

The logo features a central dark blue circle with five colored bars radiating from it: a green bar at the top-left, a yellow bar at the top, an orange bar at the top-right, a red bar at the bottom-right, and a blue bar at the bottom-left.

# Light PURSUIT

*User Manual*

*Version 1.0.1*

*4/29/2024*



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## 1. Introduction:

Welcome to Light Pursuit, a software designed to manipulate a moving head to focus on a target using a mouse and a camera. Light Pursuit operates via Art-Net protocol, necessitating several devices for its functioning.

## 2. Hardware Installation:

Before using Light Pursuit, ensure you have the necessary hardware components installed and configured correctly.

**2.1 Switch/Router:** The switch/router facilitates the connection of all devices to the same intranet and assigns each device an IP address. It is recommended to use a fixed IP address where possible. Connect the following devices to it:

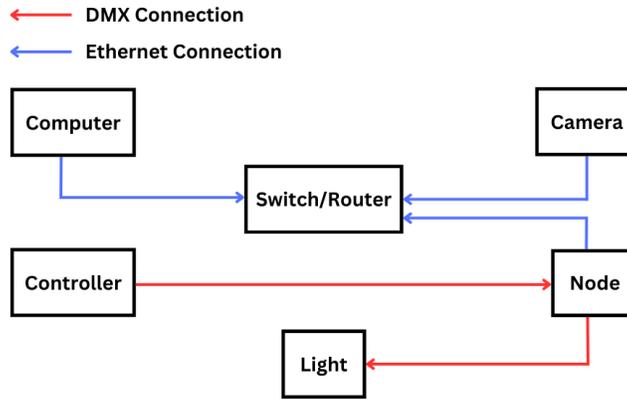
- a) The node
- b) The computer
- c) The camera

**2.2 Camera:** The camera **must be a network enabled camera (streaming camera)** Ensure that the camera is connected to the switch/router via an Ethernet cable. You can access the camera management portal by typing its IP address into your browser. (The camera model used in production of Light Pursuit software is Dahua TIOC 1.0 - DH-IPC-HFW3549TP-AS-PV-0280B. The user manual for the camera is included on the USB drive.)

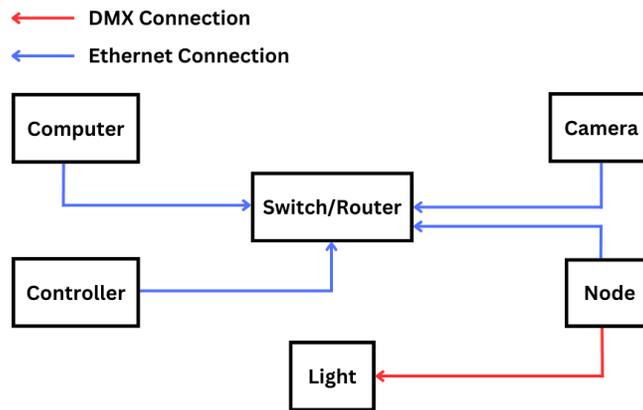
**2.3 Node:** The node should be connected to the switch/router via an Ethernet cable or over WIFI and configured with an IP address and DMX in and out settings through its interface.

**2.4 Computer:** The computer must be running **Windows 10 or later**. Otherwise, the software does not need any specifications to run. We recommend using 1920\*1080 resolution for better view of the program.

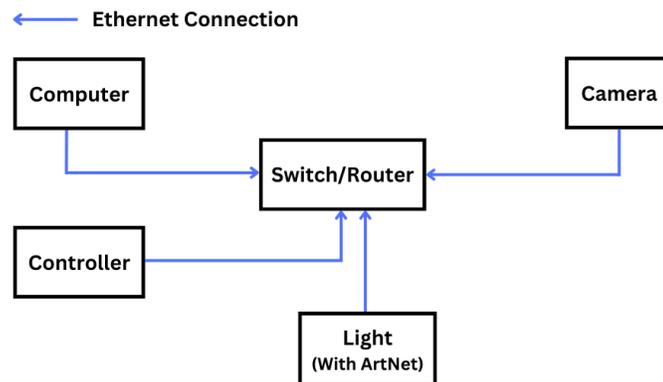
**2.5 Controller:** If the controller only has DMX capability, it only connects to the node using a DMX cable.



Computer, Camera, and Node connect to the Switch via Ethernet, The Light and Controller connect to the Node via DMX.



Alternatively, the Controller can connect to the Switch, bypassing the Node.





