Operating Instructions

Boogey Lights® Bluetooth App Remote Control

JUNE 17, 2020 (Android Ver 16, iOS Ver 2.x). Assuming you've already downloaded the BOOGEY LIGHTS® APP (Android® version from the Google Play Store or the iOS® version from the Apple Store), these instructions explain how to use the APP with your Boogey Lights® Bluetooth enable multi-color or single-color LED controller. We urge you to read all of the information contained in this document first. It answers just about every question we've received from customers who call us telling us their lights don't work with the APP.

WIRING NOTE: For small vehicle applications (e.g. motorcycles, ATVs, golf carts) we recommend you install (if not already equipped) our pushbutton on/off switch between the battery and the controller. The controller will continuously pull a small amount of power looking for the remote. While the power draw is minimal, over long periods of time the battery on small vehicles will drain particularly if your battery is already low. An on/off switch usually isn't necessary for larger vehicle applications (e.g. RV, motorhome, car, truck) although we do recommend removing the fuse from the provided fuse-block if the vehicle is going to be sitting for more than a few weeks.

[BLBTAPP 5 April 2021]

IMPORTANT OPERATIONAL & VERSION NOTES

The latest release of our smartphone App (Android Ver 16 / iOS Ver 2.x) is designed to work with ALL Boogey Lights Bluetooth enabled controllers. Not only does the controller need to be Bluetooth enabled (not all of our controllers are), it's important to select the correct operating mode setting for the APP to work with your controller.   There are three Boogey Lights Bluetooth controller types this APP will support:

1. **RGB (Multi-Color) CONTROLLERS.** These are single lighting zone (RGB) controllers and are offered in PLUS, SUPER and HEAVY DUTY configurations. They are by far the most popular controllers in the market today.   The term "single zone" indicates the number of lighting zones the controller will control.   Controllers in this category are designed to power RGB (multi-color) LEDs attached to the controller. There is one lighting zone meaning all RGB LEDs connected to the controller will show the same color and/or lighting features.

2. **SINGLE COLOR 3 ZONE CONTROLLERS**. We offer a SUPER and HEAVY DUTY single color 3 zone controller. This controller is a 3 lighting zone controller for single color LEDs. It allows the user to set up and operate three distinct single color lighting zones which can be operated and controller individually by the controller.

3. **RGB (Multi-Color) DUAL ZONE CONTROLLER.**   This is our newest controller available in August 2018. It's offered in a HEAVY DUTY version only.   This controller functions the same as our single lighting zone RGB controller except that instead of only one lighting zone, there are two. It allows the user to set up and operate two distinct RGB multi color lighting zones which can be operated and controlled individually by the controller.

SERIES 2 FIRMWARE - PROGRAMMABLE COLOR ROTATION FEATURE (RGB Controllers): In January 2017 we introduced our SERIES 2 controller firmware. With the firmware and the Boogey Lights® Bluetooth controller, you can program the controller to display two or three colors of your choice and then rotate those colors in sequence. This functionality however will only work with a Boogey Lights® Series 2 Bluetooth controller.

Note: For this manual we are using images from the Android version of the APP. While the IOS version is substantially the same, there are slight differences in screen layouts.   Those differences however should be obvious and not change functionality.

➔ *If you have the wrong Color Mode selected OR the Lighting Zone Selector is not set to match the capabilities of your Bluetooth controller, the APP will connect to the controller however it will not operate the lights.*

SETTING THE LIGHTING ZONE (NEW in this release)

