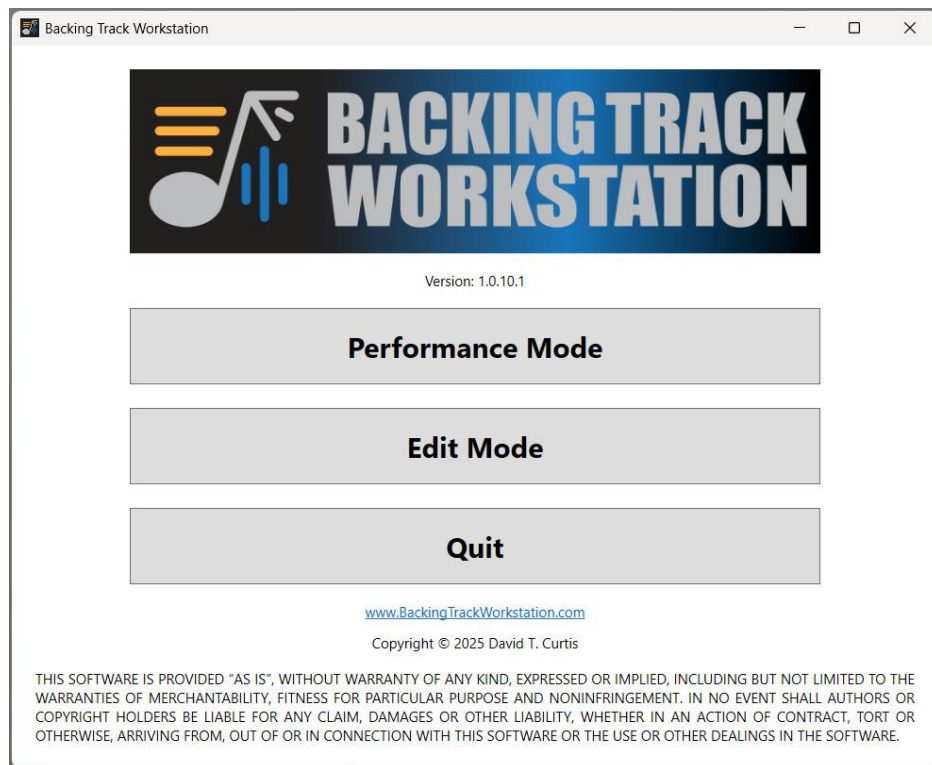
Performance Mode:
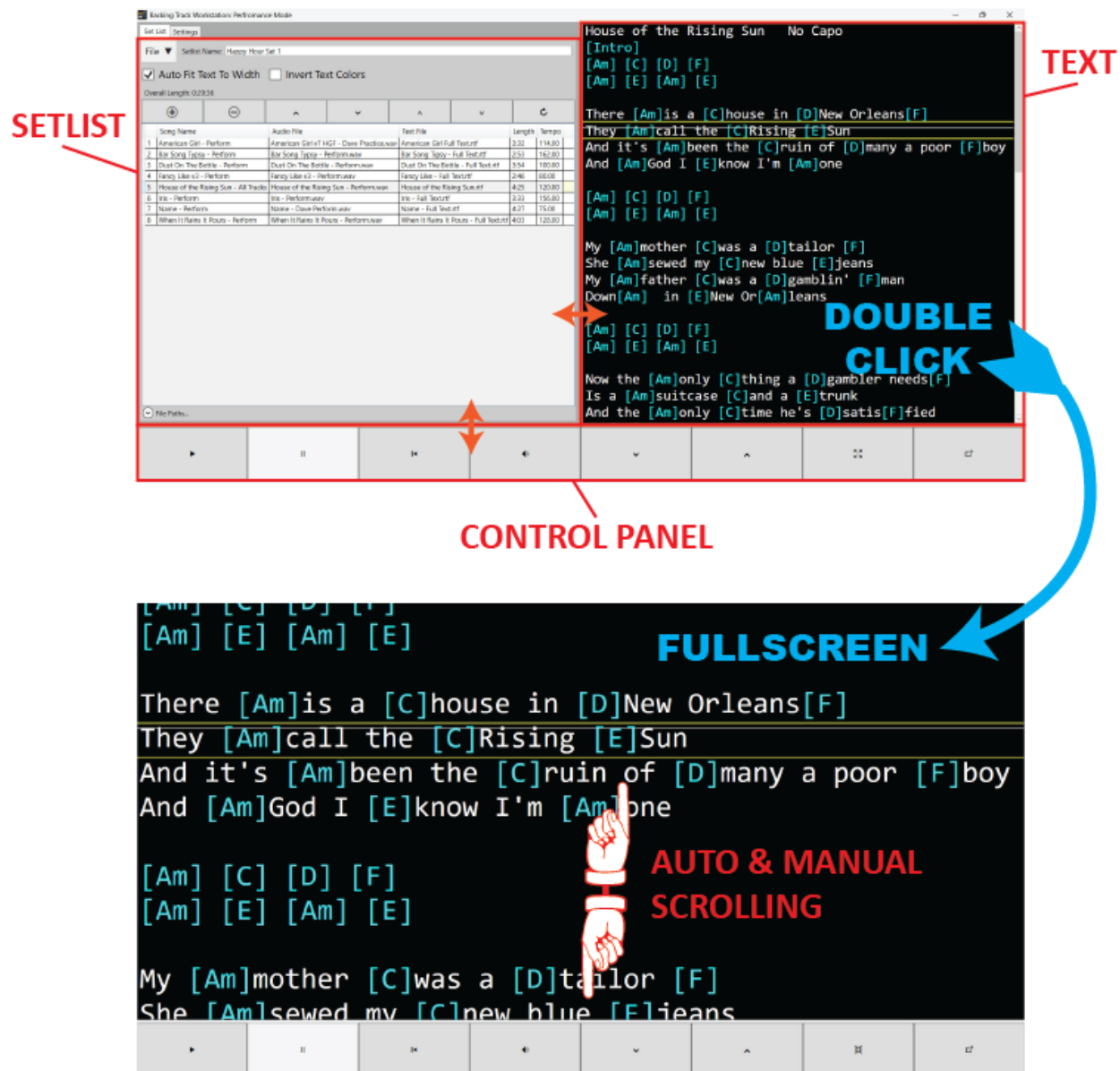
Edit Mode:

