LED Controller Operations
(last updated 20240302)

NOTES:

- Make sure to turn the LED controller board (& attached LED string) on first, then turn the remote controller board on.
- To turn the LED controller board on, connect the power supply to the LED string.
- To turn the remote controller board on, remove the jumper on the "DISABLE SW" & place it onto just one of the pins (for storage, so it isn't lost).
- To turn the LED controller board off, disconnect the power supply (or just unplug the power supply from the wall).
- To turn the remote controller board off, replace the jumper on the "DISABLE SW" onto both pins.
- With power applied to both boards, the remote controller board should display "REMOTE CONTROL", which indicates that the two boards are successfully communicating.
- With power applied to both boards, if the remote controller board display shows "PAIRING", then the two boards are not communicating (check the channel number and the power level on the remote controller board – see below)
- The boards can store 10 unique patterns for quick recall.
- Each pattern can be from 1 to 32 LEDs in length (& the configured pattern will be repeated to fill the entire LED string).
- Each pattern storage includes the following: pattern number, pattern type, pattern speed, and pattern length.
- Brightness is universal (applied to any/all patterns).

CONTROLS:

LEDS ON/OFF: This control can be used to toggle the entire LED string ON/OFF.

SET/READ LED: Touch this button to toggle between "SET LED" mode and "READ LED" mode. When this control indicates "SET LED", then the currently configured color will be stored in any LEDs that are touched as part of the currently selected pattern. When this control indicates "READ LED", then the current configured color will change to the color of any LED that is subsequently touched, and the control will return to "SET LED" mode.

LOAD PATTERN: This control causes the currently selected pattern number to be loaded from storage (NOTE: the pattern is not sent to the LED string until either the SAVE PATTERN button is pressed, or the APPLY PATTERN button is pressed).

SAVE PATTERN: This control allows the currently defined/displayed pattern of LED colors to be stored in the selected pattern number (& the pattern is also sent to the LED string).

APPLY PATTERN: This control causes the currently selected pattern to be sent to the LED string.

RADIO POWER: Generally, leave this set to HIGH (maximum control range, approximately 50 feet).

RADIO CHANNEL: Generally, leave this on channel 113 (default).

BRIGHT LEVEL: Brightness can be configured at levels 1-8, where 8 is the brightest.

PATTERN NUMBER: The number of the currently active pattern.

PATTERN TYPE: The pattern types include the following (see below for details): MARQUIS-FWD, MARQUIS-REV, CYCLE-FWD, CYCLE-REV, FADE-FWD, FADE-REV, XFADE-FWD, XFADE-REV, ZIPPER-FWD, ZIPPER-REV, and RANDOM.

PATTERN SPEED: Pattern speed can be configured at levels 0-20, where 0 causes no cycling of the active pattern (the pattern in stationary), and 20 causes the quickest cycling of the pattern.

PATTERN LENGTH: Pattern length can be set between 1 & 32 LEDs in the pattern (unused LEDs will be displayed as gray).

COLORS: The currently configured color (to be set into any of the LEDs in the current pattern) can be adjusted using the "+/-" controls on each of the RED, GREEN, and BLUE primary color adjustment controls. Clicking on the "+" will increase the intensity of that particular primary color, and clicking on the "-" will decrease the intensity of that particular primary color. Clicking on the number will quickly adjust the intensity of that particular primary color, cycling thru values of 0 (fully off), 63 (1/4 on), 127 (1/2 on), 191 (3/4 on), and 255 (fully on). The resulting mix of the selected intensities of the primary colors is shown in the rectangle to the right of the primary color adjustments. When the "READ LED" capability is used (see above), then the settings of the primary color adjustments will be (re)set to match the current color of the LED clicked.

PATTERNS:

MARQUIS-FWD: The LEDs in the active length of the pattern are displayed sequentially, starting with the first LED defined in the pattern, forward thru the last LED defined in the pattern, with the pattern repeated to fill the entire LED string. This pattern of LEDs will be moved in the "forward" direction (moving away from the LED controller board) at the rate determined by the pattern speed setting.

MARQUIS-REV: The LEDs in the active length of the pattern are displayed sequentially, starting with the last LED defined in the pattern, in reverse thru the first LED defined in the pattern, with this reverse pattern repeated to fill the entire LED string. This pattern of LEDs will be moved in the "reverse" direction (moving towards the LED controller board) at the rate determined by the pattern speed setting.