Since most customers use the RGB (multi-color) Bluetooth single lighting zone controller, it's important to make sure you have your APP set to the 1/2 lighting zone setting at the top of the screen (see image below). This is the default setting when the APP first launches after install but its easy to change it. The Lighting Zone selector only works with the new DUAL ZONE RGB BLUETOOTH CONTROLLER where the user can adjust the colors/features of the LEDs connected to ZONE 1 only, ZONE 2 only or ZONE 1+2 together. The Lighting Zone selector should **always be in the "1 / 2" position** (Zone 1 + Zone 2) for the single lighting zone RGB controller. *If you are trying to use the APP with a single zone RGB controller and you have it set on the Zone 1 or Zone 2 only setting, the APP will connect to the controller BUT the lights will not function.*
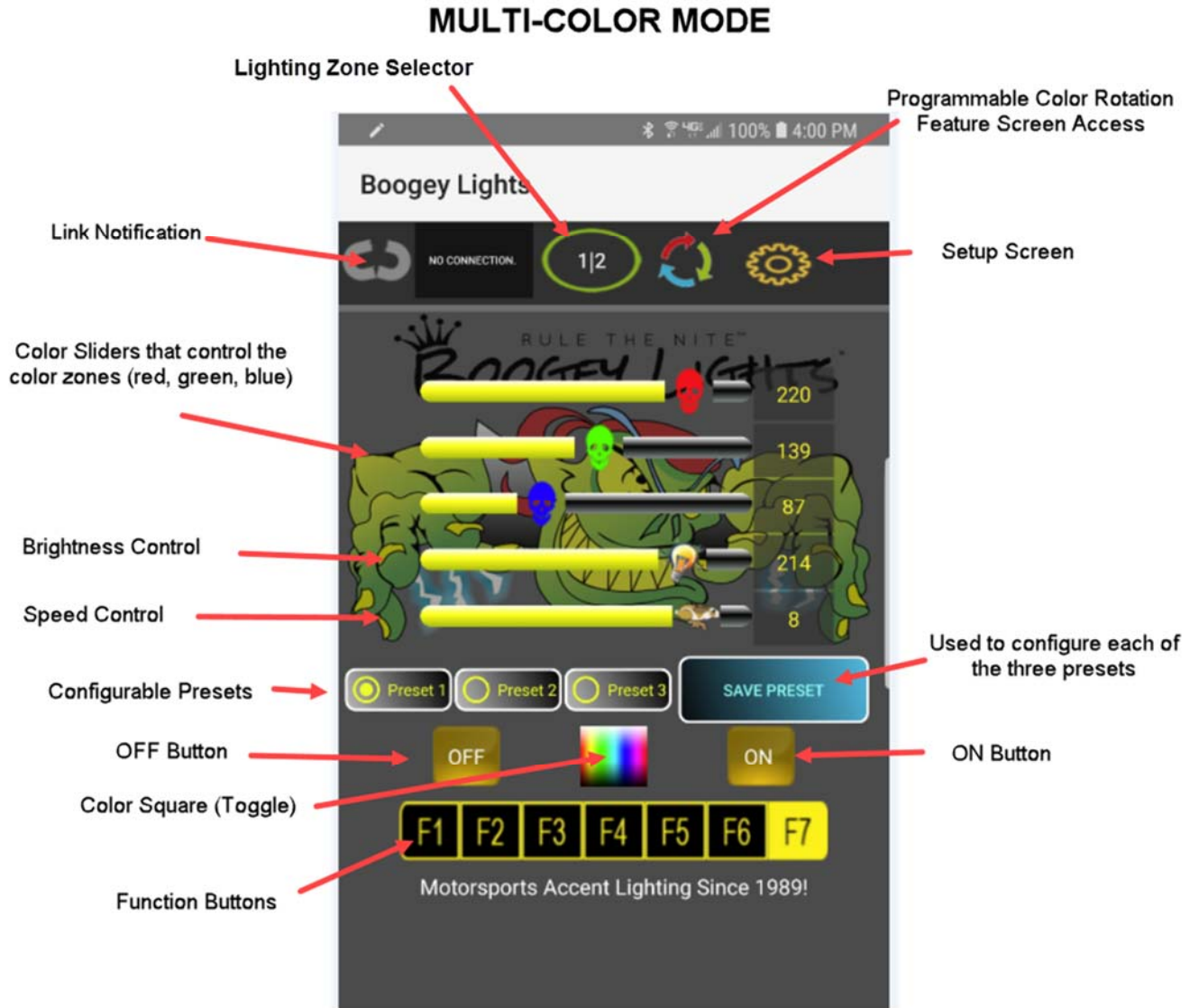
SETTING THE OPERATING COLOR MODE