AUDIO

KEYFRAMES & SETTINGS

TEXT EDITOR

Edit Mode: Audio Files

Loading Audio Files (Backing Tracks)

The application will load audio files in .mp3 or .wav formats. There are three methods for importing audio files:

1) File Menu
2) Audio Toolbar
3) Drag-n-drop the audio file into the audio waveform window

Audio Files Are Stored as Links

Audio data is not saved within the song(.bts) file. The song will contain a link to the original location of the audio file. Therefore, if you modify the audio file, the changes will be loaded when you re-load the song file. The application will try to locate the au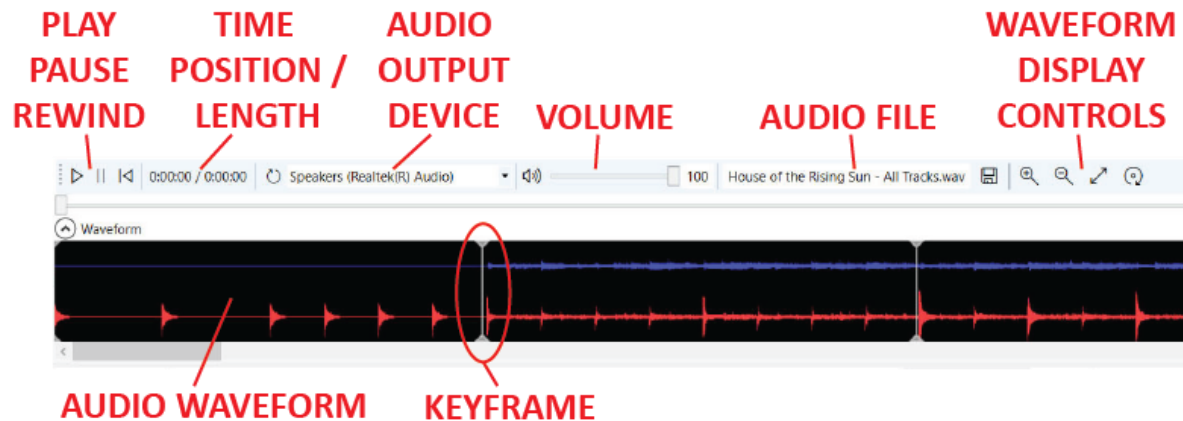dio files if it has been moved or deleted, and will notify you if the link cannot be found. The setlist tab has a tool that allows you to "package" all of the linked files in a setlist to a centralized location. The Package tool will copy the setlist and all the links to an external drive making it easy to setup songs on a computer and perform on a separate tablet. (See the "Setlist" section.) To check the file path of the currently loaded file, expand the "File Paths…" panel in the setlist tab.

Audio Waveform

When an audio file is successfully loaded, the waveform will appear in the audio panel. The left side audio will appear in blue and the right side will appear in red. Clicking on the audio waveform will place the audio cursor at the position where the user clicked. Audio playback will start from the cursor position. If you click and drag on the audio waveform, the audio will play a clip of the section of the audio where the cursor is located. You can drag the cursor in a "scrubbing" motion to precisely located an audio position.

Controlling Audio Playback

At the top left of the audio panel, there are three buttons for controlling audio start, pause and stop/rewind. You can also start and pause the audio playback using the spacebar on the keyboard. Press the left arrow on the keyboard to rewind and place the audio cursor at the beginning of the audio track.

