

iCubeSmart 3D8S-MULTI

iCubeSmart 3D LED Cube DIY Electronics Kit (3D8S-MULTI) - Instruction Manual

Brand: iCubeSmart

1. PRODUCT OVERVIEW

The iCubeSmart 3D LED Cube is a DIY electronics kit designed for enthusiasts and students interested in soldering and electronics. It allows you to assemble a stunning 3D LED matrix capable of displaying a variety of colorful dynamic lighting shapes. This kit is an excellent project for developing electronic technology foundations and soldering skills.

The finished product measures approximately 7.08 x 7.28 x 7.88 inches, with a lamp distance of 0.9 inches.

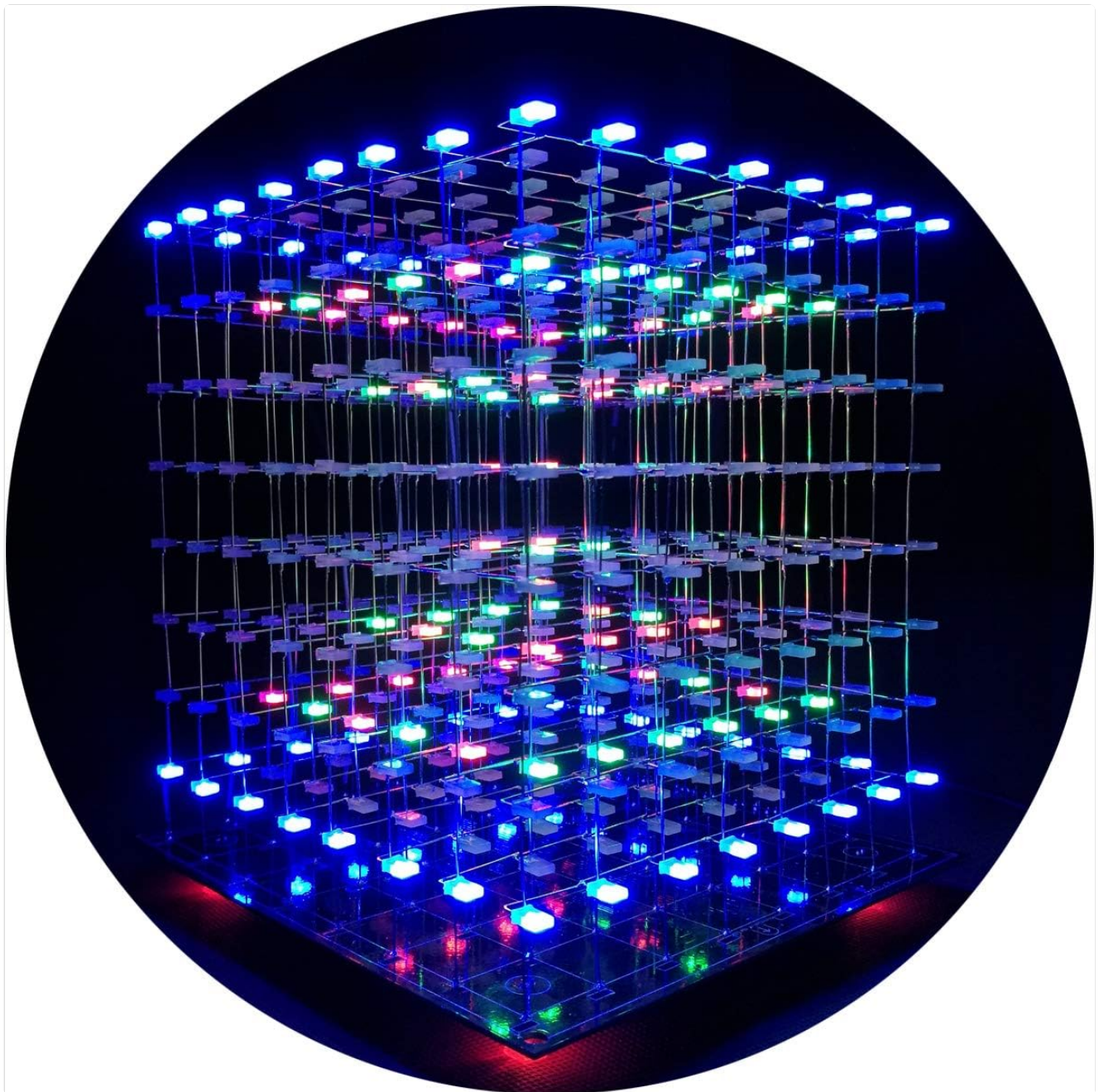


Figure 1: Fully assembled iCubeSmart 3D LED Cube showcasing various dynamic lighting effects.