This version of the Boogey Lights® Bluetooth APP supports both our **Multi-Color Bluetooth** remotes AND our **3 ZONE Single Color** remotes.   When launching the APP after first installation, the APP will default to the RGB MULTI-COLOR mode. Any subsequent APP launches will come up in the color mode last used. <u>Make sure you set the APP in the correct operating mode</u>.   You do this by selecting SETUP, then CHANGE COLOR MODE, then selecting the COLOR MODE of your controller and pressing the 'Restart in Selected Mode' button.   *If you have the wrong color mode selected, the APP will connect to the controller however it will not operate the controller*.
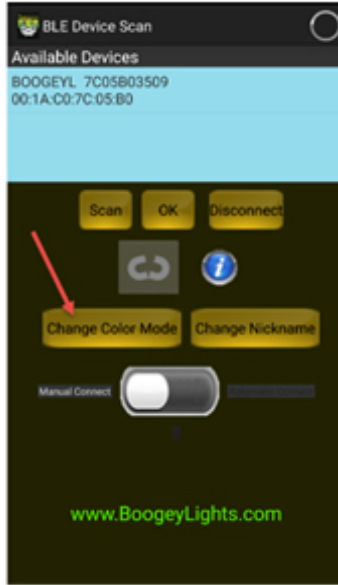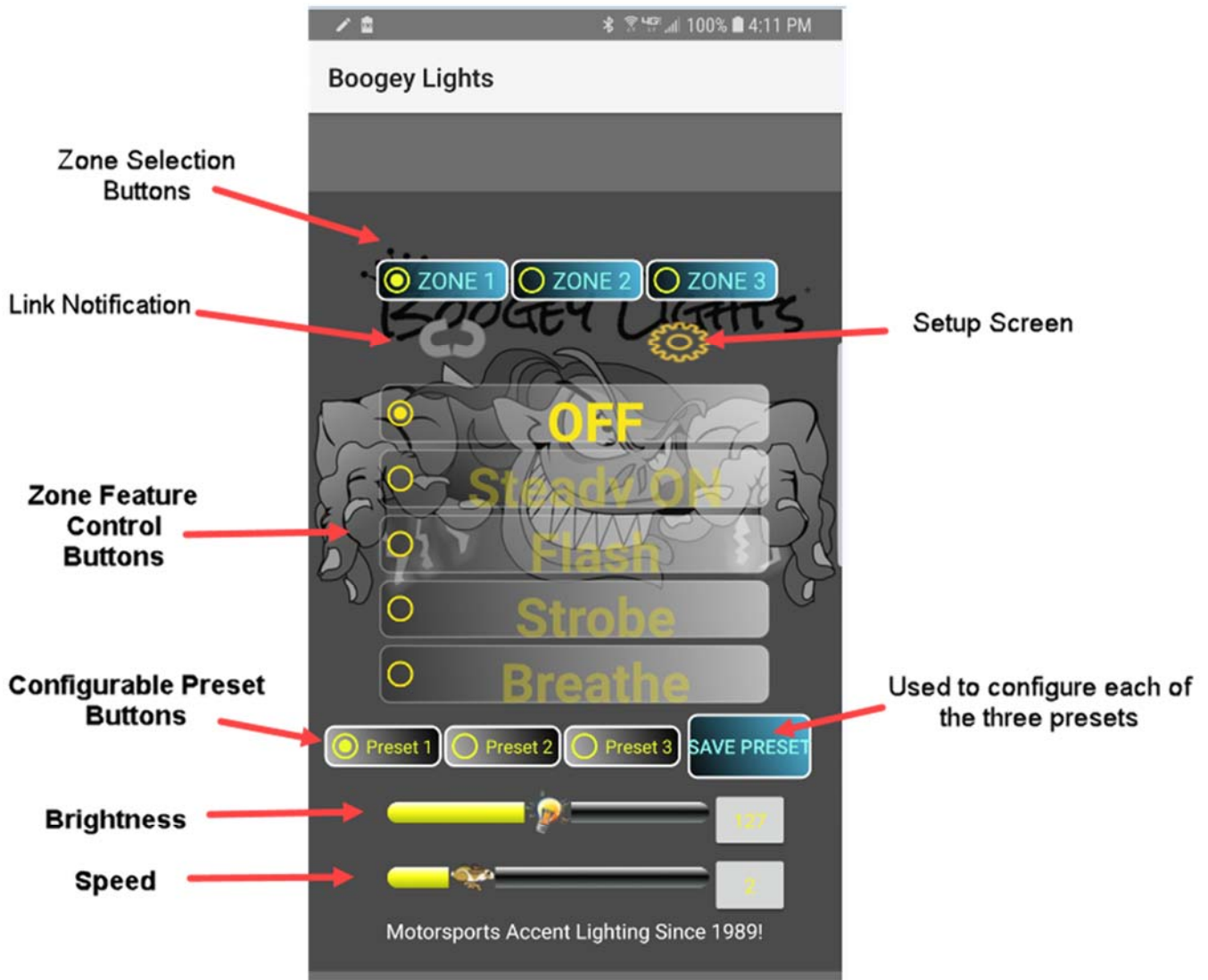
BASIC OVERVIEW AND OPERATION

Note: We are using images from the Android version of the APP. While the IOS version is substantially the same, there are slight differences in screen layouts.   Those differences however should be obvious and not change functionality.

MULTI-COLOR MODE

Lighting Zone Selector

Programmable Color Rotation Feature Screen Access

Link Notification

Setup Screen

Boogey Lights

NO CONNECTION. 1|2

Color Sliders that control the color zones (red, green, blue)

RULE THE NITE™

220

139

87

Brightness Control

214

Speed Control

8

Configurable Presets

Preset 1   Preset 2   Preset 3   SAVE PRESET

Used to configure each of the three presets

OFF Button

OFF   ON

ON Button

Color Square (Toggle)

F1 F2 F3 F4 F5 F6 F7

Function Buttons

Motorsports Accent Lighting Since 1989!