Audio Scrubbing

Clicking and dragging over the audio waveform will cause the audio to play at the speed of the cursor movement. Use a "scrubbing" motion will help to pinpoint key areas of the audio track.

Audio Position and Length

To the right of the audio playback control buttons is the audio position and length indicator. The first set of numbers indicates the current position of the audio cursor in *Minutes: Seconds: Ticks*. The second set of numbers indicates the length of the audio track in the same format. There are 100 ticks per second.

Audio Output Device Control

To the right of the audio position indicator is the audio output device control. The audio output device control has a drop-down menu for selecting the audio output device. If you connected the audio device after launching the application, you can click the refresh button to the left of the drop-down menu. To the right of the drop-down menu are controls for muting and setting the output device volume.
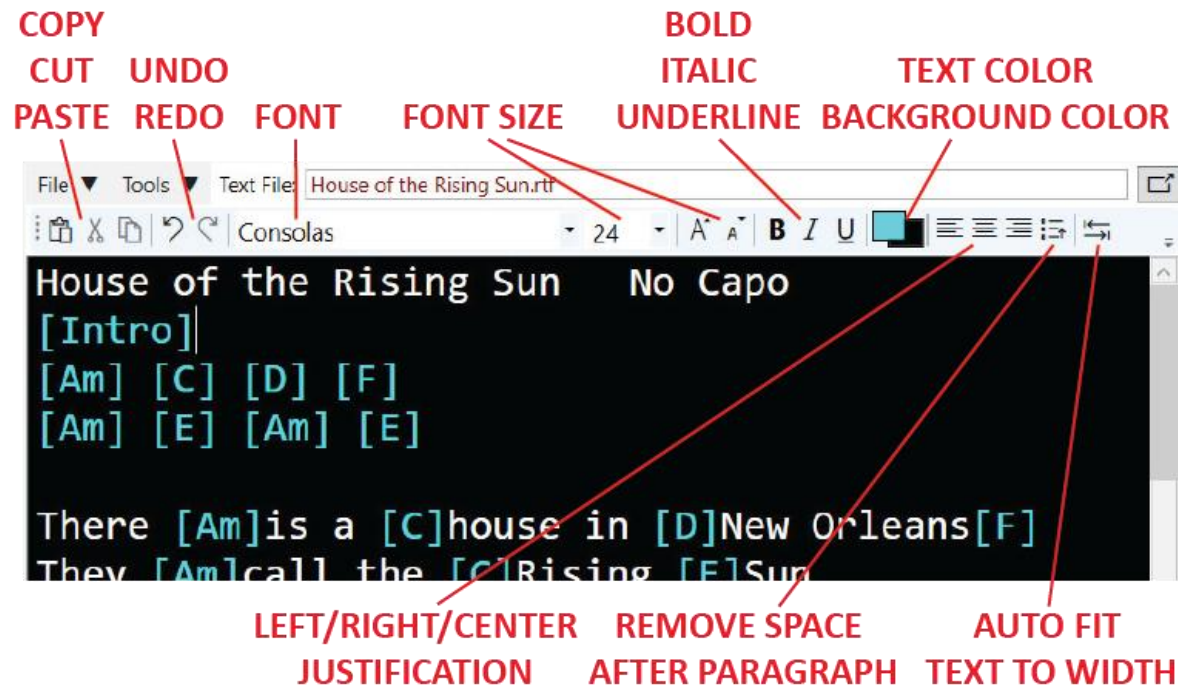
Audio Filename

To the right of the volume control is the filename of the current audio track.

Audio Waveform Display Controls

To the right of the audio filename are audio waveform controls for zooming in / out, fitting the waveform in the window and default zoom.

Edit Mode: Text Editor

Importing Text Files (Lyrics and Chords)

The application will load text files in .rtf or .txt formats. There are four methods for importing text:

1) File Menu
2) Copy and Paste
3) Drag-n-drop the text file into the text editor window
4) Manually typing directly into the text editor

Text Files Are Stored as Links

Text data is not saved within the song(.bts) file. The song will contain a link to the location of the text file. Therefore, if you modify the text file outside of the application, the changes will be loaded when you re-load the song file. The application will try to locate the text files if it has been moved or deleted, and will notify you if the link cannot be found. If the text is changed, the application will try to automatically realign the text keyframes. The setlist tab has a tool that allows you to "package" all of the linked files in a setlist to a centralized location. The Package tool will copy the setlist and all the links to an external drive making it easy to setup songs on a computer and perform on a separate tablet. (See the "Setlist" section.) To check the file path of the currently loaded file, expand the "File Paths…" panel in the setlist tab.

Text Editor Tool Bar

Above the text editor window is a tool bar containing many of the typical controls you might find in any text editing application including: Copy/Past, Undo/Redo, Font Selection, Font Size, Bold/Italic/Underline and text alignment.

