OVERVIEW

The feature rich lighting controller has been designed to provide a control solution for the most demanding of projects, whilst maintaining an easy to use panel of touch sensitive buttons. The controller integrates a graphical color screen allowing scene photos to be displayed. Easily view the selected zone, scene name and design without the need to navigate through complex menus. Change the speed, color and dimmer using the circular palette. The lighting levels, color and effects can be programmed from a PC, Mac, Android, iPad or iPhone using the included software.

FEATURES

- Sleek glass design which sits 11mm from the wall
- Graphical color display to show selected environment
- Color/dimmer/speed palette
- Color temperature mixing
- Touch sensitive buttons. No mechanical parts
- Touch sensitive wheel allows for accurate color selection
- Multi-zone microSD memory
- Multi-room control with 500 scenes, 10 zones
- 1024 DMX channels. Control 340 RGB fixtures
- USB & Ethernet connectivity for programming and control
- RS232, Dry Contact Ports and an Infra Red input port
- Clock and calendar with Sunrise/Sunset triggering
- Network communication. Control lighting remotely
- Catalog of designs including black and white glass
- OEM customization of the color palette and logo
- Windows/Mac software to set dynamic colors/effects
- iPhone/iPad/Android remote and programming apps

TECHNICAL DATA

Input Power: 5–15v DC
Output Protocol: DMX512 (x2)
Programmability: PC, Mac, Tablet, Smartphone
Available Colors: Black / White
Connections: USB Type-C, Ethernet, RS232, Clock, 8 relay
Memory: microSD (32Gb Max)
TCP Connections: 5
Temperature: 14 °F to 113 °F (–10 °C to 45 °C)
Battery: LIR2032
Mounting: Single or double gang wall socket
Dimensions: 5.75 x 4.17 x 0.43 inches
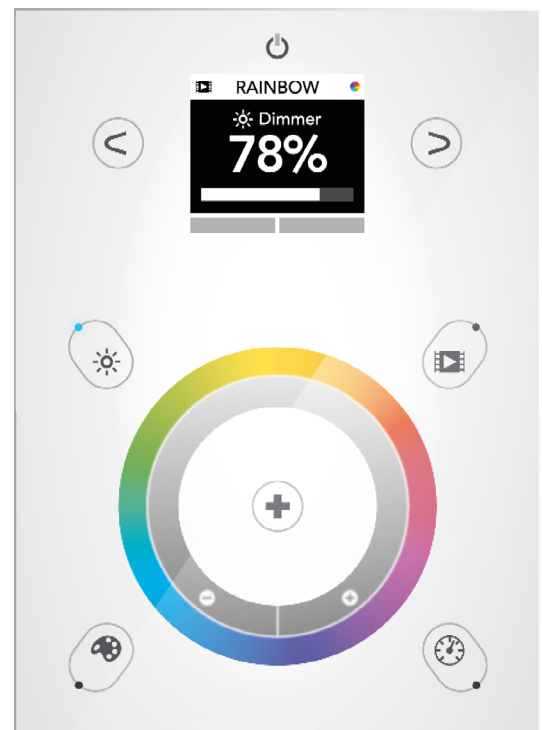**Weight:** 0.545 lb
Listings: EC, EMC, ROHS, ETL

Optional Accessories
- RJ45 to Screw Terminal adapter for Power+DMX port
- 7V ACDC power supply
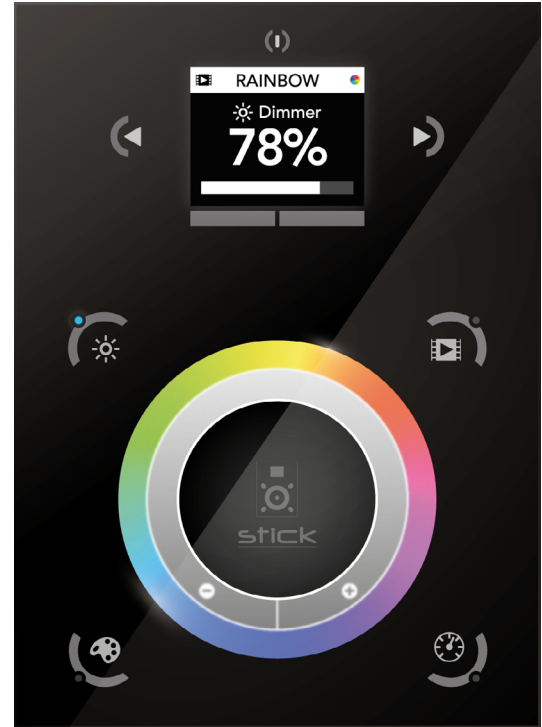
DMX–B–WIFI