SINGLE-COLOR MODE

Zone Selection Buttons

Link Notification

Setup Screen

Zone Feature Control Buttons

Configurable Preset Buttons

Used to configure each of the three presets

Brightness

Speed

[BLBTAPP 5 April 2021]

SETUP SCREEN

Area where found devices will appear. Notice we have assigned Nicknames to each of these controllers.
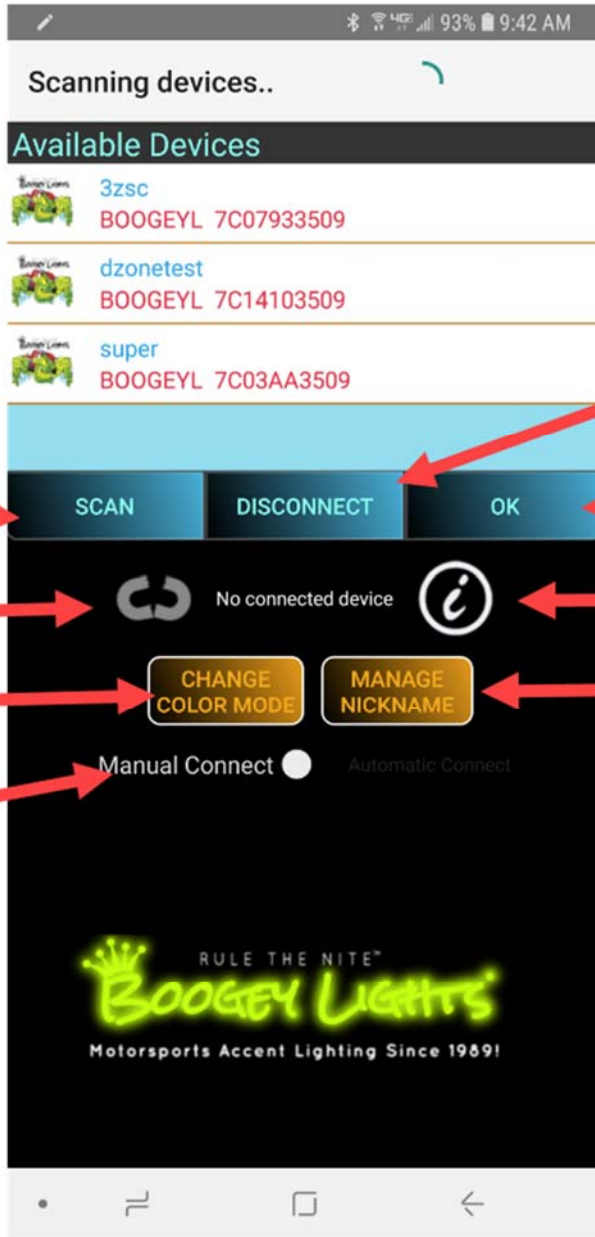
Pressing SCAN starts the process of scanning for Boogey Lights Bluetooth controllers.

Link will illuminate when connected to controller.

Change Color Mode

Manual / Auto-Connect Toggle.

Disconnects APP from controller.

Return to Main Screen

Version Info

Assign NIcknames to controllers making them easier to remember.

Scanning devices..

Available Devices

3zsc
BOOGEYL 7C07933509

dzonetest
BOOGEYL 7C14103509

super
BOOGEYL 7C03AA3509

SCAN   DISCONNECT   OK

No connected device

CHANGE COLOR MODE   MANAGE NICKNAME

Manual Connect ⬤   Automatic Connect

RULE THE NITE
BOOGEY LIGHTS
Motorsports Accent Lighting Since 1989!

MULTI-COLOR MODE: In the multi-color mode you can adjust whatever color you want to show by adjusting the Red, Green and Blue sliders OR by using the COLOR SQUARE toggle.   There are a total of 16 million color combinations (255 x 255 x 255). There are also Brightness (aka Intensity) and Speed controls.   Notice too you have the ability to save up to three PRESETs to make it easy to recall any combination of colors and functions. Additionally, there are 7 feature function buttons that provide the following functionality:

> F1 – single color steady on, optional dim and multi-color selection using sliders
> F2 – single color strobe, optional dim, speed and multi-color selection using sliders
> F3 – 7-color strobe, optional dim and speed using sliders
> F4 – 7-color switching, optional dim and speed using sliders
> F5 – single color breath optional speed and multi-color selection using sliders
> F6 – 7-color breathe, optional speed using sliders
> F7 – multi-color blend, optional speed using sliders

If when making a color selection the lights do not immediately respond, you may need to send the command again. This is particularly true in situations where the APP hasn't been used for a minute or two. This is because of the 'always off' design of BLE Bluetooth.

PROGRAMMABLE COLOR ROTATION: With the introduction of our SERIES 2 firmware (Bluetooth controllers released in January 2017) this button provides access to the 2 or 3 color control sequence screen. While this button appears on the Boogey Lights® Bluetooth app, this feature will only work on SERIES 2 Bluetooth controllers.

