



**SINGERMAN
COLOR MIXER**

User's
Guide

Model 13015A



Congratulations!

You have just acquired an innovative, high quality product. We have put our highest effort into each development stage. We are sure that you will find this equipment most reliable and accurate - exceeding your expectations.

Before using this device, we strongly recommend that you carefully read the user manual. There you will find all related information for correct handling and usage of this product.

De la Rosa Research Team.



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APPLICATIONS

Colors are formed in two different ways, either by reflection (subtractive colors) using chromatic dye mixes, or by white light diffraction or refraction (additive colors), using filters or prisms. This system demonstrates the additive color formation using RGB lights and color wheel color formation through light. Color perception is one of the main topics in sensory and perception classes. This system is an upgraded design of an old but beloved classic in the study of psychology.

The lightweight body contains three calibrated RGB smart LED arrays that are able to produce 24 bit, 1.6 million colors $(16.777.216) \times 3$. This state of the art equipment is suitable for demonstrations on color perception. The system is portable, and computer controlled for flexibility and accuracy.



SPECIFICATIONS

Materials: aluminum, HDPE, and Plexiglass

Dimensions (H x W x D): 28" x 12" x 8"

Current: 5 VDC (through USB port) at
180mA (3 LED at full bright)

Three independent RGB LEDs for 24Bit
Color control x 3

8000mcd 140° full-color RGB LED

Weight: approximately 3.5 kg

Ports: USB (B)

Aluminum - Stainless steel and acrylic body
for sturdy usage.

High resistance (and 100% recyclable)
polymer base, easy to clean.

Black coated electrostatic painting for
clueless distraction.

High durability and easy maintenance.

Acrylic window for high resistance and safety.

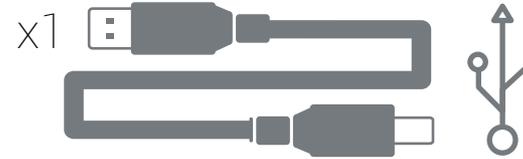
BEFORE STARTING

// ¿WHAT SHOULD BE INCLUDED IN THE BOX?

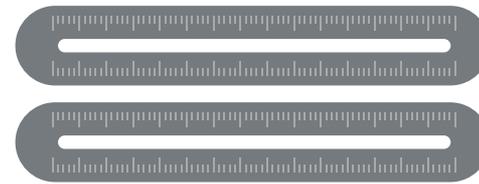
a. x1



b.



c.
x2



d.
x1



e.
x1

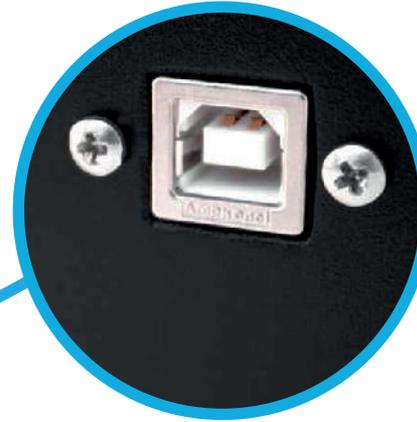
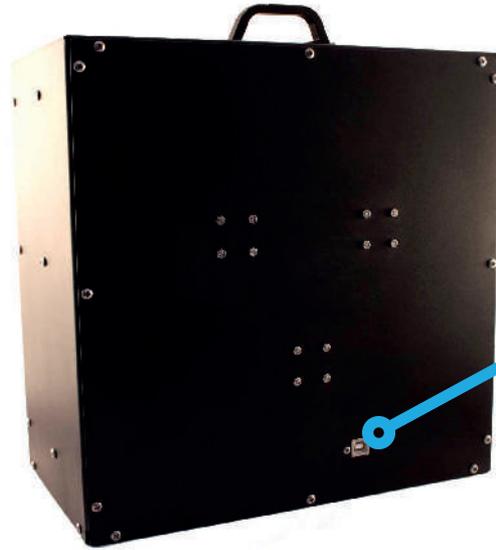