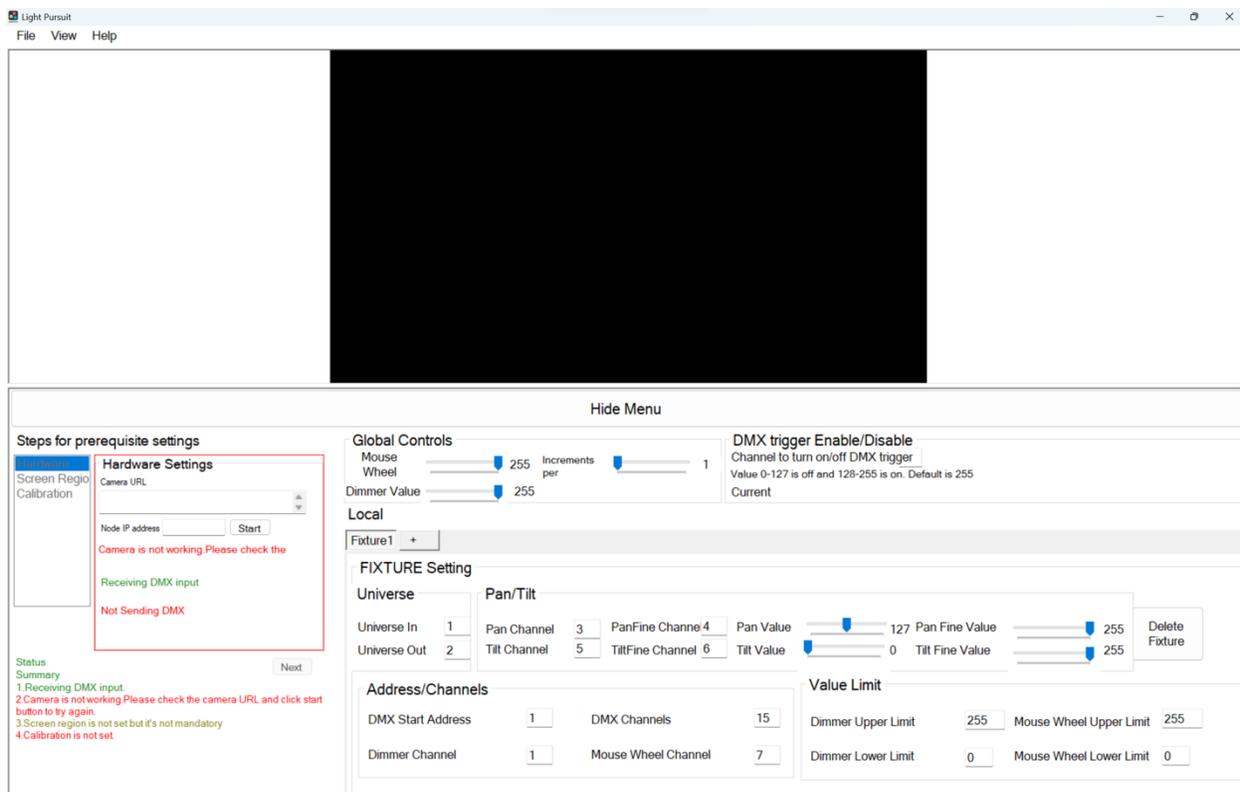
If Light is built with on-board ArtNet, the light can connect directly to the controller.

### 3. Software Installation:

Install the software by clicking on the “Light Pursuit Installer” file in the installation folder. Upon completion, a “Light Pursuit.exe” file will appear on the desktop. Click on it to start the program.

The software will read from a VLC folder which comes with the software. For 32-bit Windows computers, you will need to store the “VLCx64” folder somewhere on upon first startup select the folder. For 64-bit Windows computers, you will need to complete the above process with the “VLCx86” folder.