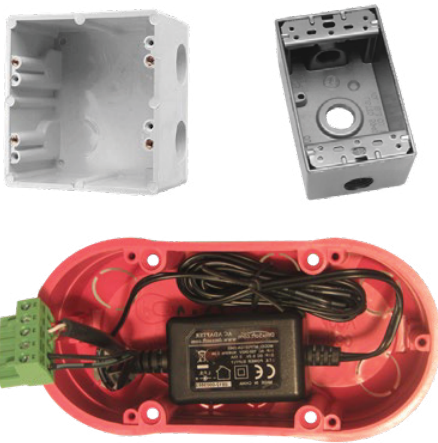DMX Wall Control (Black) + WiFi

DMX–W–WIFI

DMX Wall Control (White) + WiFi

INSTALLATION INSTRUCTIONS

1. Prepare the Electrical Box

Install an electrical box within the wall. The controller is compatible with any standard electrical back-box. For larger installations, a double-sized box can accommodate the power supply.

Note: Avoid installing against metal walls or surfaces, as they may interfere with touch button functionality.

2. Connect the Wires

Power: Use a 5V to 15V DC power supply. Ensure correct polarity; do not invert the positive (+) and ground connections.

DMX Connection: Attach the DMX cable to the lighting receivers (e.g., LEDs, dimmers, fixtures).

For XLR connections:
Pin 1: Ground
Pin 2: DMX–
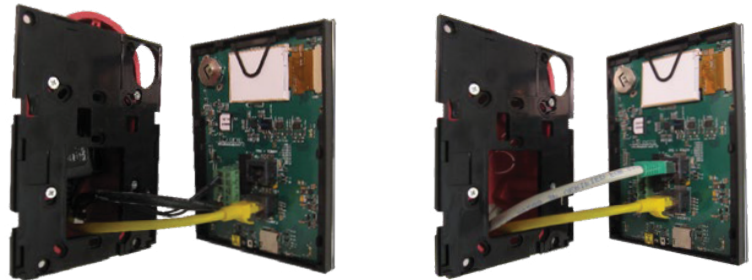Pin 3: DMX+

3. Mount the Interface

Attach the backplate to the wall using at least two screws. Connect the required cables:
DMX and Power: Green connector block or RJ45
Ethernet Cable: Typically shown as a yellow cable
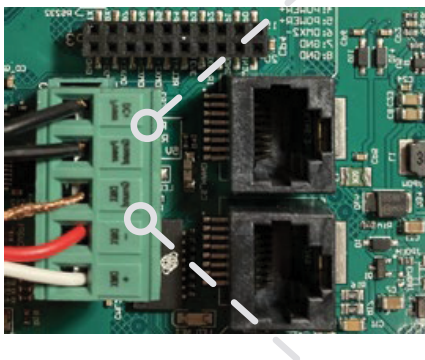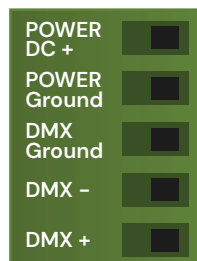Attach the front panel by pressing it against the backplate and sliding it downward until secure.

⚠ Important
Do not turn on the power until the controller is fully mounted and secured in place.

POWER + DMX with the Connector Block

POWER DC +
POWER Ground
DMX Ground
DMX –
DMX +

POWER + DMX with the RJ45 Cable

1 DMX +
2 DMX –
3 DMX2 +
4 POWER
5 DC +
6 DMX2 –
7 POWER
8 GROUND

1........8
POWER +DMX
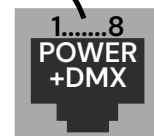
Important Safety Notes

Check Pin Configurations:
Ensure the pin configurations are correct before connecting. Applying power to the DMX input will damage the controller.

Mounting Precautions:
Handle the controller gently during installation, as excessive pressure may dislodge or misalign the glass.