2. PACKAGE CONTENTS

Before beginning assembly, please verify that all components listed below are included in your package:

- Pre-soldered and tested PCB main board (18x18.5cm)
- 512 square LEDs (red, green, blue) for the 3D matrix
- TYPE-C 5V USB power cable
- Various wires and small components for assembly
- Paper welding instructions
- Base components

Package Included:



Figure 2: All components included in the iCubeSmart 3D LED Cube DIY kit, laid out for inspection.

3. SETUP AND INSTALLATION

This kit requires user assembly and soldering. A basic understanding of electronic technology and soldering ability is necessary. It is not suitable for children under 12 years old.

3.1. LED Preparation and Soldering

The main board has 64 square holes designed to fix the LEDs, simplifying the welding process. Follow the provided paper instructions carefully. Digital installation instructions are also available for download.

1. **Bend LEDs:** Carefully bend the leads of each LED as instructed.
2. **Place LEDs:** Insert the bent LEDs into the designated holes on the PCB.
3. **Solder LEDs:** Solder each LED securely to the PCB using a soldering iron. Ensure strong, clean connections.
4. **Assemble LED Layers:** Once individual LEDs are soldered, assemble them into layers according to the instructions.
5. **Solder All Layers:** Solder the assembled layers together to form the 3D cube structure.