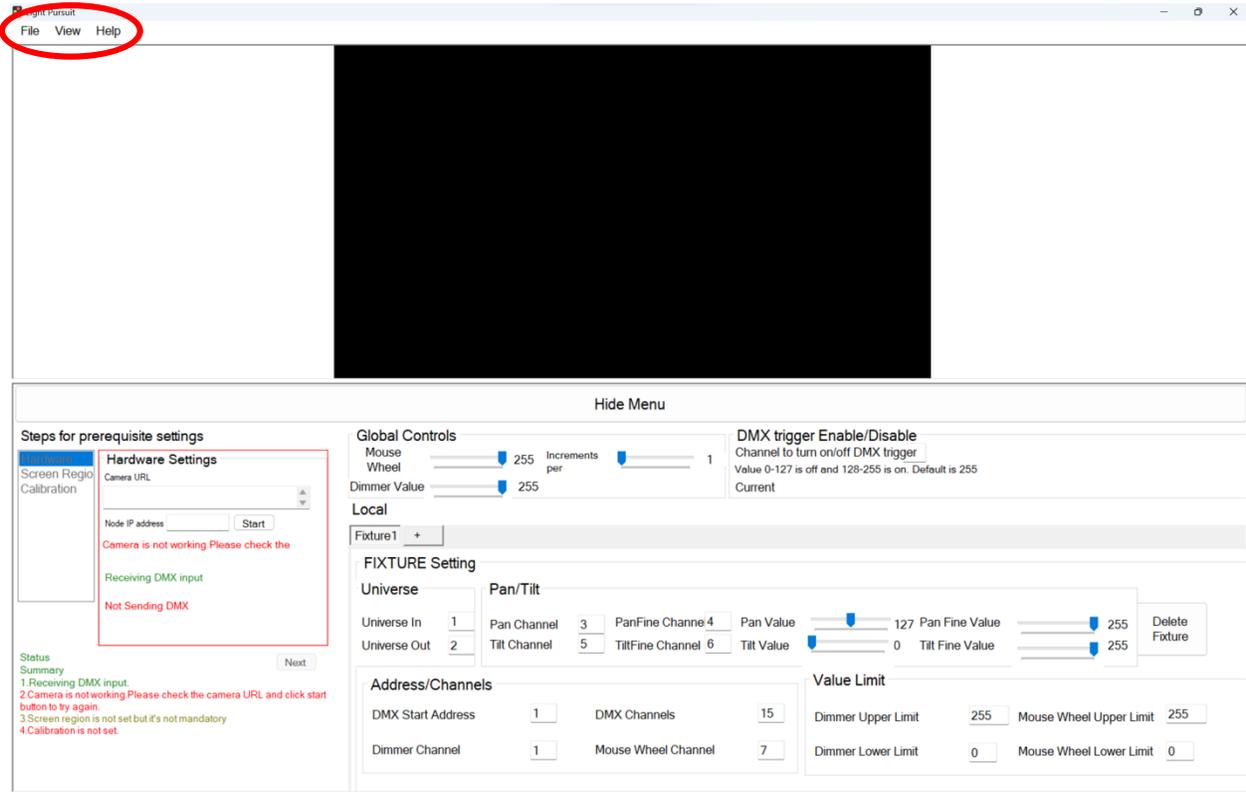
### 4. User Interface:



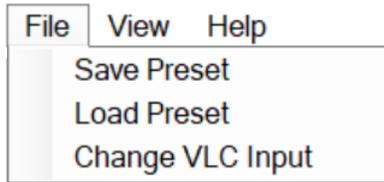
User interface of Light Pursuit software.



### 4.1 Toolbar:



- **File:** Save and load fixture settings and change where the software loads VLC file from.



- **View:** Show/hide menu.