INSTALLATION INSTRUCTIONS

2x10 Pins Extension Socket

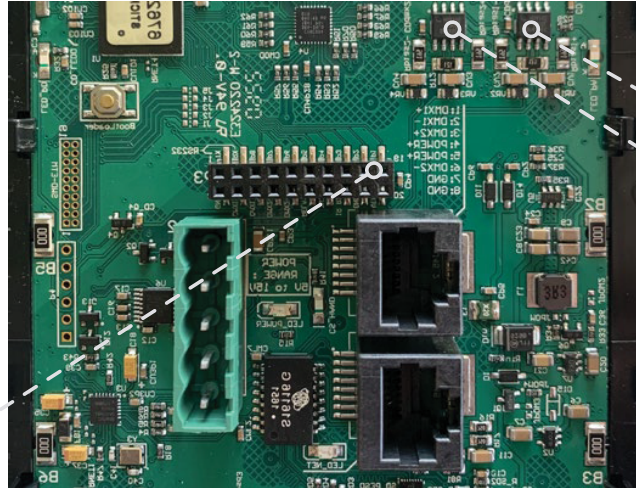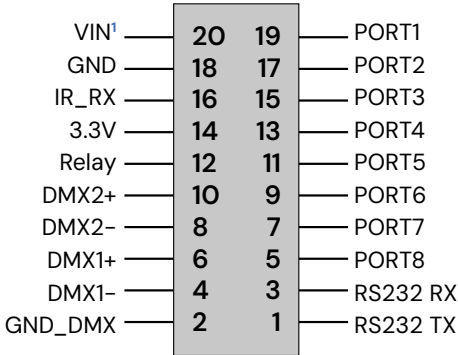|			
VIN[1]	20	19	PORT1
GND	18	17	PORT2
IR_RX	16	15	PORT3
3.3V	14	13	PORT4
Relay	12	11	PORT5
DMX2+	10	9	PORT6
DMX2–	8	7	PORT7
DMX1+	6	5	PORT8
DMX1–	4	3	RS232 RX
GND_DMX	2	1	RS232 TX

1 VIN Pin 20 is not protected and should not be used

DMX CHIP Replacement
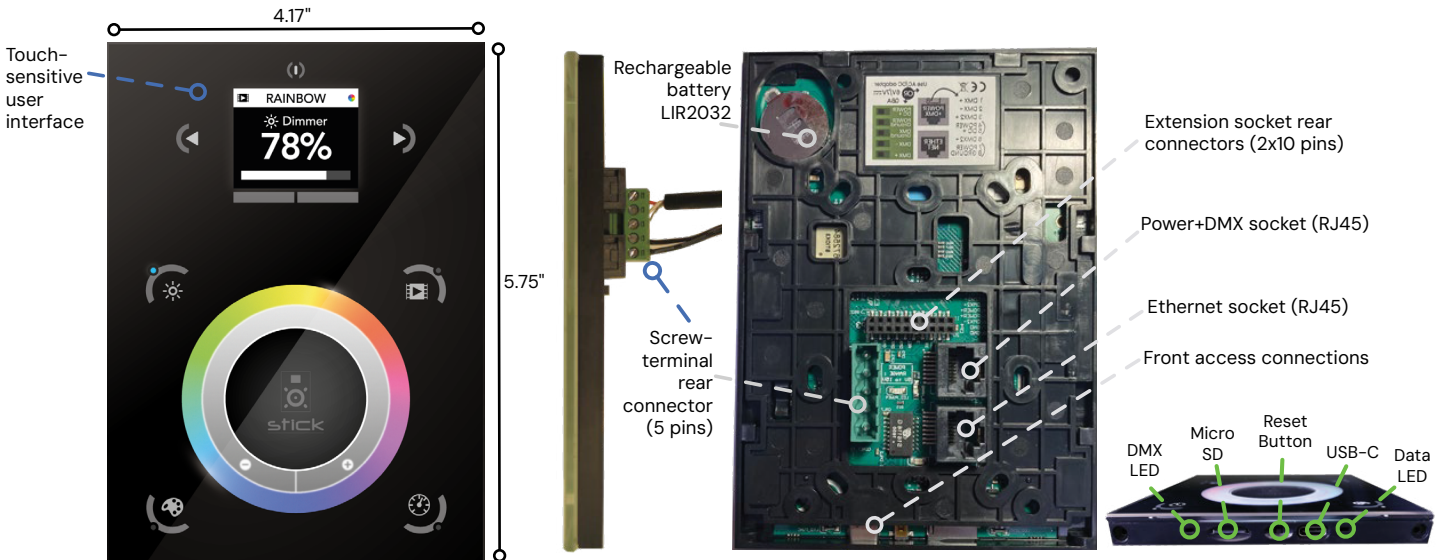
DMX universe #1

DMX universe #2

Compatible Header Connectors

- WURTH ELEKTRONIK
- MOLE
- TE Connectivit
- FCI
- HARWIN
- SAMTEC
- FARNELL
- RS
- MOUSER
- DIGIKEY

CONNECTIONS & TRIGGERING

- Touch–sensitive user interface
- 4.17"
- 5.75"
- Rechargeable battery LIR2032
- Screw–terminal rear connector (5 pins)
- Extension socket rear connectors (2x10 pins)
- Power+DMX socket (RJ45)
- Ethernet socket (RJ45)
- Front access connections
- DMX LED
- Micro SD
- Reset Button
- USB-C
- Data LED