Text Color

The application enables setting variable colors for the text and the background. You can highlight different sections of text like chords and lyrics using any color scheme.

Hard and Soft Returns

A hard return indicates a new line of text or paragraph and is created when the user presses the "Enter" or "Return" keys on the keyboard. Sometimes text is formatted with extra space after a hard return (paragraph), and the extra space can be removed by pressing the "Remove Space Below Paragraph" button. A soft return occurs when a single long of line text flows onto the next line. The soft return text is still treated as a single line even though it flows across two lines. Users can force a soft return by pressing <Shift> and <Return> together. The application has the option to automatically resize all of the text so that all of the single lines fit within the width of the window.

Text Editor Pop-out Window

The text editor can be separated from the main application window for use on systems with multiple monitors.

Edit Mode: Text Keyframes
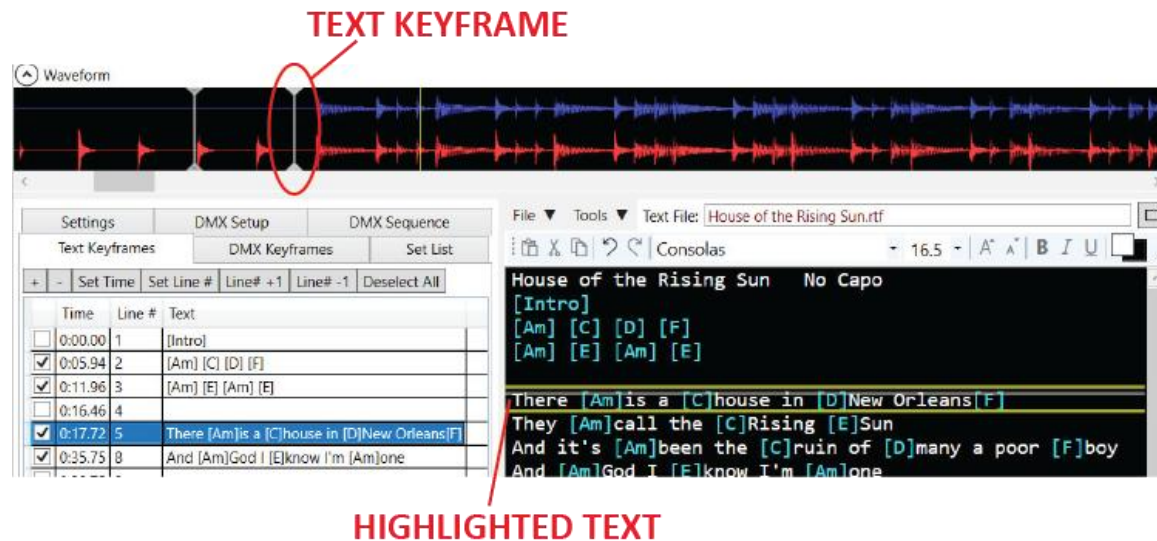
Text Keyframes

A text keyframe is a link between a specific time in the audio file and a specific line of text. The application will scroll the text file during playback to highlight the specified line of text during the time specified in the keyframe.

Auto Text Keyframes

When an audio and text file are imported into the application, text keyframes linking the first line of text with the start of the audio files and last line of text with the end of the audio file are automatically created.

Adding Text Keyframes

To add a text keyframe, place the audio cursor at the time position where you want to highlight the specific line of text. Place the text cursor at the line of text you want to highlight, and then press the "Add Text Keyframe" button under the Text Keyframes tab. You can also press <ctrl> and "K" on the keyboard instead of pressing the button. A text keyframe will be added to the text keyframe list with the time position, text line number and a clip of the actual text. A corresponding text keyframe cursor will also be added to the audio waveform.

Manipulating Text Keyframes

You can change the time position of a text keyframe by clicking on the text keyframe cursor in the audio waveform window and dragging the cursor to the new time position. You could also place the cursor at the new time position, select the text keyframe in the keyframe list and then press the "Set Time" button. The line of text associated with a text keyframe can be changed by

selecting the keyframe, placing the cursor at the new line of text and then pressing the "Set Line #" button. You can quickly switch the line of text to the next line up or down by pressing the "Line# +1" or "Line# -1" buttons. This can be useful for realigning text keyframes if you add or delete a section of text. The Line# +/- buttons will apply to all of the key frames selected in the text keyframe list. Use the shift key to select more than one text keyframe. *Note: The application will attempt to automatically realign the text keyframes when lines of text are added or deleted from the text file.*

Time Position Line
A horizontal line will appear in the text editor window showing the relative position of the text alignment with the current audio playback position. The color, transparency and line width of the time position line can be changed in the settings tab.