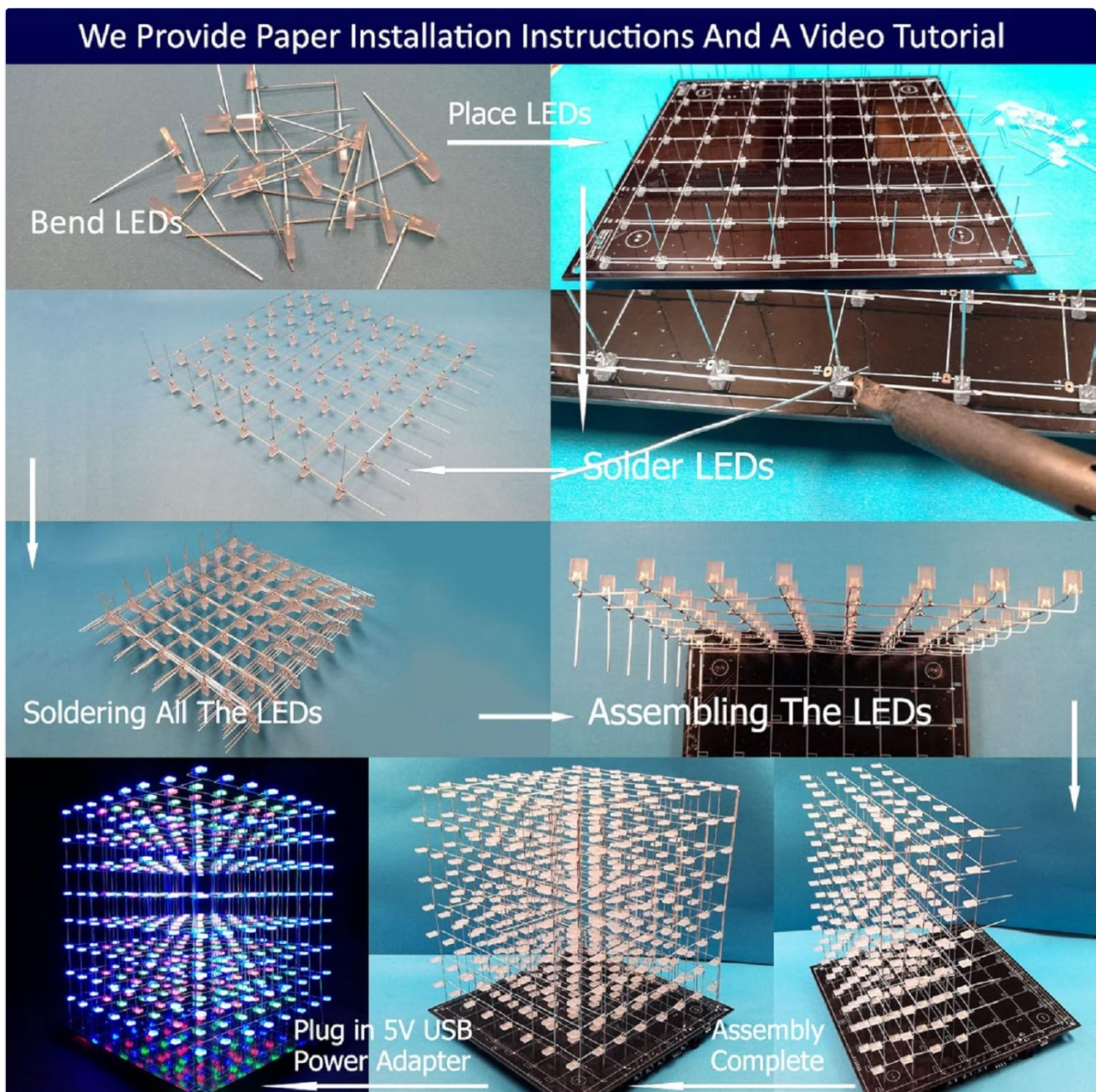


Figure 3: Visual steps for preparing and soldering the LEDs to form the cube structure.

Your browser does not support the video tag.

Video 1: Official iCubeSmart 3D8S LED Cube Kit DIY Electronics Kit installation guide, demonstrating the assembly process.

4. OPERATING INSTRUCTIONS

The main board is powered by a TYPE-C 5V USB connection. Once assembled and powered, the cube can display various pre-built animation effects.

4.1. Main Board Functions

The main board features 8 keys for controlling the cube's functions:

- **Previous Animation:** Navigate to the previous animation mode.
- **Next Animation:** Advance to the next animation mode.
- **Speed +:** Increase the animation speed.
- **Speed -:** Decrease the animation speed.
- **Run/Pause:** Play or pause the current animation.

- **Loop Mode:** Toggle animation looping.
- **ON/OFF:** Power the cube on or off.

A switch (SW1) on the motherboard allows you to select between dynamic effects (SW1=1) and audio effects (SW1=0). There is a microphone on the motherboard to sense sound for the audio spectrum mode. After changing SW1, press the RESET button to make it effective.

Mainboard Function:

Microphone:

Animation jumping with sound.

Button Functions:

- 1, Previous animation
- 2, Next animation
- 3, Speed +
- 4, Speed -
- 5, Run/pause
- 6, Loop mode
- 7, ON/OFF

SW1 Switch:

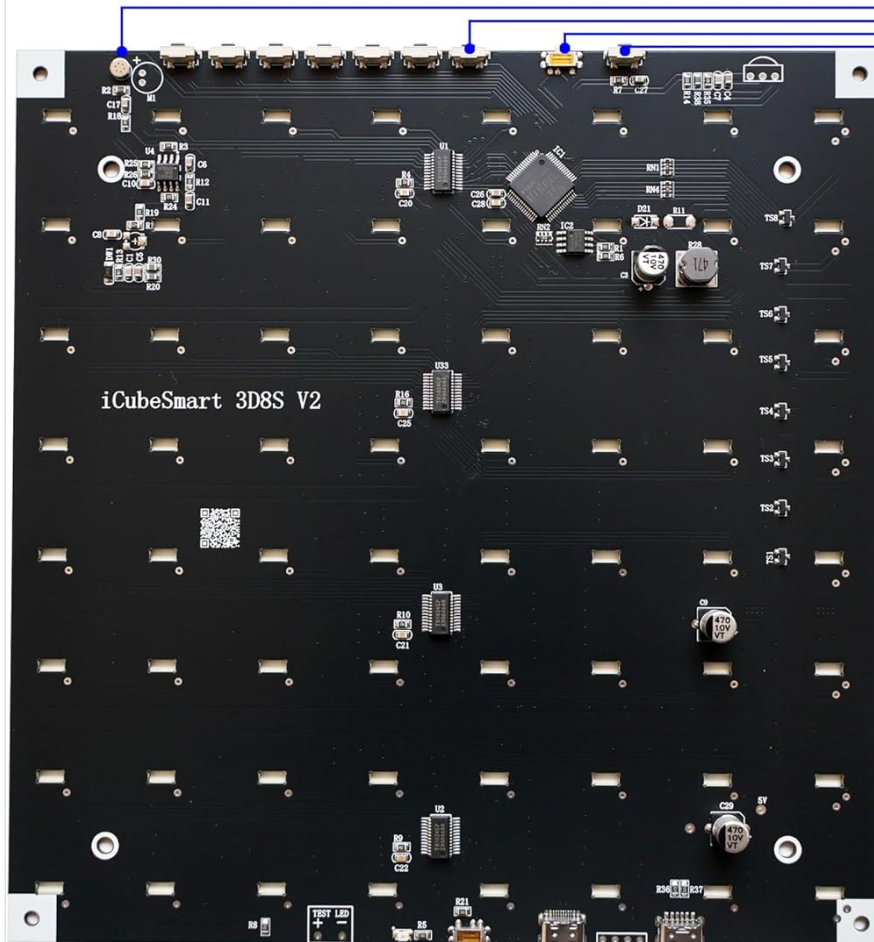
Select Animation/Audio Mode.