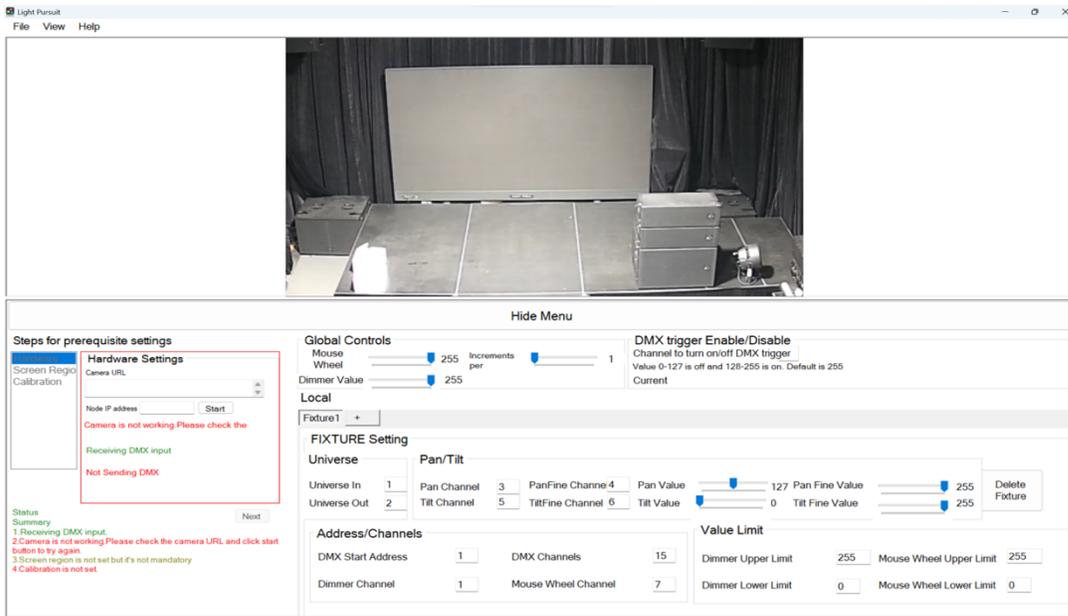


- **Help:** Display copyright information and open the event lighting website.



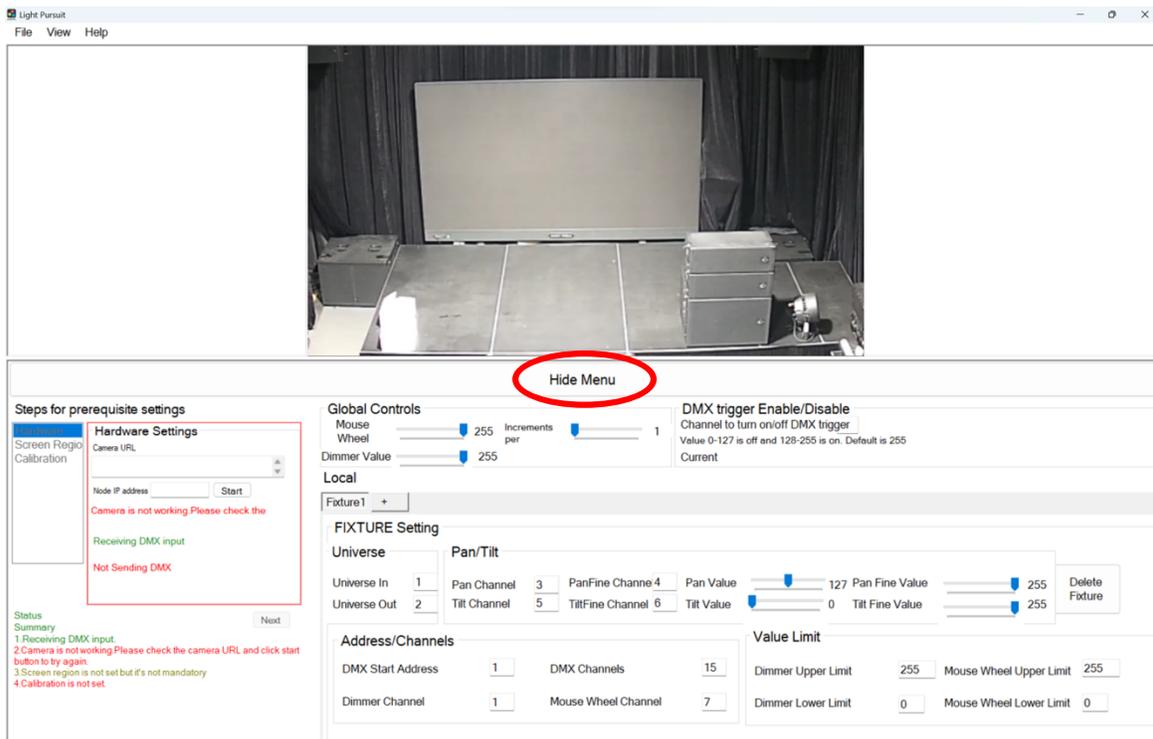
### 4.2 Camera View Area:

The camera needs a few seconds to load; it shows “loading...” at the bottom left corner. Once set up, the upper part of the UI will show the camera view in 16:9 resolution.



### 4.3 Hide/Show Menu Button:

A large button in the middle of the UI toggles between showing/hiding the menu.





## 5. Prerequisite Settings:

### 5.1 Hardware Settings:

#### Steps for prerequisite settings

The screenshot shows the 'Hardware Settings' window. On the left is a sidebar with 'Hardware' selected. The main area contains a 'Camera URL' dropdown menu, a 'Node IP address' text box, and a 'Start' button. Below these are three status messages: 'Camera is not working. Please check the' in red, 'Receiving DMX input' in green, and 'Not Sending DMX' in red. A 'Next' button is at the bottom right.