Text Highlighting During Playback
The checkbox on the left side of the text keyframe list indicates whether to highlight (draw a box around) the target line of text in the keyframe. If the box is checked, the line of text in the keyframe will be highlighted. Each subsequent line of text will continue to be highlighted until another text keyframe is set with the box unchecked. The color, transparency and line width of the text highlight box can be changed in the settings tab.

Edit Mode: Song Files
The links to the audio and text files, as well as, the keyframes are saved in a song file (.bts). At the top of the application window, you can set the song name and tempo. Use the file menu to save the song to a file that can be added to a setlist.
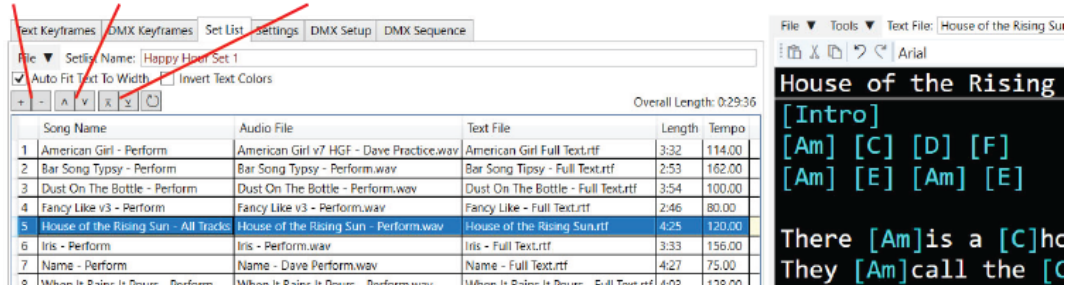
Loading Song Files
There are three methods for loading song files in Edit Mode:
1) File Menu
2) Drag-n-drop the song file(s) onto the application icon on the desktop
3) Double-click the song in the setlist panel

Edit Mode: Setlist

A setlist is a list of songs files that can be used to quickly load and start playback.

Adding Songs to the Setlist

There are two methods for adding songs to the setlist:
1) "Add Song To Setlist" button
2) Drag-n-drop the song file(s) into the setlist window

Manipulating the Setlist

Use the buttons at the top of the setlist window to move songs up or down within the list.

Setlist File Links

When a setlist is loaded, the application will verify that the audio and text file links can be found. If the application cannot find a linked file, the song will appear in red in the setlist window. If the application finds linked files somewhere other than the original location listed in the song file, the song will appear yellow in the setlist window.

Auto Fit Text To Width

The "Auto Fit Text To Width" option will automatically resize the fonts in the song text so that all of the single lines fit within the width of the window. Due to the nature of the Windows Rich Text Box, this function may take some time to perform. It is recommended that you save the text file with the font sizes as close as possible to the final font sizes needed to fit the width in the text editor. You can also improve the performance of this function using the "Font Size Limits" in the settings tab.

Invert Text Colors

If selected, the application will automatically invert the colors of the text. If the saved text file has white text on a black background, inverting the colors will result in black text on a white background. This option is useful for switching between indoor and outdoor performances.

Packaging a Setlist

Packaging a setlist is a convenient way to make a copy of a setlist and all of the linked audio and text files to transfer to a different computer or tablet. Select "Package Setlist" from the File menu in the setlist panel. Find the drive or folder where you want to copy the files and press "OK" in the "Select Folder" dialogue window. The file paths panel will display the progress of copying the files.

Edit Mode: Settings

Footswitch Settings
Compatible footswitches and game controllers can be selected in the footswitch drop-down menu. Footswitches can be used to control playback, song selection and tracking muting.

Text Box Scroll Position Target Settings
Sets the target scroll position for text keyframes. Default is set at the top 1/3 of the text window.

Text Box Time Position Line Settings
Sets the color, transparency and line width of the time position line appearing in the text window. When turned on, a horizontal line will appear in the text editor window showing the relative position of the text alignment with the current audio playback position.

Current Text Line Highlight Settings
Sets the color, transparency and line width of the box drawn around the highlighted text.

Font Size Limits Settings
Sets the minimum and maximum font sizes for automatically fitting the text to the width of the text window.

User Folders
Sets the default folder paths for the application to store audio, text, song, setlist, DMX and configuration files.

Reset Main Window Layout
Resets the window and panel layouts to the default settings.

Edit Mode: DMX Setup

DMX Overview

DMX light control uses the DMX512 protocol to digitally send commands to stage, architectural, and commercial lighting fixtures via specialized cables. A DMX system consists of a controller, a power supply/decoder, fixtures (lights), and DMX cables. The system works by assigning a DMX address to each fixture, which corresponds to a specific DMX channel. The controller sends 512 channels of data, and each fixture is programmed with a starting address to receive only its designated channels to control its functions, such as brightness and color.

How DMX Works

The Controller: The DMX controller is the "brain" of the operation, sending out data signals to manage the lighting fixtures.

The DMX Universe: A DMX universe contains 512 channels, which are digital "mailboxes" for instructions.