LIGHTING ZONE SELECTOR (Only works with the DUAL ZONE RGB controller): If you're using this APP with our DUAL ZONE RGB CONTROLLER, the LIGHTING ZONE SELECTOR allows you to select which lighting zone you want to control. There are three options: ZONE 1, ZONE 2 and ZONE 1+2 together. If you aren't using this APP with the DUAL ZONE RGB Controller, this setting should be in the " 1 / 2 " position. Any other position will not work.

SINGLE-COLOR MODE: In the single-color mode each of the three zones can be independently adjusted by pressing the Zone Selection buttons across the top.   Each zone has five function options: OFF, STEADY ON, FLASH, STROBE and BREATHE. Within each zone, you can control the Brightness and the Speed.   You can save up to three of your favorite configurations by using the configurable Preset Buttons.

Reminder – The Single-Color mode will only work with the Boogey Lights 3Z SINGLE COLOR Bluetooth Controller.

CONNECTING YOUR SMARTPHONE WITH THE BOOGEY LIGHTS® BLUETOOTH CONTROLLER

The technology used in the Boogey Lights® controller is based on the Bluetooth 4.0 BLE specification. The "BLE" stands for "Bluetooth Low Energy" which simply means it is an 'always off' technology designed to save battery power. What makes BLE different is that unlike traditional Bluetooth devices, you <u>DO NOT "pair" the controller with your smartphone.</u> Instead, when you want to use it you will connect to the controller with the APP running on your BLE equipped smartphone.   When finished, you'll disconnect.

To connect your smartphone to the Boogey Lights® Bluetooth controller follow these steps:

1) Make sure the power is ON to the controller.

2) Make sure your smartphone is on and you have BOTH Bluetooth and Location Services (aka GPS) enabled. Many smartphones have both of these disabled by default to save the phone's battery power.

3) Open the Boogey Lights® APP on your phone. Make sure you are in the correct COLOR MODE (the APP will remember the last mode you were in). Select the SETUP button which appears in the upper right hand corner of the screen.

4) Tap the SCAN button. The APP will immediately begin searching for the nearby Boogey Lights® controller.

5) Once discovered, tap the device name – this will take you to the operating screen.

6) Wait for the link between your phone and the controller to be established – this may take up to 60 seconds on some Bluetooth phones.

7) When the link is made you will see the orange link notification in the upper left corner

8) You can now play with your new toy – have fun!

If the orange link notification doesn't light within a minute of the scanning process, press the ON button on the screen. It might be that your phone is linked but the orange link notification isn't lit.   Pressing the ON button will send a signal from your phone to the controller and if the link has been made (but the link light is not lit), the link light should come on. If after doing this the link between your phone and the controller still isn't established, we suggest repeating the above process and if necessary, powering down (and up again) both the controller and your smartphone.

NOTE: The reset button on the Bluetooth controller erases all custom settings back to the factory default. To reset the controller, press and hold the RESET button for 3 seconds.

ASSIGNING A NICKNAME

You'll notice the default name for your Boogey Lights® controller is somewhat cryptic. Looks something like this:
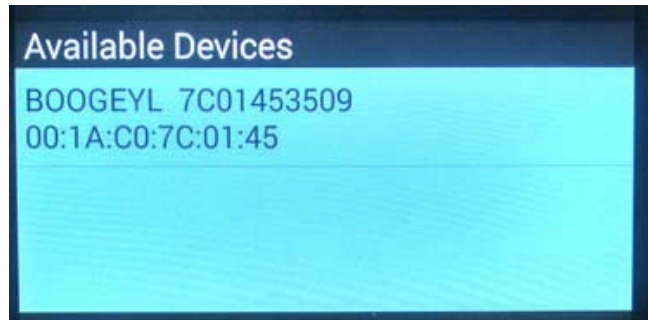

This is the serial number and MAC Address of the Boogey Lights® controller.   Each controller is unique in this regard. To make it easier to identify your controller, you can assign a nickname. The nickname is specific to your smartphone when paired with your unique controller MAC address and serial number.

To give your controller a nickname, follow these steps:

1) Make sure your phone and controller are linked as described in the pairing instructions. You must be able to turn your lights on and off. The orange link light must be lit.
2) Tap the SETUP button.
3) Tap the CHANGE NICKNAME button.
4) Enter a nickname for your controller.
5) Tap the SUBMIT button and you're all set!