SW1=1 : Dynamic effect.

SW1=0 : Audio effects.

RESET Button:

When SW1 is changed, you need to press the RESET to make it effective.



Power in 5V2A TYPE-C: 5V DC power input.

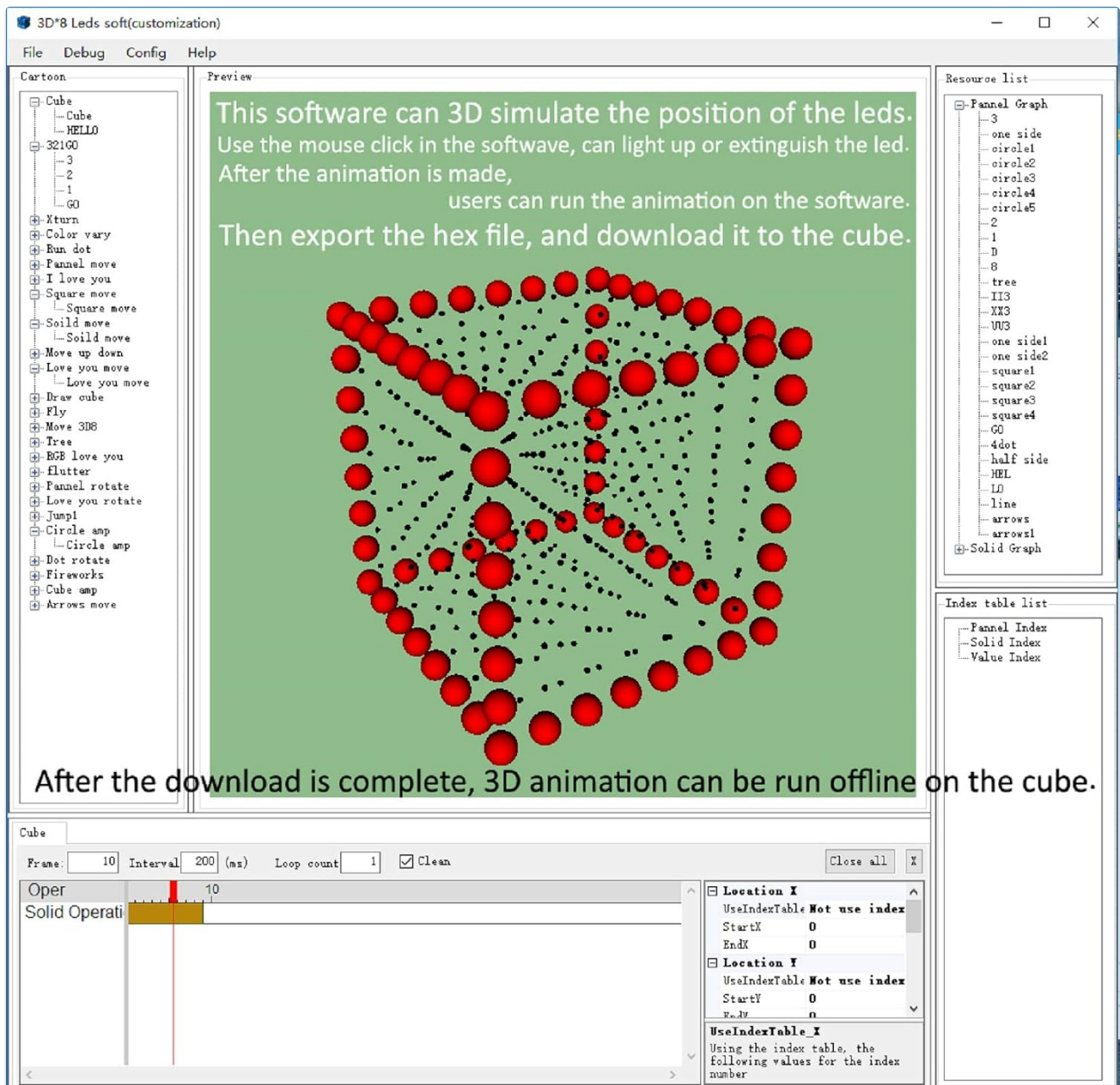
Download input TYPE-C: used to download the program.

SW3 Switch: Download program/Run program.

Figure 4: Detailed view of the main board, highlighting button controls and power input.