Fixtures & Addresses: Each lighting fixture is a DMX-compatible device with one or more DMX channels. A fixture is assigned a unique starting address, which tells it which channels in the DMX universe it should "listen" to.

Daisy-Chaining: Fixtures are "daisy-chained" together in a line using DMX cables, starting from the controller and ending with the last DMX device or a terminator.

Data Transmission: The controller sends a stream of data for the entire 512 channels. Each fixture reads the data from its specific starting address and uses the assigned channels to control its functions, like dimming, color mixing (for RGB lights), or movement.

Compatible DMX Controllers
The application is compatible with most generic USB DMX controllers. These can be found on Amazon.com by searching for "USB DMX Controller". The DMX controller needs to use a FTDI chip (FT232) which is typical for most generic DMX controllers. The application is also compatible with DMXKing UltraDMX Max.

Compatible DMX Controllers will appear in the DMX Controller Drop-down menu. If your controller does not appear in the drop-down, make sure it is installed correctly.

DMX Protocol
To the right of the DMX controller drop-down menu is the DMX Protocol Drop-down menu. For generic DMX controllers select "Open DMX". If you are using the DMXKing UltraDMX Max, select "Enttec DMX Pro".

DMX Blackout
Blackout is used to set all channels to zero. Use this to instantly turn off all the DMX devices at once.

DMX Overall Brightness
The overall brightness of all the DMX lights setup in RGB mode can be adjusted using the overall brightness slider. This will reduce the light intensity of all the RGB lights during playback.

DMX Signal Speed
DMX Signal Speed is the number of times per second data signals are sent to the DMX devices. This is similar to frames-per-second on a display device. Signal speeds less than 24 cycles per second will appear "choppy".

DMX Venue
A DMX Venue is a file containing all the settings for you DMX Controller and DMX Devices. It is basically a list of the DMX devices within the DMX "Universe" connected to the DMX controller. The application only supports the use of a single DMX universe.

Adding a DMX Device

To add a DMX device, go to the DMX Venue Drop-down menu and select "Add New DMX Device". The New Device will appear in the DMX Device List with the name: *New DMX Device*. To the right of the DMX Device List, is the settings for the device currently selected. Change the name and set the device channels to match the actual device setup. The Device Type text box allows you to identify the type of DMX device. This is convenient if you have several of the same type of lights. Once you have the DMX Device Settings complete you can save the settings and load/apply them to other DMX devices.

DMX RGB Mode

Setting up your DMX lights in RGB mode is recommended to simplify your setup. Set the number of channels (3 for RGB Mode) and the start channel. The start channel should be 1 if this is the only light. Click the RGB checkbox to automatically set the RGB channels. Test the channels by moving the sliders in Device Channel List.

DMX Device Name

Sets the name of the DMX Device. Example: "Front Flood Light"

DMX Device Type

A simple label to identify the type of DMX Device. Example: "PAR32 LED 3ch-RGB"

DMX Device Number of Channels

Sets the number of channels for the DMX device. DMX lights setup in RGB mode will usually have 3 channels. *Note: This value must match the number of channels the DMX device is setup for. Check the DMX device documentation for DMX mode and channel settings.*

DMX Device Start Channel

A DMX device's start channel, or DMX start address, is the first of the 512 channels in a DMX universe that the device occupies, which determines which controls from the DMX controller affect that specific fixture. For example, if a 3-channel fixture starts at channel 1, the next fixture would start at channel 4. *Note: This value must match the start channel of the DMX device. You set this address using DIP switches or the device's digital display, ensuring each fixture's start channel is the next available channel in the universe, after accounting for the number of channels the previous fixtures occupy. Check the DMX device documentation for channel settings.*

DMX RGB Settings

If the DMX device has channels for Red, Green and Blue (RGB), set the color channels to the corresponding DMX device channels. This will allow you to quickly set colors using the color picker. *Note: The channel number is relative to the DMX device not the DMX universe. Set the color channel value to the channel number as if the DMX device has a start channel 1. The application will automatically add the start channel value to the color channel value.*

DMX Shutter Settings

If the DMX device has a channel for Shutter, Brightness or Intensity set the Shutter channel to the corresponding DMX device shutter channel. *Note: The channel number is relative to the DMX device not the DMX universe. Set the shutter channel as if the DMX device has a start channel 1. The application will automatically add the start channel number to the shutter channel number.*

DMX Device Preset

A DMX Device Preset is a group of channel settings for a single DMX device that can be saved to a file. Select the DMX device in the DMX Device List and the channels for that DMX device will appear in the DMX Channel List below. The channel values can be adjusted using the sliders or typing into the value text box. Presets can be saved and loaded for all DMX device that have the same channel settings. The application will automatically adjust for different start channels when the DMX device preset is loaded.

