ColorMotion from Chromation Systems is a Java based software application used to interface with compatible LED controllers driving RGB LEDs. The software allows the user to create custom patterns and color sequences on a computer then upload them to a compatible LED controller for it to run by itself, without a computer connection. The graphic user interface makes it easy to create a multitude of dynamic patterns. Up to 8 Settings can be created, with up to 64 Frames per Setting. Many devices are made to interface with the software and all have different hardware capabilities, channel amounts, and available data space.

Settings

The current version of the software supports 8 Settings. A Setting is made up of a Mode, a variable amount of data Frames, and a Speed.

A Setting can be one of these Modes:
Cycle: LED Channels Cycle from color to color evenly and smoothly. Optional Forward and Reverse, which works best with Offset patterns.
Flash: LED Channel colors change instantaneously from one color to the next. In Flash mode 2 sub modes, Slide Up and Slide Down can be selected.(Described later)
Offset Setting: A type of Cycle setting, Up to 16 colors are chosen and the LED Channel colors are calculated by the software to create a seamless pattern end to end, that appear to move together. Such as the rainbow pattern shown in the example images.

Speed:
Each Setting has a selectable Speed, use the slider below the Settings buttons. 1 is fastest, 255 slowest.

Channels:

Each type of device has a varying amounts of channels and number of LEDs that can share the same channel. Those numbers are used to calculate the total LEDs. Ex: An 8 RGB channel controller can have up to 5 LEDs per channel, so 8 to 40 LEDs can be used as the Total LEDs(Decided by the user based on hardware requirements). Every LED of the same channel behaves the same, though when they are in the correct numerical order, they will appear to behave independently.

Frames:

Each type of device has a limited number of Frames it can store, a Frame holds a color for each of the device's Channels, ex: an 8 RGB channel device frame size is 24 values. Each of the channel colors can be individually adjusted. Using any of the following methods:
- Either click-and-hold on any of the LED icons on the Work Space and use the radial menu to select a color, release mouse button to select.
- Click on the LED Icon to select it, then use the slider on the lower left hand corner to adjust. The color, click on the circle next to the color name to adjust the value using the slider.
- Click the LED Icon to select, then use the Up and Down Arrow keys to adjust the color value for the selected LED channel.
- Click the Paint Color square, it will highlight red, then click on the gradient to select that color as the Paint Color. Then click the Enable Paint button, it will highlight, then clicking on a LED Icon will set the LED channel's color to the Paint Color.

When a Setting is in Flash Mode, any of the Frames can be set to slide the color values from channel

to channel, ex: Channel 1's color moves to channel 2, channel 2 to 3 ect, a variable amount of times, up or down. Once the Setting is in Flash Mode, to start set the first Frame to the starting color values(the LED brightness levels that will be used), select the next Frame and click on either the Slide Up or Slide Down buttons to select. Then adjust the slider, values 1 to 127, to alter the amount of slides that will be preformed. The Left/Right Arrow keys can be used to adjust the slide values.

A slide value equal to the amount of LED Channels will end in the same state as it started. Use a Slide value of 1 less than the LED Channels to create a seamless pattern. Ex. 7 for an 8 channel device.

Software Interface

www.ChromationSystems.com/colormotion.html

Linking:

Linking is done to place settings and patterns in the user's desired order. After clicking on a white Slot circle a line will appear and connect the clicked Slot to the mouse cursor, then either a Setting Number or function is clicked and the line will connect the two, indicating they are now linked. Clear All to clear all Links or while linking(line connects to mouse cursor) Right-Click to cancel and clear that link. (More Info Below)

Menu Options

Demo:
Used to demonstrate the current displayed Setting without doing a full upload. Not enabled on all devices.

Linker:
Settings are arranged in order they will be selected by the device, usually by pressing the device's button(s). This allows the user to only have to cycle(in the case of a button) through the Settings that they created and want on their device. Ex: The device starts on Setting 8 then when the button is pressed it could change to Setting 3, then to Setting 1, then another or start over at 8, user creates the order based on their needs.

Usage: Link the Slot circles(start with the lowest) to the desired Setting(Settings 1 – 8 or Multi-Settings 1-4) or function(DMX, not supported by all devices)

Multi Linker:

Some devices allow multi-settings, which allow a Setting to be ran(repeated) a variable amount of times then automatically change to the next selected Setting, that will be repeated a variable amount of times before continuing to another Setting or starting over. Ex: Run Setting 1, 4 times then run Setting 8, 10 times, repeat, or link up to 8 patterns, the same Setting can be linked to more than once.