#### Status

##### Summary

1. Receiving DMX input.
2. Camera is not working. Please check the camera URL and click start button to try again.
3. Screen region is not set but it's not mandatory
4. Calibration is not set.

a) **Camera URL:** The URL used is based on the RTSP protocol that can access the camera view in the browser if the correct string, including username and password, is set.

b) **Node IP address:** This should be in the same IP range as the camera.

c) **Restart Button:** If the camera URL or Node IP is incorrect and has been changed, or if the camera stops unexpectedly, click the “Restart” button to reset.

#### Steps for prerequisite settings

The screenshot shows the 'Hardware Settings' window with the same layout as the previous one. The 'Camera URL' dropdown now contains the text 'rtsp://User:Password@192.168.1.108/cam/realmonitor?channel=1&subtype=0'. The 'Node IP address' text box contains '192.168.1.2'. The status messages are now: 'Camera is working properly.' in green, 'Receiving DMX input' in green (circled in red), and 'Sending DMX' in green. A red arrow points from the text 'Broadcast listens to any ArtNet Input' to the circled 'Receiving DMX input' message. A 'Next' button is at the bottom right.

Broadcast listens to any ArtNet Input

#### Status

##### Summary

1. Receiving DMX input.
2. Camera is working properly.
3. Screen region is not set but it's not mandatory
4. Calibration is not set.



**5.2 Screen Region Select:** If you want to focus on a specific area of the camera view, click the “Screen Region Select” button and then left-click and drag from the top-left corner to the bottom-right corner of the desired area.

### 5.3 Fixture Set-up:

The screenshot displays the 'Fixture Set-up' configuration for 'Fixture1'. It is divided into several sections:

- Global Controls:** Includes sliders for 'Mouse Wheel' (set to 5), 'Increments per' (set to 1), and 'Dimmer Value' (set to 255).
- DMX trigger Enable/Disable:** A checkbox for 'Channel to turn on/off DMX trigger' is checked. Below it, text reads: 'Value 0-127 is off and 128-255 is on. Default is 255 Current'.
- Local:** A dropdown menu shows 'Fixture1' with a '+' icon.
- FIXTURE Setting:**
  - Universe:** 'Universe In' is set to 1 and 'Universe Out' is set to 2.
  - Pan/Tilt:** 'Pan Channel' is 1, 'PanFine Chanr 2' is 2, 'Tilt Channel' is 3, and 'TiltFine Channc 4' is 4. Sliders show 'Pan Value' at 130, 'Pan Fine Value' at 81, 'Tilt Value' at 53, and 'Tilt Fine Value' at 61. A 'Delete Fixture' button is present.
- Address/Channels:** 'DMX Start Address' is 1, 'DMX Channels' is 60, 'Dimmer Channel' is 53, and 'Mouse Wheel Channel' is 46.
- Value Limit:** 'Dimmer Upper Limit' is 255, 'Dimmer Lower Limit' is 0, 'Mouse Wheel Upper Limit' is 255, and 'Mouse Wheel Lower Limit' is 0.

- a) **Universe:** Set the Universe In/Out values for fixture.
- b) **Pan/Tilt:** Set channels for Pan, PanFine, Tilt and TiltFine parameters.
- c) **Address/Channels:** Set the DMX Start Address, the number of DMX channels on this Fixture, which channel the Dimmer Parameter is set to and which DMX channel the Mouse Wheel will control.
- d) **Value Limit:** Set Dimmer and Mouse Wheel limits for the set channels.

**These must be set before Calibration can start.**

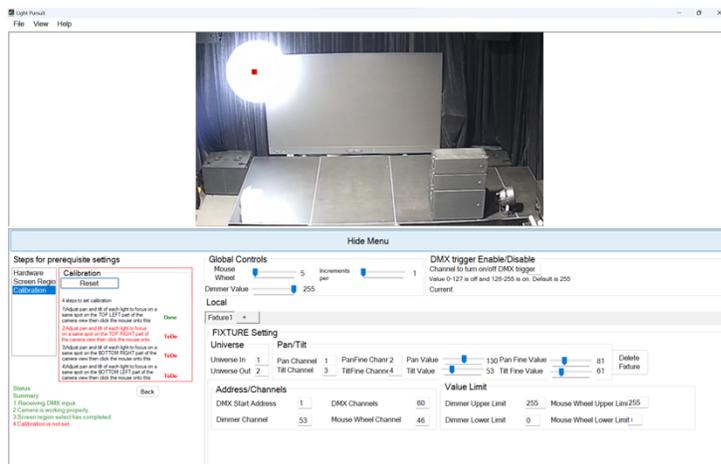


## 5.4 Calibration:

Calibration is a crucial step to ensure accurate positioning of the lights based on the camera view. Follow these steps for calibration:

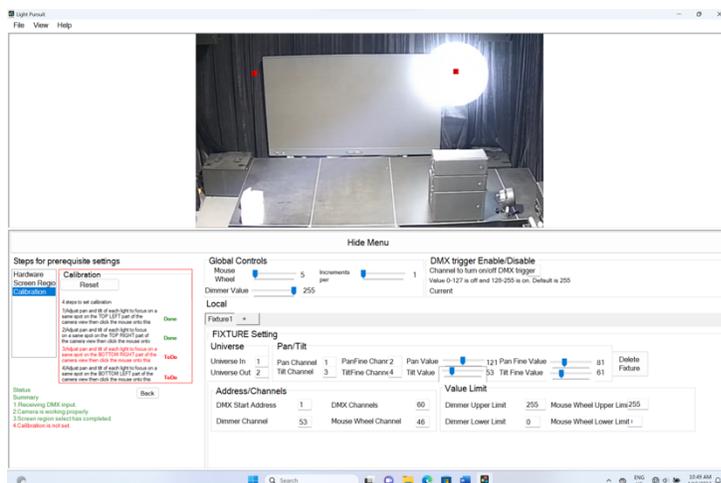
### Step 1: Choose a Top-Left Point:

- Align all lights to focus on a specific point on the screen. Click on the center of the light with the left mouse button.
- A red small cube with the number “1” inside will appear on the screen. Additionally, a label will appear in the group box indicating the completion of this step.



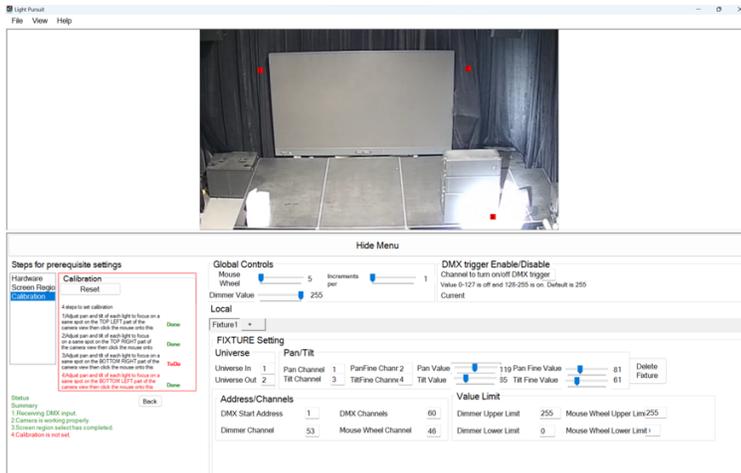
### Step 2: Choose a Top-Right Point:

- Repeat Step 1 for a top-right point on the screen, marking it with a red cube with the number “2” inside.



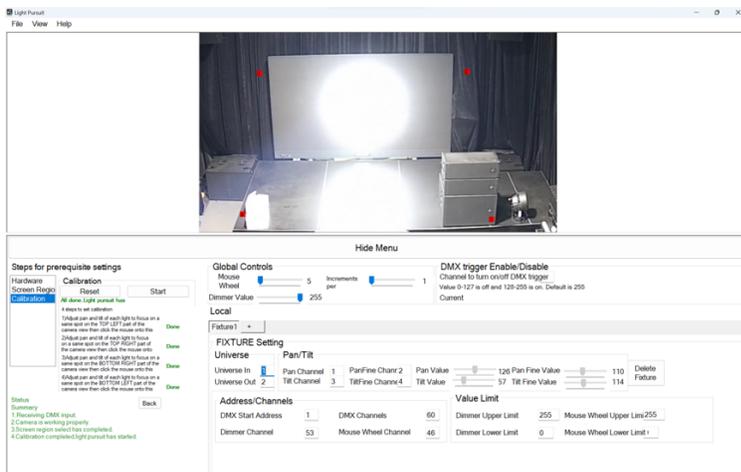
### Step 3: Choose a Bottom-Right Point:

- Repeat Step 1 for a bottom-right point on the screen, marking it with a red cube with the number “3” inside.



### Step 4: Choose a Bottom-Left Point:

- Repeat Step 1 for a bottom-left point on the screen, marking it with a red cube with the number “4” inside.