4.2. Customizing Animation Effects

More than 20 brilliant animation effects are pre-built into the main board. Users can also modify the displayed animations using the provided 3D software. This software can directly generate a HEX burning file, which can then be downloaded to the light cube to run your custom animations.



After the download is complete, 3D animation can be run offline on the cube.

Figure 5: The 3D software interface for creating and modifying custom LED cube animations.

5. MAINTENANCE

To ensure the longevity and optimal performance of your iCubeSmart 3D LED Cube, follow these maintenance guidelines:

- Keep the cube in a dry environment, away from moisture and extreme temperatures.
- Clean the acrylic surfaces gently with a soft, dry cloth. Avoid abrasive cleaners.
- Ensure the USB power connection is secure and free from damage.
- Avoid applying excessive force to the LED structure, as this may damage soldered connections.

6. TROUBLESHOOTING

If you encounter any issues with your iCubeSmart 3D LED Cube, please refer to the following common troubleshooting tips:

Problem	Possible Cause	Solution
---------	----------------	----------

Problem	Possible Cause	Solution
LEDs not lighting up.	Loose or cold solder joint; incorrect LED polarity; power issue.	Check all solder joints for continuity. Ensure LEDs are inserted with correct polarity. Verify USB power supply is working.
Animations are not changing.	Incorrect button press; software issue.	Press the "Next Animation" or "Previous Animation" buttons firmly. If using custom animations, re-upload the HEX file.
Audio spectrum mode not working.	SW1 switch set incorrectly; microphone issue.	Ensure SW1 is set to 0 (audio effects) and press the RESET button. Check for any obstructions to the microphone.

For more detailed troubleshooting or complex issues, please contact iCubeSmart professional services.

7. SPECIFICATIONS

- **Brand:** iCubeSmart
- **Model:** 3D8S-MULTI
- **LED Type:** 512 Red, Green, and Blue square LEDs
- **Finished Product Dimensions:** Approximately 7.08 x 7.28 x 7.88 inches (18 x 18.5 x 20 cm)
- **Lamp Distance:** 0.9 inches
- **Main Board PCB Size:** 18 x 18.5 cm
- **Power Supply:** TYPE-C 5V USB
- **Control:** 8 keys for animation control, SW1 switch for mode selection, RESET button.
- **Special Features:** Built-in microphone for audio spectrum mode, customizable animations via 3D software.
- **Material:** Plastic (for certain components)
- **Item Weight:** 14.1 ounces
- **UPC:** 797550303704, 680727245054

8. WARRANTY AND SUPPORT

iCubeSmart is dedicated to the design and production of LED cubes and offers life-long technical support services for its DIY products. If you receive the product and are unsure how to assemble it, find components missing, or require assistance with modifying displayed animations, please do not hesitate to contact us via email. For additional resources, you may refer to the official PDF manuals:

- [Installation Manual \(PDF\)](#)
- [User Manual \(PDF\)](#)

This link is a video of the software instructions:
<https://www.youtube.com/watch?v=tGaJr17tRak>

2 iCubeSmart animation edit tool detail instruction

The main board you receive has been download the program, connect to a 5V power supply(Current 1A or above) will begin display the animation. You can build up a new 3D animation program or edit the program in the 3D program source file we offer.

With iCubeSmart 3D animation edit tool, you can edit the 3D animation without the program C source code. When finished edit the 3D animation, export a HEX file with the 3D edit tool, and download it to light cube, then it will run the 3D animation offline.

The edit tool do not need to install, double click it can run it directly.
If the 3D edit tool can't run with your computer, please check if you install the DX9.0C(only 9.0C) and .net framework 2.0(2.0 or above).

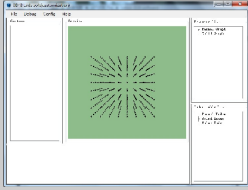
If you read the tutorial below, and still won't use this software, you can contact us by email or via Skype and Facebook's live chat tool. We can also help you online (after 6pm New York time).

Email: icubehsmart@gmail.com
Facebook: Cube Kuis <https://www.facebook.com/profile.php?id=100015951415048>
Skype: <https://join.skype.com/join/CuE8NA5oXv1N>
Here is the detail about how to use this software.

2.1 iCubeSmart 3D animation edit tool menu

2.1 iCubeSmart 3D animation edit tool menu

Run the software, you can see the software display as below, the menu included "file", "debug", "config" and "help".



iCubeSmart 3D Animation Edit Tool User Guide

A comprehensive guide to using the iCubeSmart 3D animation edit tool for creating custom animations for LED cubes. This document details the software's menus, features, and animation techniques, including point, line, plane, and stereo operations.

lang:en score:44 filesize: 5.56 M page_count: 41 document date: 2019-06-10