From this point forward when you SCAN for your controller you will see the NICKNAME you gave it in step 4 above instead of the default cryptic characters. If you want to change the NICKNAME at any time, click the RESET NICKNAME button. A maximum of 5 Boogey Lights controllers can be assigned a nickname.
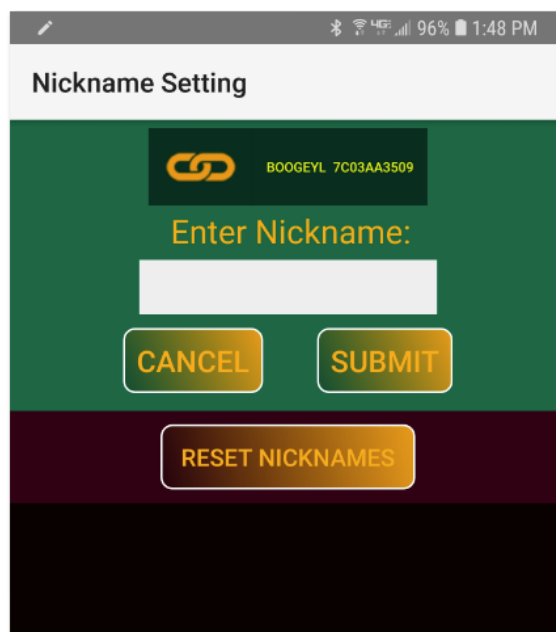
PROGRAMMABLE COLOR ROTATION FEATURE

With the introduction of our SERIES 2 firmware (Bluetooth controllers released in January 2017) this button provides access to the 2 or 3 color control sequence screen. For example, let's say it's Fourth of July and you want your lights to rotate through the color sequence of RED, WHITE and BLUE . Or, perhaps your favorite sports team's colors are Orange and Blue and you want your lights to continually rotate through a color sequence of Orange and Blue. You can also for instance vary the speed of the sequence as well as the brightness. You can also choose from one of two different sequencing effect modes: BREATHING or ROLLING. Additionally, you can save these configurations in up to 3 presets such that you're able to recall the lighting configuration with a press of a button. While this screen appears on the Boogey Lights® Bluetooth app, the Programmable Color Rotation feature will only work on SERIES 2 Bluetooth controllers.
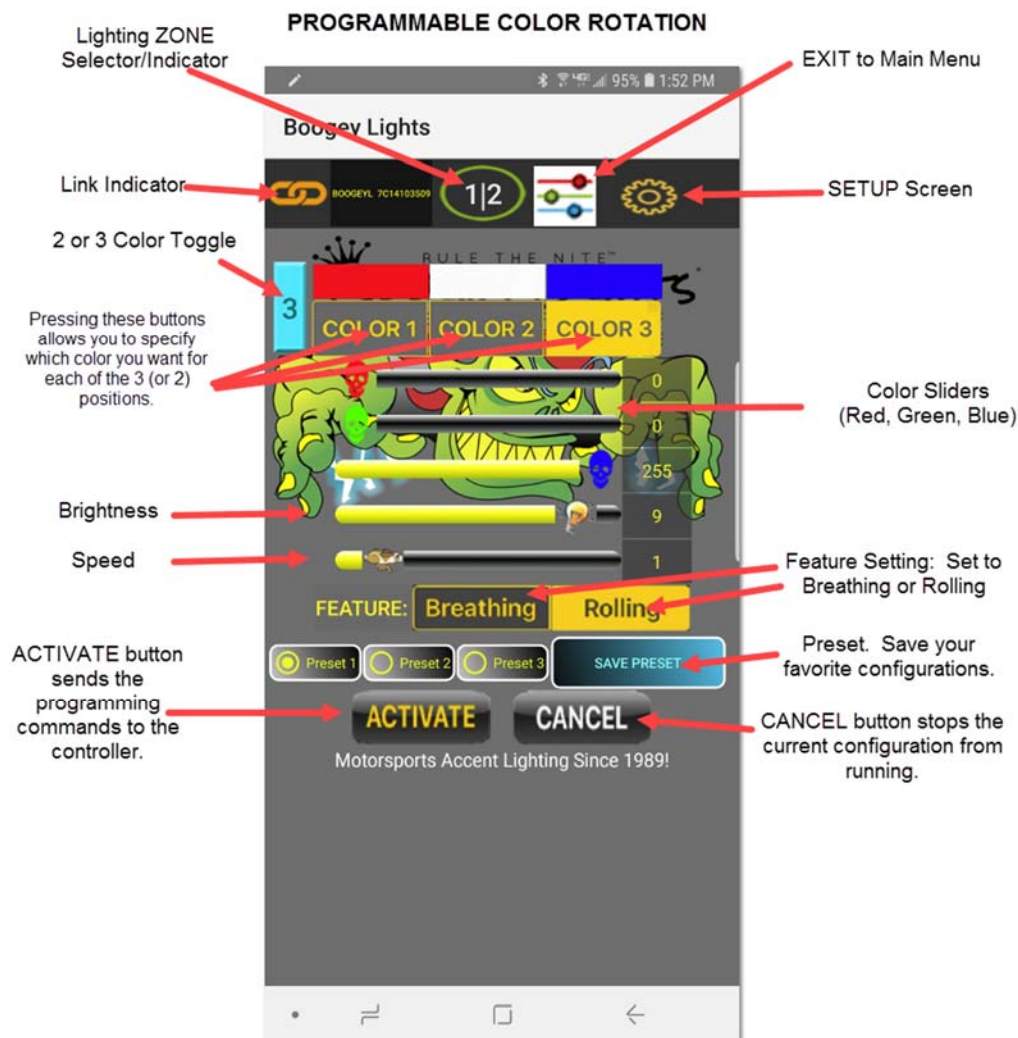