CYCLE-FWD: The entire LED string will be lit with the LED colors defined in the pattern, starting with the color of the first LED in the pattern, forward thru the color of the last LED in the pattern, then back to the color of the first LED in the pattern to repeat the colors in forward order. This forward cycling of LEDs will occur at the rate determined by the pattern speed setting.

CYCLE-REV: The entire LED string will be lit with the LED colors defined in the pattern, starting with the color of the last LED in the pattern, in reverse thru the color of the first LED in the pattern, then back to the color of the last LED in the pattern to repeat the colors in reverse order. This reverse cycling of LEDs will occur at the rate determined by the pattern speed setting.

FADE-FWD: The entire LED string will be lit with the LED colors defined in the pattern, starting with the color of the first LED in the pattern, which will fade into view with increasing brightness (up to the brightness level currently selected), then will fade out of view with decreasing brightness (down until the LEDs are off), forward thru the color of the last LED in the pattern (each color fading in, then out), then back to the color of the first LED in the pattern to repeat the colors in forward order. This fading in and out of LEDs in forward order will occur at the rate determined by the pattern speed setting.

FADE-REV: The entire LED string will be lit with the LED colors defined in the pattern, starting with the color of the last

LED in the pattern, which will fade into view with increasing brightness (up to the brightness level currently selected), then will fade out of view with decreasing brightness (down until the LEDs are off), in reverse thru the color of the first LED in the pattern (each color fading in, then out), then back to the color of the last LED in the pattern to repeat the colors in reverse order. This fading in and out of LEDs in reverse order will occur at the rate determined by the pattern speed setting.

XFADE-FWD: The entire LED string will be lit with a mixture of two adjacent LED colors defined in the pattern, starting with the color of the first LED in the pattern at the currently selected brightness level, and the color of the next LED at zero brightness. The brightness of the first LED color will fade down, while at the same time, the brightness of the next LED color will fade up, resulting in a transitioning mixture of the colors of the two adjacent LEDS. Once the first LED color is completely faded out, the choice of the two LEDs for the mix will advance in adjacent pairs thru the LEDs defined in the pattern, repeating the choice of adjacent LED colors in forward order. This cross-fading of LEDs in forward order will occur at the rate determined by the pattern speed setting.

XFADE-REV: The entire LED string will be lit with a mixture of two adjacent LED colors defined in the pattern, starting with the color of the last LED in the pattern at the currently selected brightness level, and the color of the previous LED at zero brightness. The brightness of the last LED color will fade down, while at the same time, the brightness of the previous LED color will fade up, resulting in a transitioning mixture of the colors of the two adjacent LEDS. Once the last LED color is completely faded out, the choice of the two LEDs for the mix will advance in adjacent pairs thru the LEDs defined in the pattern, repeating the choice of adjacent LED colors in reverse order. This cross-fading of LEDs in reverse order will occur at the rate determined by the pattern speed setting.

ZIPPER-FWD: The entire LED string will be lit from the end closest to the controller to the end farthest from the controller, one LED at a time until the entire LED string is lit in the color of the first LED in the current pattern. The entire LED string will then be lit from the end closest to the controller to the end farthest from the controller, one LED at a time until the entire LED string is lit in the color of the second LED in the current pattern. This progression will repeat thru the colors of the LEDs in the current pattern in forward order. Once the color of the last LED in the current pattern has been used to fill the entire LED string, the pattern repeats in the forward direction, starting with the color of the first LED in the current pattern. This zipper replacement of LEDs in forward order will occur at the rate determined by the pattern speed setting.

ZIPPER-REV: The entire LED string will be lit from the end farthest from the controller to the end closest to the controller, one LED at a time until the entire LED string is lit in the color of the last LED in the current pattern. The entire LED string will then be lit from the end farthest from the controller to the end closest to the controller, one LED at a time until the entire LED string is lit in the color of the next to the last LED in the current pattern. This progression will repeat thru the colors of the LEDs in the current pattern in reverse order. Once the color of the first LED in the current pattern has been used to fill the entire LED string, the pattern repeats in the reverse direction, starting with the color of the last LED in the current pattern. This zipper replacement of LEDs in reverse order will occur at the rate determined by the pattern speed setting.

RANDOM: Each the colors of the LEDs in the current pattern are randomly placed along the length of the LED string, and this random placement of LED colors is randomly changed at a rate determined by the current pattern speed.