DMX Scene

A DMX Scene is a saved "snapshot" of all the DMX Devices with their current settings (DMX Presets). The Default Scene is the DMX Scene which will be shown when the application starts and in between songs.

To setup and save a DMX scene, select each device in the DMX device list, set the channel settings and then select "Save Scene" in the scene drop-down menu.

Edit Mode: DMX Sequence
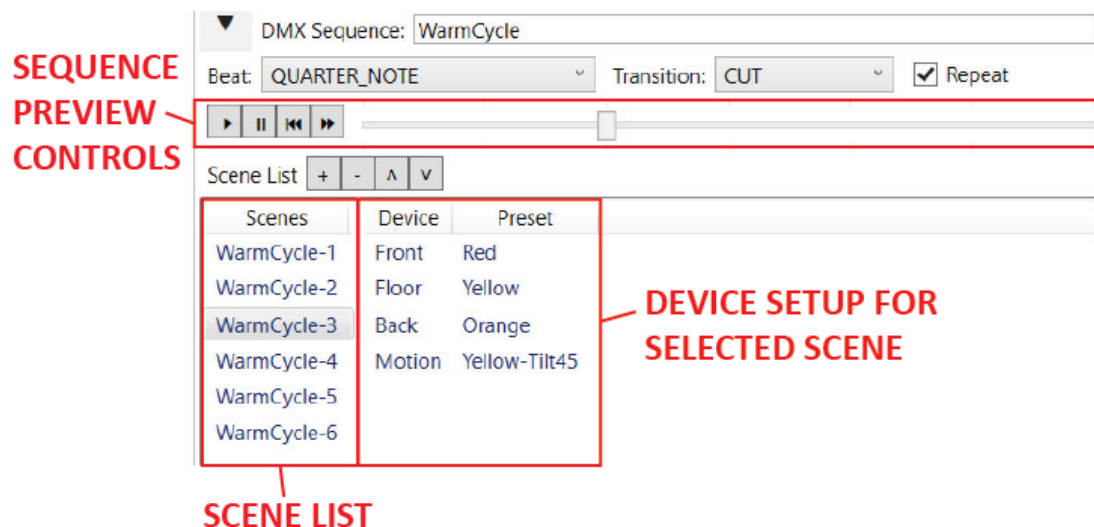
DMX Sequence

A DMX Sequence is a series of DMX Scenes also known as a "Chase". The application will show the sequence of scenes at a speed based on the tempo of the song. A DMX Sequence can be setup to play once and stop or the sequence can repeat. There are also options for transitions between scenes.

DMX Sequence Beat

The DMX Sequence Beat is the time measurement between scenes based on the song tempo. The amount of time is based on standard music notes in a 4:4 time signature.

DMX Sequence Transition

The DMX Sequence Transition indicates how the DMX channel values change from one scene to the next in a DMX sequence. The transition applies to all of the DMX devices.

Cut: Channel values stay the same until the next scene shown.

Fade: Channels values "crossfade" and blend from one scene to the next.

Pulse Down: Channel values start a 100% of the scene channel values and fade down to 0.

Pulse Up: Channel values start at 0 and fade up to 100% of the scene channel values.

Note: Pulse Up and Pulse Down only apply to the RGB and shutter channels.

Adding a Scene to the DMX Sequence

To add a DMX Scene, click on the "+" (Add Scene Button) above the scene list. Select the scene file and the scene name will appear in the DMX Scene List. To the right of the Scene List, is the list of presets for the selected scene.

DMX Sequence Editing

Scenes can be added, deleted and moved up or down in the list by using the controls above the DMX Scene List. You can preview the sequence by pressing the play, pause, rewind and jump to next scene buttons. DMX Sequence files contain all the channel data for the list of scenes. *Note: DMX sequences are not stored as links, so you will need to remake the sequence file if you change any of the device presets.*

Edit Mode: DMX Keyframes

DMX Keyframes

A DMX keyframe is a link between a specific time in the audio file and the starting point of a DMX sequence. During playback, the application will start the DMX sequence at the time indicated by the keyframe. If the sequence is set to repeat, the sequence will play until the end of the song or until the next DMX keyframe starts. If the sequence is not set to repeat, the sequence will play once and hold the last scene.

Adding DMX Keyframes

To add a DMX keyframe, place the audio cursor at the time position where you want the sequence to start, then press the "Add DMX Keyframe" button under the DMX Keyframes tab. You can also press <ctrl> and "K" on the keyboard instead of pressing the button. A dialogue box will appear asking you to select a DMX Sequence File. After selecting the file, a DMX keyframe will be added to the DMX keyframe list with the time position, sequence name, beat drop down menu, transition drop down menu and a repeat checkbox. A corresponding DMX keyframe cursor will also be added to the audio waveform.

DMX Keyframe Beat

The DMX Keyframe Beat is the time measurement between scenes based on the song tempo. The time position for each scene change in the DMX sequence will be shown as a small triangle on the audio waveform. You can select a different beat for the DMX Keyframe in the "Beat" drop down menu.