Dry Contact Port Triggering

Scenes can be activated using the input ports (contact closure) on the 2x10-pin Extension Socket. To trigger a port, establish a brief contact (minimum 1/25 second) between ports (1–8) and ground (GND).

P1   P2   P3   P4 ...   GND
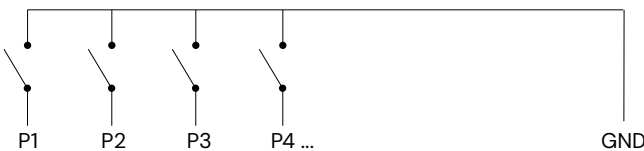
Important

- Assign a scene to a port via the software.
- The scene remains active even after the switch is released.

CONNECTIONS & TRIGGERING

BLACKOUT Relay (Energy Saving)

A relay can be connected between the RELAY and GND sockets on the 20-pin extension socket.

- This open-drain output conducts current only when the controller is powered on.
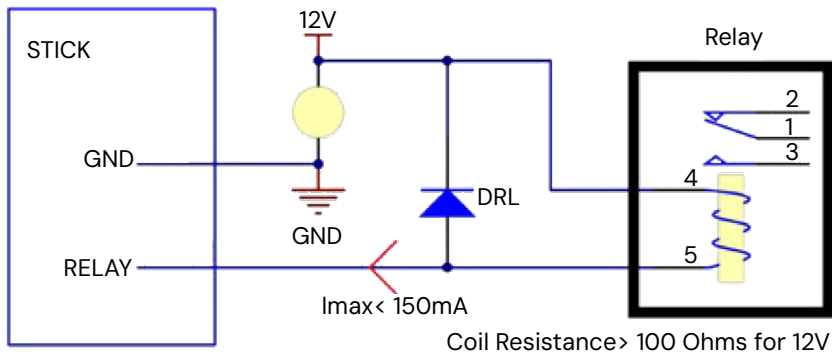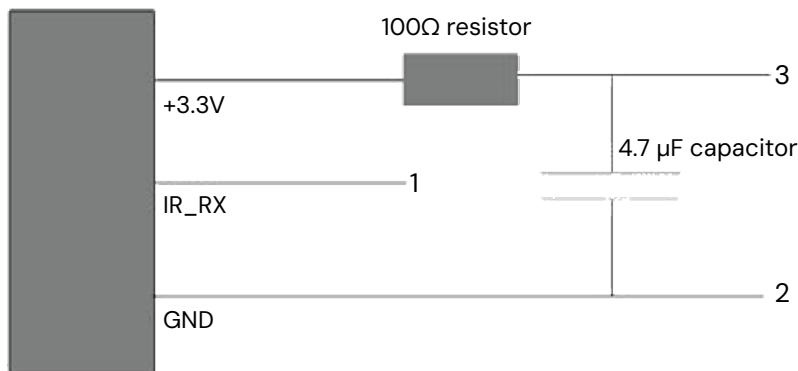- Use it to automatically turn off other equipment, such as lighting drivers, when the controller is off.

Infrared (IR) Control

The controller supports the official IR remote, but a 36kHz IR receiver is required.

- Connect the receiver to the 20-pin connector.
- Add a resistor and capacitor to suppress power supply disturbances.

Network Control

The controller supports local network connectivity for control via smartphone or tablet over Wi-Fi.

1. Connect the controller to a router or switch using an RJ45 cable.
2. By default, the controller obtains an IP address via DHCP. If DHCP is unavailable, configure a manual IP and subnet mask in Hardware Manager > Ethernet.
   - Uncheck "DHCP" and enter IP settings manually.
3. For networks with firewalls, allow ports 2430 and 2431.

RS232 Triggering

Set up RS232 communication using the 3 pins: TX, RX, and GND.

RS232 Parameters:
- Baud rate: 9600 bps
- Data bits: 8
- Parity: None
- Stop bits: 2

Messages should be in hexadecimal format.