A. SINGERMAN COLOR (X1) B. USB CABLE A-B (X1) C. METER (X2) D. WINDOW (X1) E. QR TAG (X1)

BEFORE STARTING

// INSTALL THE SOFTWARE

//CONNECT TO THE COMPUTER



- 1 Using the provided USB cable, connect the B terminal to the corresponding USB port located in the rear part of the Singerman Color Mixer's Main Body



- 2 connect the A terminal to an available USB port in your PC

SOFTWARE INSTALL - BASIC SETUP

// SOFTWARE INSTALLATION - BASIC SETUP



CD INSTALL

Insert CD / DVD in the corresponding Computer's tray.
Alternatively request a download package form support@delarosaresearch.com if your computer has no tray.

RUN THE PROGRAM .

To install the software simply copy the folder named after your computer's OS and paste it to a desired PC location, unzip it, if compressed.
Once copied, the software is fully functional. You may however require to install or update your computer's Java engine.
Open the copied folder and look for the executable file corresponding to your OS. Double click on the corresponding file.
The control software will run.

CONNECTING THE EQUIPMENT .

Once software is installed, and running, connect the "A USB" side of the provided cable to an available port of your PC, and connect the other end (B USB connector) to the Color Mixer's main body USB port located in the rear part of the equipment.

The Software should recognize the Blinkm's LED color processors connected to it. (look at the status bar functioning on the next pages)

Click on the first three left check boxes below the "CHANNELS" label. This action will select channel 9. Repeat the procedure for , channel 10 and 11.

Click again on any of the three channels numbers selected in the previous step to test connection to the LED Color processors.

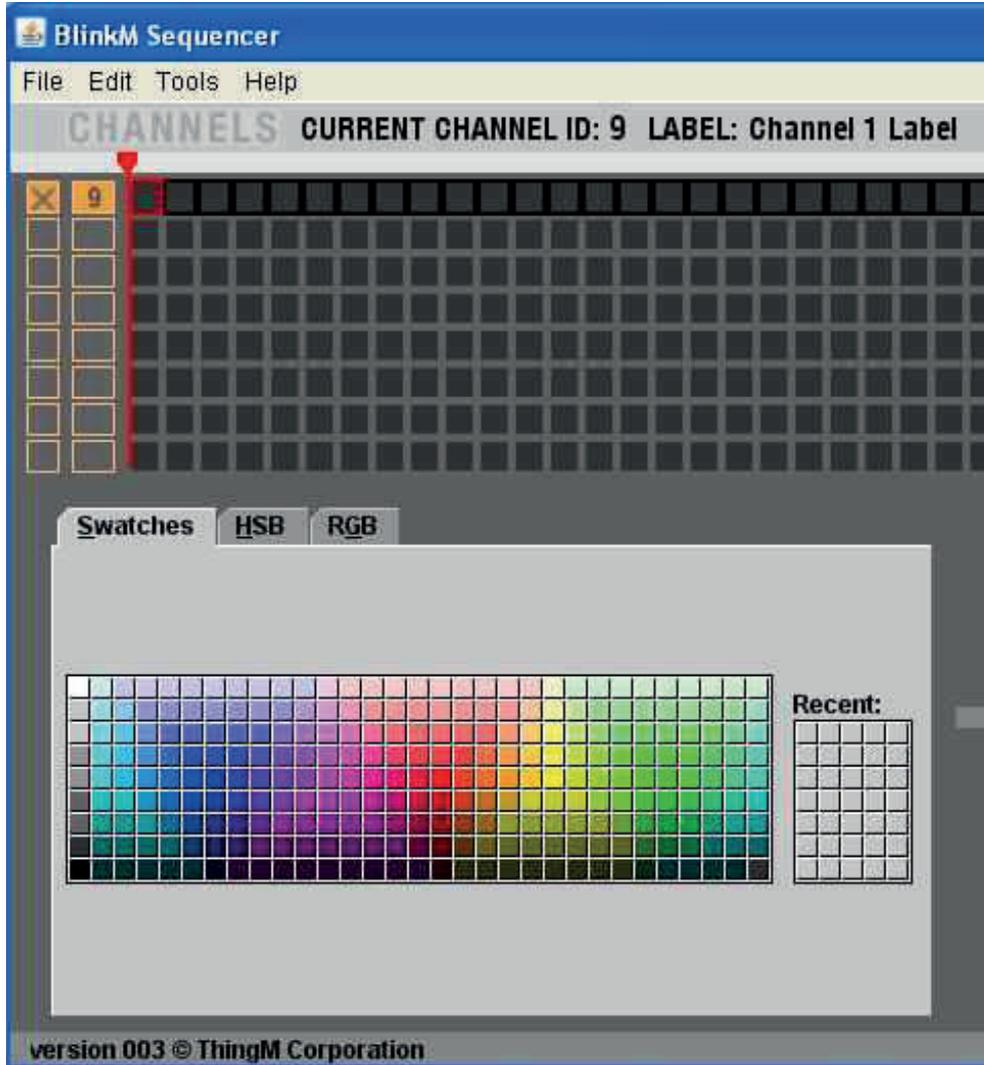
A new menu is displayed showing the connections availables.