DMX Keyframe Transition

The DMX Sequence Transition indicates how the DMX channel values change from one scene to the next in a DMX sequence. The transition applies to all of the DMX devices. You can select a different transition for the DMX Keyframe in the "Transition" drop down menu.

Manipulating Text Keyframes

You can change the time position of a DMX keyframe by clicking on the DMX keyframe cursor in the audio waveform window and dragging the cursor to the new time position. You could also place the cursor at the new time position, select the DMX keyframe in the keyframe list and then press the "Set Time" button. The DMX sequence associated with a DMX keyframe can be changed by selected the keyframe and then pressing the "Replace" button. You can select multiple DMX keyframes and copy/paste or delete them as a group.

DMX Keyframe Current Scene

The name of the DMX scene to be shown at the selected time position in the audio waveform will be displayed at the top of the DMX Keyframe List.

Performance Mode: Setlist

Loading a Setlist

There are two methods for loading a setlist in Performance Mode:
1) File Menu
2) Double-click the Setlist File Icon in Windows Explorer

Setlist File Links

When a setlist is loaded, the application will verify that the audio and text file links can be found. If the application cannot find a linked file, the song will appear in red in the setlist window. If the application finds linked files somewhere other than the original location listed in the song file, the song will appear yellow in the setlist window. You can verify the file paths by expanding the "File Paths…" button at the bottom of the setlist window.

Manipulating the Setlist

Use the buttons at the top of the setlist window to move songs up or down within the list.

Auto Fit Text to Width

The "Auto Fit Text to Width" option will automatically resize the fonts in the song text so that all of the single lines fit within the width of the window. Due to the nature of the Windows Rich Text Box, this function may take some time to perform. It is recommended that you save the text file with the font sizes as close as possible to the final font sizes needed to fit the width in the text editor. You can also improve the performance of this function using the "Font Size Limits" in the settings tab.

Invert Text Colors

If selected, the application will automatically invert the colors of the text. If the saved text file has white text on a black background, inverting the colors will result in black text on a white background. This option is useful for switching between indoor and outdoor performances.

Controlling Playback

At the bottom of the window, there are three buttons: start, pause and stop/rewind. You can also start and pause the audio playback using the spacebar on the keyboard. Press the left arrow on the keyboard to rewind and place the audio position at the beginning of the audio track. When you start the playback in Fullscreen mode, the playback control panel will disappear. Click on the text window once to make the playback control panel reappear.

Audio Mute Button

To the right of the start, pause and stop/rewind buttons is the audio mute button. This button will toggle muting the audio track during playback. You can choose to mute one or both channels in the settings. This button can be used as a "panic button" to mute the output track if you get out of sync with the click track.

Song Selection

The two arrow buttons to the right of the audio mute button allow you to select the next or previous song in the setlist. You can also use the up or down arrow keys on the keyboard.

Fullscreen Playback

In performance mode you can expand the text panel to cover the entire window. The button to the right of the song selection arrow buttons will toggle Fullscreen on and off. You can also toggle Fullscreen mode by double-clicking the text panel.

Text Panel Pop-out Window

The text panel can be separated from the main application window for use on systems with multiple monitors. Toggle the pop-out window by pressing the button to the left of the Fullscreen button.

Manual Text Scrolling

Click and drag in the text panel to manually scroll the text. This can be done during playback to "scroll-ahead" of the current playback position.

Set Audio Position by Clicking Text

Clicking on a line of text when playback is stopped will set the audio to the position associated with the text keyframe. This is useful if you want to start the playback at specific position midway in the song.

Performance Mode: Settings

Audio Settings
The audio settings panel has a drop-down menu for selecting the audio output device. If you connected the audio device after launching the application, you can click the refresh button to the left of the drop-down menu. Below the drop-down menu are controls for muting and setting the output device volume.

DMX Settings
Below the audio settings panel is a panel for adjusting the DMX settings.

Touchscreen Controls Settings
You can choose to turn off the playback control panel at the bottom of the window.

Footswitch Settings
Compatible footswitches and game controllers can be selected in the footswitch drop-down menu. Footswitches can be used to control playback, song selection and tracking muting.

Text Box Scroll Position Target Settings
Sets the target scroll position for text keyframes. Default is set at the top 1/3 of the text window.

Text Box Time Position Line Settings
Sets the color, transparency and line width of the time position line appearing in the text window. When turned on, a horizontal line will appear in the text editor window showing the relative position of the text alignment with the current audio playback position.

Current Text Line Highlight Settings
Sets the color, transparency and line width of the box drawn around the highlighted text.

Font Size Limits Settings
Sets the minimum and maximum font sizes for automatically fitting the text to the width of the text window.

User Folders
Sets the default folder paths for the application to store audio, text, song, setlist, DMX and configuration files.