Usage: Select a Multi-Setting(4 available) by clicking on it's button at the top of the menu. Then Link the Slot circles to a Setting button in the order they should run, then adjust the sliders on the left side to adjust the amount of repeats per Setting.
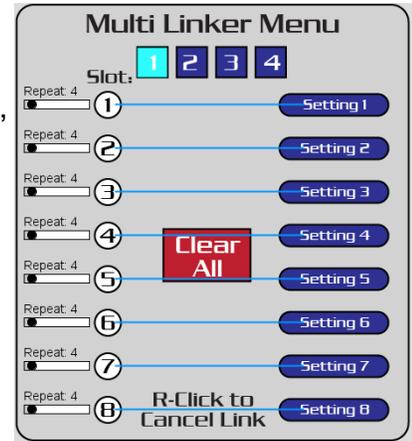
Load/Save:

There are 6 quick save locations, press the buttons to save or load all the Settings and Linker states. Save files are device dependent and will probably not be compatible between devices. When Loading or Saving a preview with the file's information will appear, ensure it is compatible with the connected controller. Or the software may error and freeze, restart if the software if this happens. Or use the Load File or Save File buttons at the bottom of the menu to use a file name and location of your choosing. Device presets are loaded through the Load Menu button, then select the correct .csmm file. Save files from different versions are not compatible, but different revisions(letters) should be compatible. Please send a message if a save file that should be compatible doesn't work.

Live Mode:

Open the menu and press "Enter Live Mode" to enter the device into live mode. Then the sliders can be adjusted and the device will instantly change it's outputs to the new slider value. Or press the Open Gradient button to view the gradient, which can be clicked on to set the color for the current LED channel, repeated clicks will set the next LED value. Press "Leave Live Mode" before closing the menu or closing the program after Live Mode was enabled.
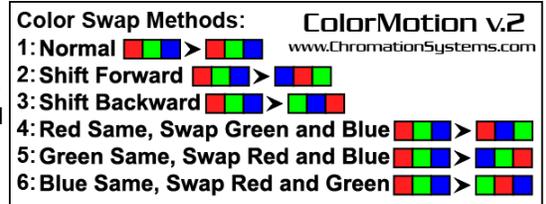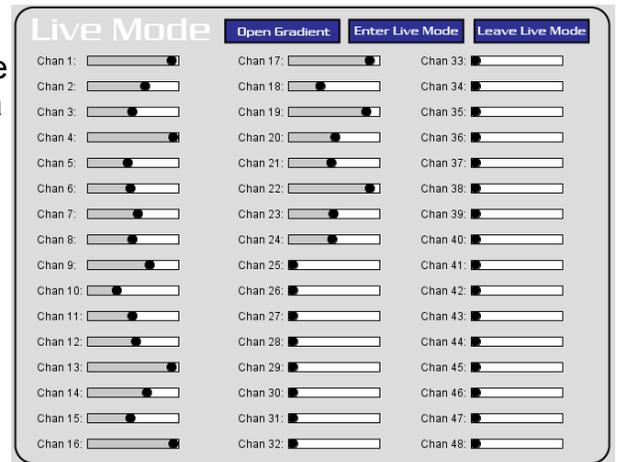
Control:

This menu has several options for control of the uploaded patterns. Control the patterns the device displays over the USB connection. Such as Alter Speed, Flash Stepping(change the displayed Frame of a Flash pattern), Cycle Control(Allow a Cycle pattern to play for a selected amount of cycles), Pause, Color Swap(change the output colors without altering the the Setting), Select Setting, Select Setting and Stall.

Details and Usage can be found on the ColorMotion Command Document

Configuration(Config):

The shape and amount of LEDs displayed on the Work Space is setup on this menu. Those settings only affect the GUI LED representations, and doesn't effect the hardware. Once the device is connected, the software calculates the increments of LEDs that can be utilized, it allows the user to select the shape and amount of LEDs used in their Infinity Mirror, similar
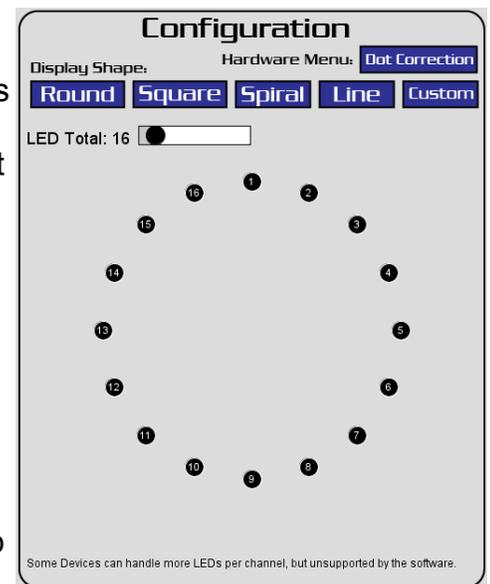
device, or just for representation. Also if the device has dot correction(TLC5940 based), custom dot correction values can be created and sent from this menu. To utilize the Custom Layout button, first a coordinate file must be generated from the Motion Coordinates Software.

About: Opens Software Website, check here for downloads and updates.

Work Space:
This is the main work area of the software where the patterns are created. It displays the LED Icons and and the Frame buttons.