The Singerman Color Mixer's Main screen should show the three color discs (R,G,B)

Click on OK to complete initial set up.

OPERATION

// SOFTWARE FUNCTIONS -BASIC SCREEN - I



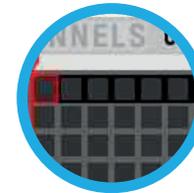
MAIN MENU BAR .

Shows the program menus and options.
File - Edit - Tools - Help.



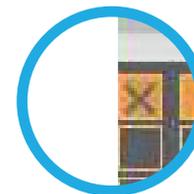
CHANNELS STATUS BAR.

Shows current selected channels and status.



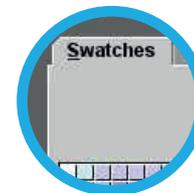
CHANNEL (LED) PROGRAMMING BAR .

Shows Blinkm LED current program and current color.



CHANNEL (LED) SELECTOR.

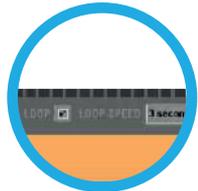
Shows the activated Blinkm LED channels.



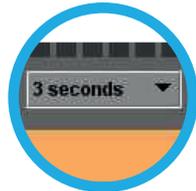
COLOR SELECTION TABS

Allows currently selected LED color selection

LOOP SELECTOR
Allows the loop (on- off) settings for the Led program



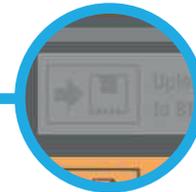
SPEED SELECTOR.
Use this list to select the presentation speed for the LED track schedule program.



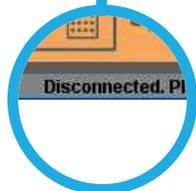
PLAY/STOP TOGGLE BUT ON.
Used to play or stop current LED programs



BLINK-MS UPLOAD AND DOWNLOAD.
Allows the "upload to" or "download from" BlinkM processors.



STATUS BAR
Indicates current microprocessor status. Connection or disconnection to the controller software.



// SOFTWARE FUNCTIONS - BASIC SCREEN - III

File	Edit	Tools	Help
Load Set			Ctrl+O
Save Set			Ctrl+S
Load One Track			Ctrl+Shift+O
Save One Track			Ctrl+Shift+S
Connect to Arduino			Ctrl+Shift+C
Quit			Ctrl+Q

Edit	Tools	Help
Cut		Ctrl+X
Copy		Ctrl+C
Paste		Ctrl+V
Delete		Ctrl+D
Select All in Track		Ctrl+A
Make Gradient		Ctrl+G
Edit Channel IDs		

Tools	Help
BlinkM Factory Reset	
Set BlinkM Startup Script to...	▶
Scan I2C Bus	
Change BlinkM I2C Address	
Display LinkM/BlinkM Versions	
Reset LinkM	

Help
Help
Quick Start Guide

FILE MENU

Load Set: Load program from HDD file
 Save Set: Save program to HDD file
 Load One track: Form file
 Save One track: From file
 Connect to Arduino: Not implemented

EDIT MENU.