NOTE: The Programmable Color Rotation Feature is a complex set of lighting and feature instructions that take longer to send to the controller (and for the controller to memorize) than just a simple color change. Once those instructions are received by the controller, it may have to cycle through those instructions a time or two until you see the full implementation. Give it time. This lag is more pronounced with the Android OS than it is with iOS.   In some situations you may need to press the 'Activate' a second time to resend the programming instructions.

AUTOMATICALLY CONNECT

You can setup the Boogey Lights® APP on your smartphone to automatically connect to the Boogey Lights® controller when you are in range (and of course have the power turned on).   Setting up the automatic connection eliminates the need to 'SCAN' for the device and connect manually. To enable automatic connection on your APP follow these steps.

1) Make sure your smartphone is connected to your controller and you are able to turn lights on and off.
2) Go to setup and tap the AUTOMATICALLY CONNECT slider button. You will want to slide it to the right.   As soon as you do, you'll notice the Automatic Connect text lights up and the serial number/MAC address of your Boogey Lights® controller will appear at the bottom of the screen.
3) Now when you are within range of your controller your phone will recognize the device and automatically connect. This may take up to 60 seconds.
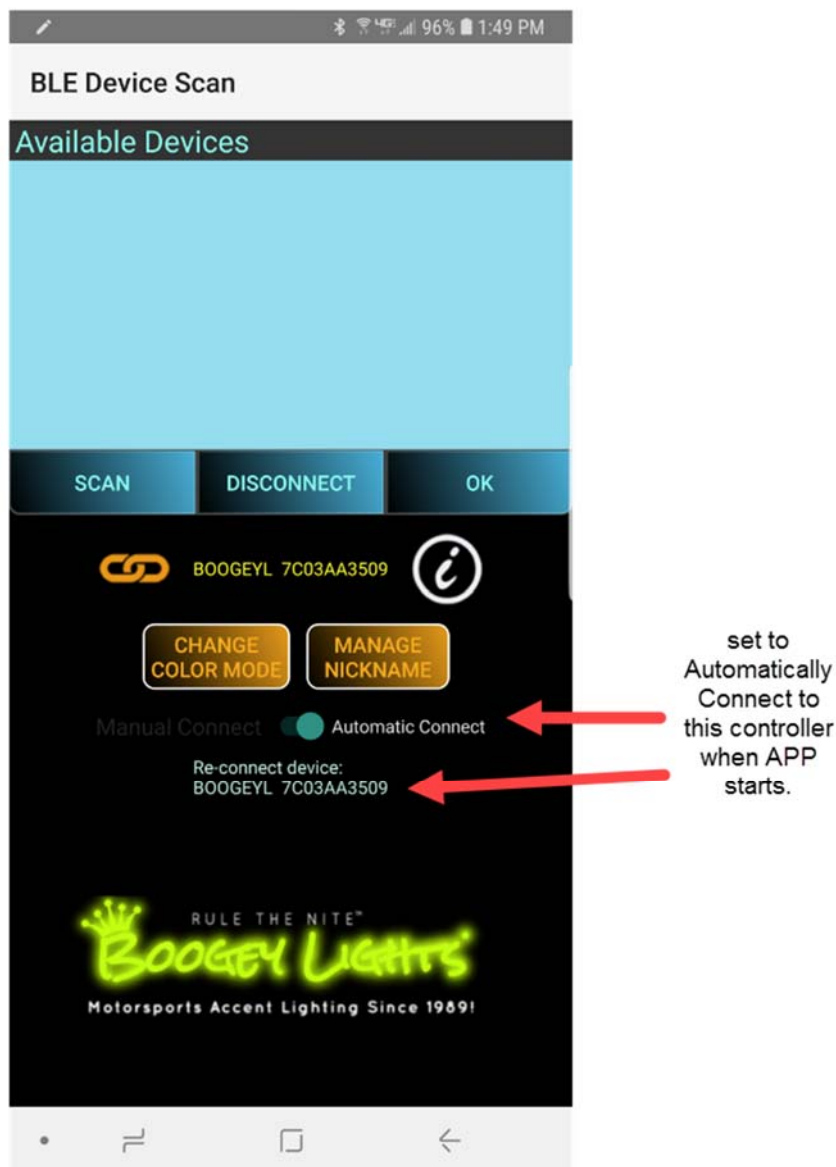
OPERATIONAL TIPS & LIMITATIONS

The Boogey Lights APP and controller have been extensively tested to work on iOS and Android devices equipped with Bluetooth BLE 4.0 technology. More specifically, iPhones running iOS 10 and newer as well as Android phones running version 7.0 and 8.0 have been tested and confirmed to work. If you are running an OS version older than these listed (and your phone is BLE 4.0 capable) , the APP is still likely to work. The functionality and/or screen layouts may not be fully supported.