Buttons:
- The Reset button removes all but one frame from being displayed, but it does not delete any color values or other data from the frames.
- Click the Add Frame or Remove Frame button to adjust the amount of Frames used in the selected Setting.
- Offset Setting, Opens the Offset Menu. Creates dynamically generated Cycle patterns. Discussed above in the Mode section. Patterns created with this appear to move like a wave.
- Painting, click the square in the paint box, it will highlight, then select a color value from the gradient, then the Enable Paint button can be toggled, when it is selected clicking once on an LED Icon will change its color to the Paint Color. Click the Enable Paint button again to disable. Clicking the Edit Paint button will allow the slider in the bottom left corner to be used to adjust the Paint Color.
- Copy and Paste Frame buttons will copy and paste the selected Frames Colors. Or use ctrl+c and ctrl+v.

Usage:
Click-and-hold on a LED Icon to open the color gradient, mouse over then release to select a color for that LED channel. Or use the Paint feature discussed in the section above. Or use the All button in the center to change all the channels for the selected Frame to a color. Or use the sliders and color buttons on the lower left hand corner to fine tune the channel color.

Software Usage

• Start by connecting and powering up the device/controller. Connect the device to the computer via USB or USB to Serial Adapter. Install any drivers in required. Then start up the software, and select the COM port or use the Auto button to find and connect to the device. The device should respond with it's Device Name and firmware version which displays at the top, in the center. If it does not, check for the text field near the top that displays user notifications.

Optional: Open the Load/Save Menu and select a Save file or preset to load.

• Open the Configuration menu and adjust the shape and the amount of LEDs to display on the Work Space. Total LEDs increments by the device Channel amount. Then close the Configuration menu.

• Looking at the Work Space, the lower right corner menu displays the information for the current setting and current frame. Select either Flash or Cycle Mode and adjust the Speed slider if desired.

• View the LED Icons on the Work Space, Frame 1 should be selected. Set the channels to the desired colors using the methods discussed earlier.

• With the first frame done, click on the Frame 2 button, and select the desired colors for all the channels or set it to be a Slide Frame by clicking the Slide Up or Slide Down buttons(Flash Mode Only) in the lower left

menu.

Note: Click the Paint Color square, it will highlight red, then click on the gradient to select that color as the Paint Color. Then click the Enable Paint button, it will highlight, then clicking on a LED Icon will set the LED channel's color to the Paint Color. Click the enable paint button again to return to normal, click-and-hold, release to select operation.

• Continue making all the required Frames. If more frames are required, press the Add Frame button to add another one, each device type has a limited number of frames, remove Frames from other/unused Settings if more are needed.

• When all the desired Frames are built, use the Remove Frame button on the Work Space to trim off the unused Frames, if any.

• Create more Settings if they are needed, use the Settings 1-8 buttons on the right side of the window to change Settings.

Optional: Open the Multi Linker Menu, and create up to 4 Multi-Settings by linking the Slots to Settings.

• Open the Linker Menu. Press the Clear button to clear all links. Click on the Slot 1 white circle and a line will appear from the circle to the mouse cursor. Click on the Setting that should be first in the selection order. Link some or all of the Slot circles to a Setting or Function. (Not all slots need to be used, but fill incremently starting with Slot 1) When finished, click the Send button. It will take a few to several seconds to upload everything to the controller. A loading bar will indicate the progress. Once uploading is finished the device should start on the Setting the lowest Slot on the Linker was linked to. If it does not either press the controller button till it does or restart the controller, by first closing the software, then power cycling the device.

DMX Note:

Some devices support onboard DMX input, some may require an external adapter. Either way the controller must support DMX reception. Certain controllers could accept a standard TTL serial signal formatted for DMX-512, instead of converting from RS-485. See device datasheets for details and options.

Compatible Devices:

ColorMotion v2:(**Current Version**)
24 Channel High Current LED Controller, MonoMotion Compatible v.1
48 Channel Mono/16 Channel RGB Controller, MonoMotion Compatible v.1
More compatible controllers may be available but not listed.

Compatible Operating Systems:

Windows
MacOSX
Linux – Most distros that support Java

ColorMotion requires the latest version of Java and a compatible operating system

Changes from Version 1:

Nearly the entire program is different from ColorMotion Version 1, based on MonoMotion v.1b.

Related Links and Documents:

Command Table Document –
http://www.chromationsystems.com/files/documents/ColorMotion-v2-Commands.pdf

Motion Coordinates Software -
http://www.chromationsystems.com/motioncoordinates.html

Firmware Update Instructions -
http://www.chromationsystems.com/files/downloads/ChromationSystems-HID-Bootloader-Instructions.pdf

Troubleshooting:

If device is not seen, can not be connected to or otherwise errors. First Try,

Close Software, unplug Device from computer, remove power from Device, wait 10 seconds, connect Device to computer, power on Device, Start Software

Q: USB Device requires driver or wrong driver is used.
A: Check the software directory for the 'inf' folder, direct Windows to use that driver. Linux and MacOSX shouldn't need any driver or install files.

Q: Device's COM port not showing up as an connection option
A: Attempt above method, to reset all devices.

Q: Program won't run or gives an error. Restart the device and software.
A: Update Java at http://java.com/en/download/index.jsp

www.ChromationSystems.com/colormotion.html

Please E-Mail Support@ChromationSystems.com
With Any Questions, Comments Bug Reports or Suggested Improvements.

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