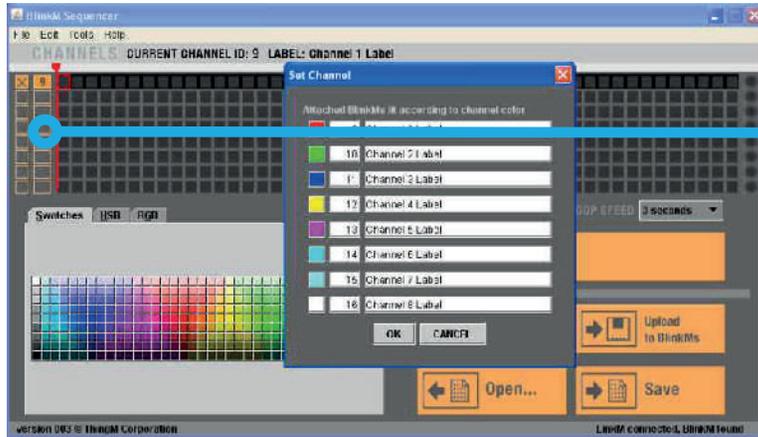
Cut Track Selection
 Copy Track Selection
 Paste Track Selection
 Delete Track Selection
 Select All Track Content
 Make Gradient form selection
 Edit Channel's ID's

TOOLS MENU

BlinkM's Factory reset **(CAUTION DO NOT USE THIS SELECTION !!!)**
 Set BlinkM Start Script to: Selected Colors Scan I2C Bus to show connected BlinkM processors Change BlinkM I2C Address **(CAUTION DONOT USE THIS SELECTION !!!)**.
 Display LinkM/Blink M Versions: Shows Processor Versions. Resert LinkM **(CAUTION DO NOT USE THIS SELECTION !!!)**.

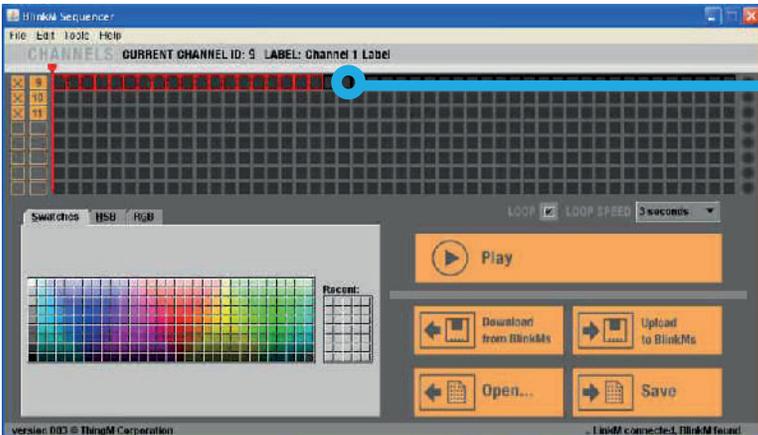
HELP MENU

Help Menu: Microprocessor's Help
 Quick Start Guide: Micro processors Quick Start Guide



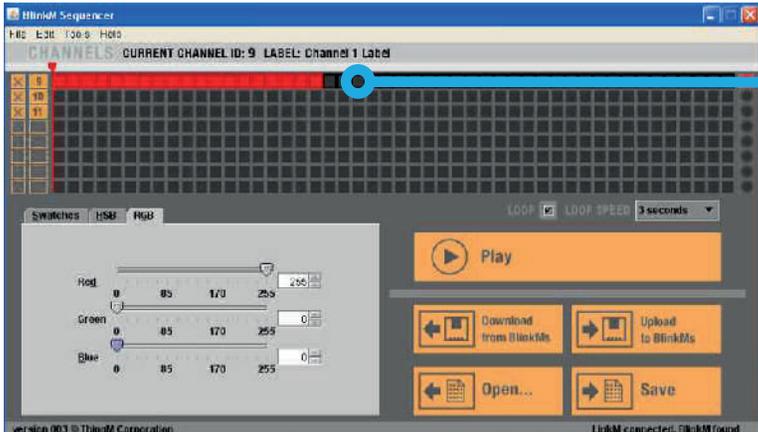
SET LED CHANNEL:

1. Activate channels: Click on the ee fir selection boxes in front of the thr st channels.
 2. Confirm channel activation By clicking over the channel number - 9 , 10 or 11.
- Click OK when selection is done.er an Select the channel by clicking ov . y segment of the track selection bar



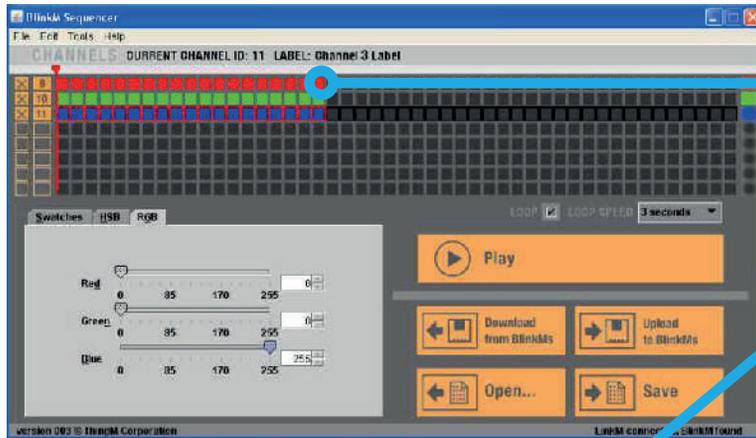
TRACK SELECTION BAR.

Click on, hold the mouse and drag to the desired portion to select the desired tr segments. Each segment will last depending upon^{ack} time selection. Total track length is 48 segments. Track segments presentation time is determined by total track time divided by 48.



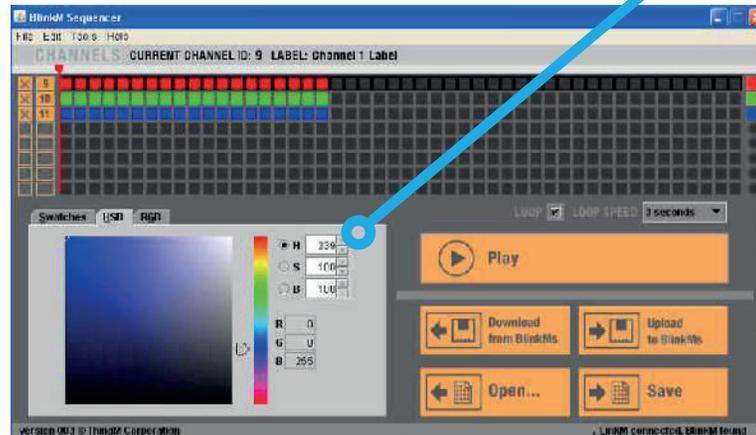
COLOR SELECTION

After track selection is done , select the desired colors using the palette, RGB, HSB models



COMPLETE YOUR TRACK SELECTION

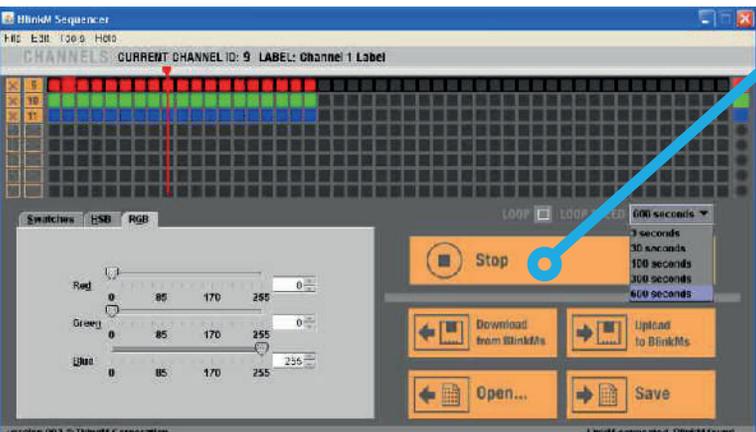
Select the channel and color for each track segment.
Repeat this selection for the three Color Mixer's LED processor.
Use the desired Color Method.