### Completion:

- Once calibration is complete, the button text will change to “Reset Calibration”, and another button labeled “Start Recalibration” will appear.
- Clicking “Reset Calibration” will remove all calibrated settings, allowing you to start over.
- Clicking “Start Recalibration” will recalibrate newly added lights while preserving all previously calibrated data. Newly added lights will be calibrated based on the same four selected points.

**Note:** You can change the screen region before or after calibrating. Calibration ensures precise tracking of the target by the lights based on the camera view.

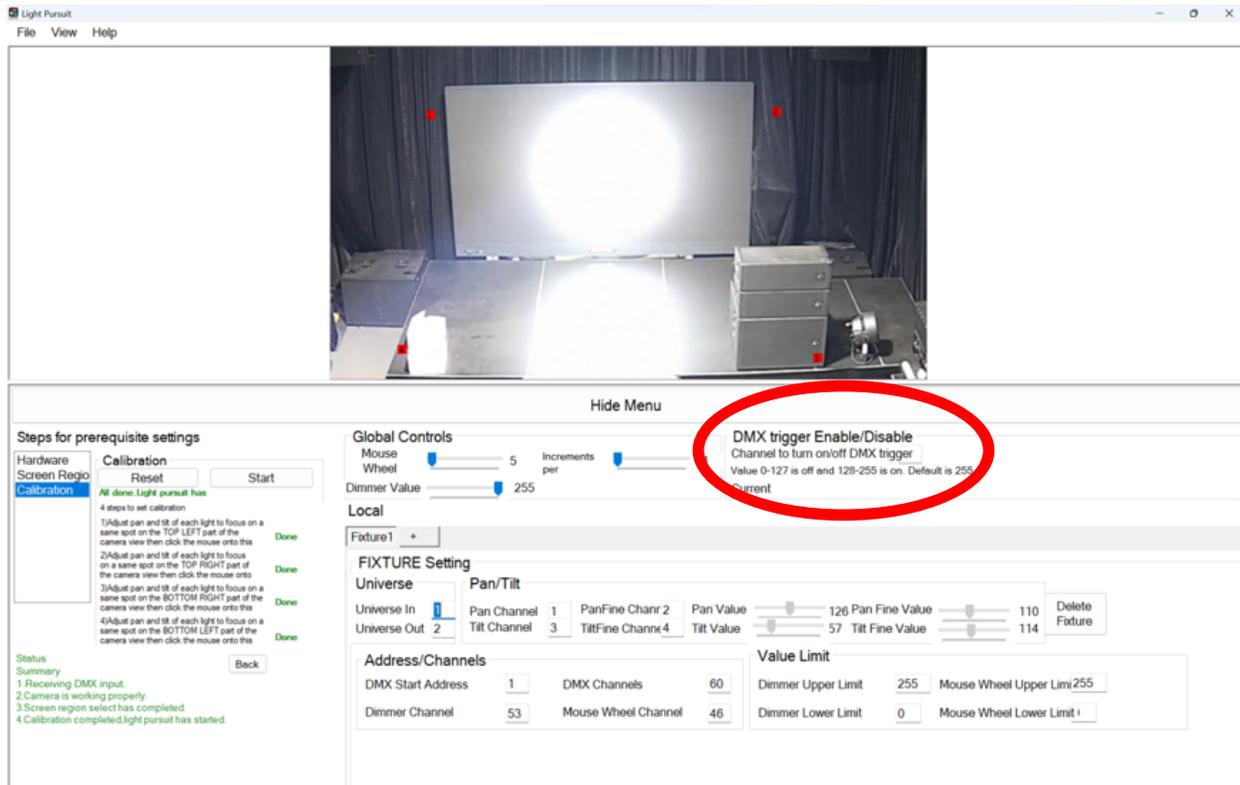


## 6. Global Controls:

### 6.1 Zoom/Dimmer Value & Increments per Scroll (Zoom):

You can adjust the zoom and dimmer values using your mouse or the track bar.