- The Boogey Lights® Bluetooth controller can only be connected to one smartphone at a time.
- Press On and the lights come on full power.
- Press Off and the lights go off. This does not turn off the controller entirely – we recommend pulling the fuse (or installing an on/off button) if you're not going to be using your lights for an extended period of time.
- Sliding each color to the left will reduce the amount of that color in the mix.
- The 4th slider noted with the letter "L" will adjust the Level or dim the lights.
- The 5th slider that runs between on and off is a rabbit. It controls the speed of the various functions.
- Bluetooth 4.0 is a low energy technology designed to draw very little power on the phone. As a result, the effective distance is limited in terms of how far away the phone can be from the controller and still connect.   While environmental factors play a big role in determining the distance, you can expect a range of 30' to 50'. We've tested up to 100' and found it to be reliable but again, environment factors such as walls and other electronic devices in the area will factor into the distance equation.
- Once you are done, turn the lights off with the smartphone APP (OR – if you have the COMBO controller, you can also use the included RF wireless remote to turn off the controller). Now you can either tap disconnect on the setup screen, turn off your Bluetooth function on your phone or walk away. Be sure to remove the fuse or (install a pushbutton on/off switch) to keep the controller from drawing power from the battery when not in use.

Connection & Functionality: If you're encountering connection and/or functionality issues (and you've confirmed you have everything setup correctly) you may want power down both the controller and the smartphone completely (turn all the way off – a "cold boot") and then back on again. When the phone is booted up, make sure both BLUETOOTH and LOCATION SERVICES (aka 'GPS') are ENABLED.

Programmable Color Rotation Feature: The Programmable Color Rotation Feature is a complex set of lighting and feature instructions that take longer to send to the controller (and for the controller to memorize) than just a simple color change.   Once those instructions are received by the controller, it may have to cycle through those instructions a time or two until you see the full implementation. Give it time. This lag is more pronounced with the Android OS than it is with iOS.   In some situations you may need to press the 'Activate' a second time to resend the programming instructions.

Android Specific – Delayed Response: If you're using the Android platform, you'll likely notice a lag between the time you press a button on the APP and the time the controller performs the lighting change you requested. This lag is due to how the Android OS Bluetooth Stack is integrated with the hardware. It's not something we can control via the APP itself.   The iOS version is quicker to respond to commands.   The lag is more pronounced when using the PROGRAMMABLE COLOR ROTATION feature in that it can take longer to send the program instructions to the controller.

Color Selection: If when making a color selection the lights do not immediately respond, you may need to send the command again. This is particularly true in situations where the APP hasn't been used for a minute or two. This is because of the 'always off' design of BLE Bluetooth.

Color Matching: It is not possible to match every possible color (e.g. Candle White) AND some colors cannot be created at all with RGB leds (e.g. Orange). A couple of reasons:

First, there are different hues of LEDs which is determined by the Correlated Color Temperature (CCT) measured in degrees Kelvin.   The Red, Green and Blue diodes used in our LEDs are the most common in terms of CCT to produce bright, vibrant color combinations across the entire color spectrum. There are however color shades that can't be created. For example, the 'white' our strips produce is a "day white" (some might call it a cool white too). They have a slight blueish tint due to the high Kelvin temp of the LEDs. With these LEDs it's not possible to produce a candle white, soft/warm white or natural white – all of which either have a yellowish or orange-yellowish tint to them.

Second, in the most simplest terms, RGB refers to the visible light colors of RED, GREEN and BLUE. In terms of light physics (not to be confused with ink/paint colors), Red, Green and Blue are referred to as PRIMARY COLORS. These are colors that cannot be created by mixing together other colors (well, actually, this isn't entirely true but for our purposes here, it will simplify matters). RGB LEDs create other colors by mixing varying amounts of Red with Green with Blue. The mixing of PRIMARY colors creates SECONDARY colors. So for example, mixing equal parts GREEN + RED will generate YELLOW. In terms of light spectrum color (different than ink/print colors), YELLOW is a secondary color. To create ORANGE, you need to mix a shade of YELLOW and a shade of RED. However since we're already using the RED diode in the LED to create YELLOW (equal parts Green + equal parts Red), the Red diode in the LED isn't available to be used to create Orange. Only the Blue diode is available. The result is that the color orange cannot be created with RGB light.

TROUBLESHOOTING

Visit our website for additional troubleshooting information here: https://www.boogeylights.com/trouble-shooting-guide/

www.BoogeyLights.com
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