PLAY THE PROGRAM

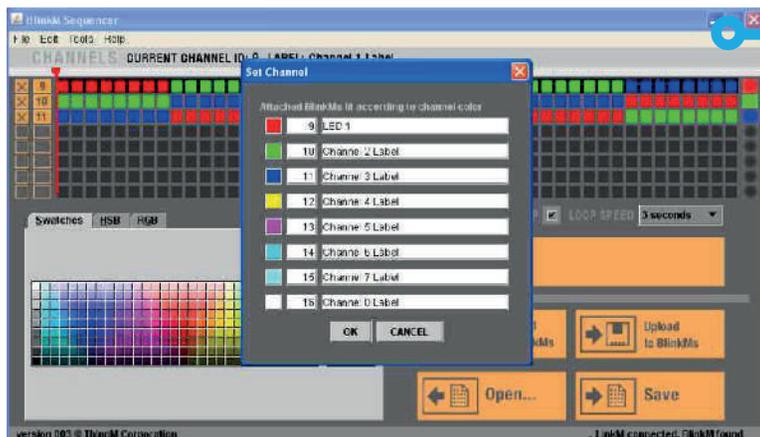
Once Selected, the track will turn into a schedule program. Use the Play _ Stop button to play or stop the program.

Use the Loop and Time check boxes and drop down list menu to select time and looping conditions.



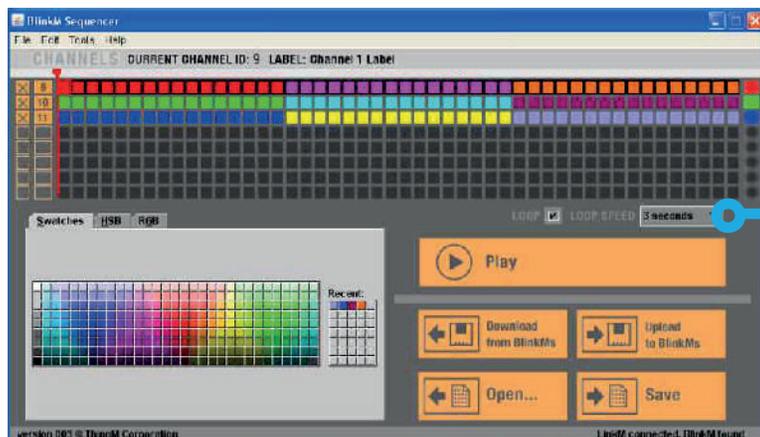
Use the Save or Load buttons to save or load your program to your HDD or desired media.

Upload or Download the created program to the BlinkM LED microprocessors for playing the program directly to the



CHANNELS RENAME

Rename channels as desired accordingly to your experiment protocol. This helps to identify each individual LED processor.