### 6.2 DMX Trigger Enable/Disable:



**a) DMX trigger channel:** Use this channel and its value to determine enable/disable DMX trigger.

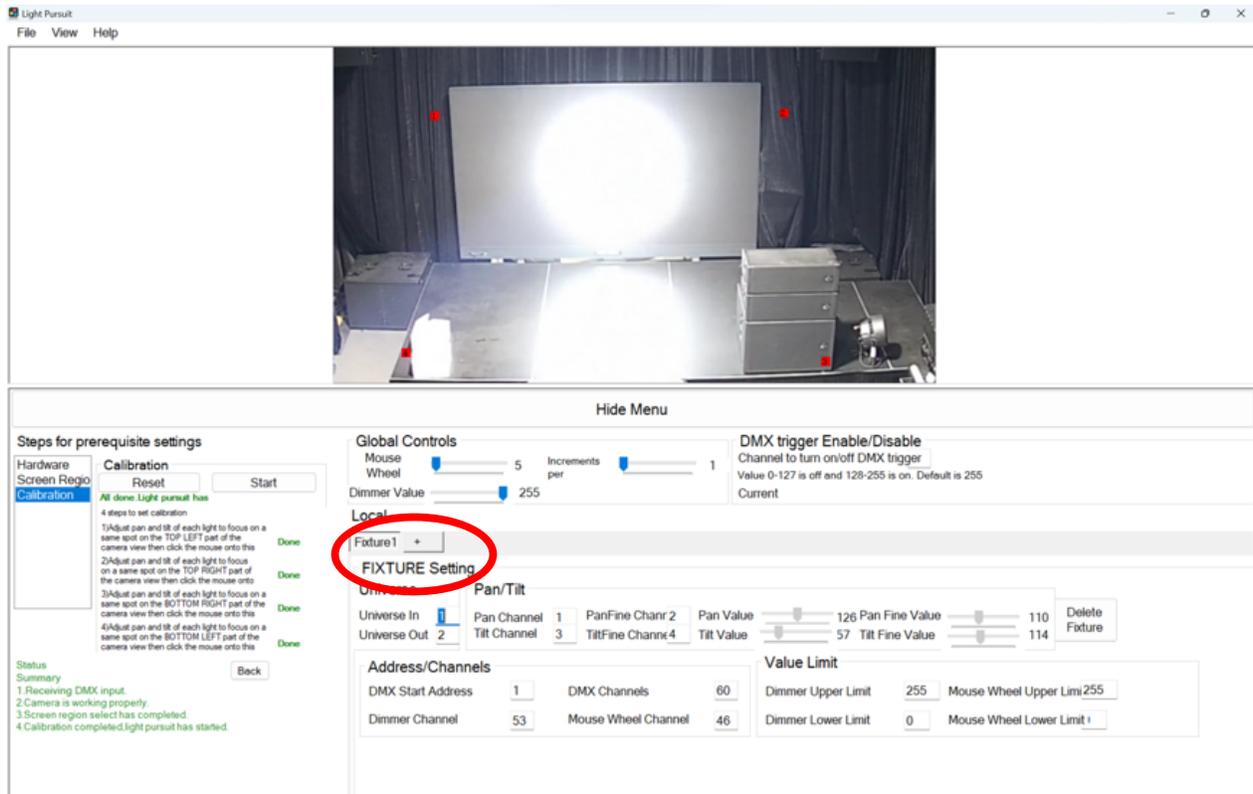
**b) DMX trigger channel value:** Values from 0 to 127 disable the DMX trigger which will only allow control for the control and disable Light Pursuit, while values from 128 to 255 enable it.



## 7. Local Control:

### 7.1 "+" Tab:

This tab allows you to add a new fixture. Some values will be calculated automatically based on values from the previous tab.



### 7.2 Fixture Settings:

Configure universe, pan/tilt, address/channels, and value limits for fixtures.

## 8. During Light Pursuit:

Once calibration is complete, light pursuit begins immediately. Lights will follow the spot where your mouse cursor points.

### 8.1 Mouse Buttons:

**a) Left Click:** Pressing the Left Mouse Button while on the stage screen will lock the fixture in place. Press again to toggle lock feature.

**b) Right Click:** Pressing the Right Mouse Button while on the stage screen will blackout the fixture. Press again to toggle blackout feature.



## **9. Demo Mode:**

When the program starts, the system checks for a USB dongle with a valid license file. If not found, the program will run in demo mode.

### **9.1 Demo Mode Limitations:**

While in demo mode, the fixtures will reset periodically, making it unusable for professional use.

## **10. Troubleshooting:**

Ensure all hardware components are properly connected and configured.

During set up, if you are having difficulties sending and receiving DMX, check that your ArtNet node is configured properly to ensure signal is being input and output correctly.

Ensure every item in the system is set up with the proper DHCP configurations.

If light resets during calibration, the fixture will calibrate incorrectly. Reset calibration and start again.

If camera is delayed or stops moving during or after calibration, reset calibration and start again.