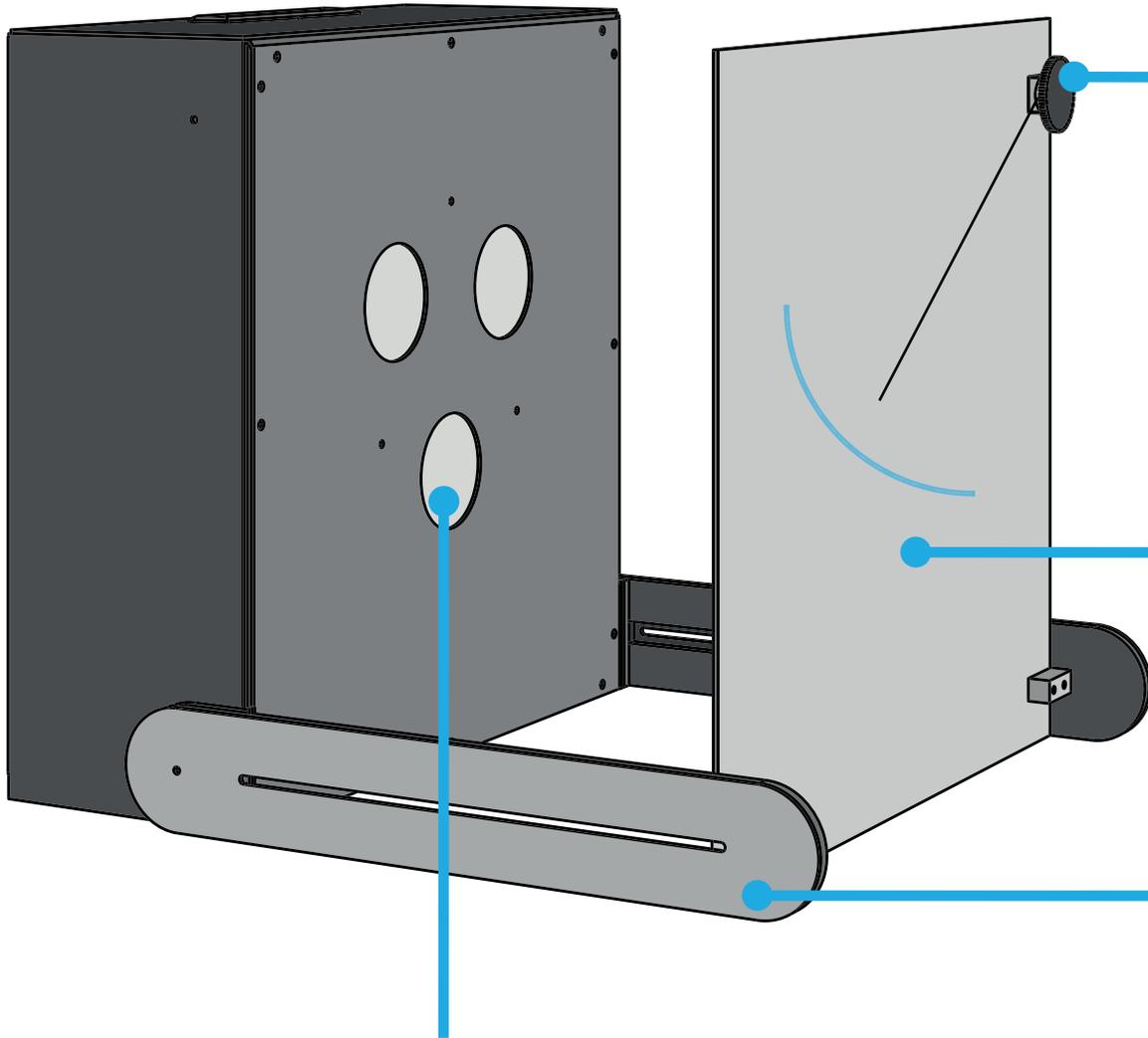
SECONDARY COLORS SELECTION

Colors can be selected from the color pallet to form primary or secondary colors as desired.

Use the pallette, RGB or HSB methods described earlier to select any primary or secondary colors.

COLOR COMPOSITION CHECK UP

// ¿HOW IS A SECONDARY COLOR COMPOSED?



REFLECTOR
By this means reflect the three primary colors cyan, magenta, yellow.

COLOR COMPOSITION SLIDE BAR

Once selected a secondary color can be shown as composed of three main colors by sliding up and down the Color composition Slide bar. This will present the three projected shadows separately to show a color composition.

WINDOW

The colors will be reflected in the white window in which you can see the additive mixture of the colors.

METER

The meters will allow you to see the decomposition of the colors at different distances.



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