Example:
- To play a scene, send: 1 x y 255
- To stop a scene, send: 2 x y 255
- To pause a scene, send: 3 x y 255
- To resume, send: 4 x y 255
- To reset, send: 5 x y 255
- When (y) = 0, (x) can be 0–255
  - Example: Stop scene 145: 2 145 0 255
- When (y) = 1, (x) can be 0–243 to trigger scenes 256–499
  - Example: Play scene 300: 1 44 1 255

TCP/UDP Triggering

The controller can integrate with automation systems over a network using UDP or TCP packets:

- **UDP Port:** 2430
- **TCP Port:** 2431 (disable Cloud Access Security for TCP).

CONFIGURING THE CONTROLLER

Setup

The controller is programmable via PC, Mac, iOS, or Android using the specified software. For detailed guidance, refer to the corresponding software manual. Firmware and settings can be updated through Hardware Manager (included with PC/Mac software) or Hardware Tools (for Android/iOS).

Windows / Mac Programming Software

ESA Pro 2 Software (Windows/Mac) – Multi-zone

Hardware Manager (Windows/Mac) – Firmware, clock

ESA2 Software (Windows/Mac) – Single Zone

Remote Control via Wi–Fi Network

Free apps enable remote control over a local network in standalone mode.

1. **Connect the Controller to Wi–Fi:** Use Hardware Manager to configure network settings.
2. **Apps for Control:**

Arcolis Remote
Provides a simple interface for basic control (iOS/Android)

Arcolis Remote Pro
Create custom controls with buttons, faders, and color options (iOS/Android)

Color Temperature Mixing

The controller supports RGB mixing and up to three custom colors for color temperature adjustment.

1. **Select the Profile:** Choose the correct lighting fixture profile during programming from the 'Generic' folder.
   RGBW for Red, Green, Blue, White
   RGBA for Red, Green, Blue, Amber
   RGBY for Red, Green, Blue, Yellow
   WWCW for Warm White, Cold White
2. **Mix Colors:**
   - Use the color mode button and circular palette to adjust RGB.
   - Tap again for additional channels if your fixture has more than three.

Settings Menu

Access and navigate the settings menu by holding the standby button for three seconds:

- **Mode (M):** Manage on/off, dimmer, speed, color, and scene modes.
- **Arrows (A):** Assign functions to arrow buttons.
- **Palette (P):** Assign palette wheel controls.
- **Scene (S):** Scene management.
- **First Start (F):** Default unit settings.
- **Trigger (T):** Manage external triggers.
- **Ethernet (E):** Enable Ethernet socket.
- **Date/Time (D):** Adjust date and time.
- **Graphics (G):** Configure screen settings.
- **DMX Output (X):** Manage DMX timings (advanced).
- **Sensitivity (S):** Adjust touch sensitivity.
- **Language (L):** Change display language.
- **About:** Check firmware details and assign a name.

CONFIGURING THE CONTROLLER

Serviceable Parts
- **Memory Card:** Stores scenes.
- **Battery:** Powers the clock/calendar (replaceable).
- **DMX Chips:** Drive DMX functionality.

Safety Notes
- Avoid excessive force when mounting to prevent damage to glass or components.
- Use only compatible settings and follow instructions to avoid electrical or mechanical issues.

Replacing the Li–Ion Rechargeable Battery (DE3):
1. Use a 3.6V LIR 2032 rechargeable battery.
2. Remove the back panel by sliding it down.
3. Push the old battery out using a paperclip.
4. Insert the new battery (positive side up).
5. Replace the back panel by sliding it back up.

INTERNAL MENU

Mode (M): Configures on/off functionality and adjustable modes

M OFF enable: Activates or disables the on/off button, keeping the controller permanently on if disabled.
M Dimm. enable: Allows scenes to be brightened or dimmed.
M Color. enable: Enables color adjustments within scenes.
M Speed. enable: Permits dynamic scenes to be sped up or slowed down.
M Scene. enable: Allows scenes to be changed.
M Auto mode: Automatically reverts the controller to the default mode after a set period.
M Auto time: Specifies the delay before reverting to default.
M Default: Sets the default mode.
M Dimmer 100%: Restricts dimmer adjustments to 0%–100% without over-saturating.
M Lock Control: Activates a lock mode when holding the dimmer button for 5 seconds. Lock mode automatically engages after 120 seconds, indicated by a red screen border.

Arrows (A): Adjusts which modes the arrow buttons control

A Dimmer enable: Allows dimmer control.
A Color enable: Allows color adjustments.
A Speed enable: Enables speed control.
A Scene enable: Allows scene changes.
A Default: Sets a default mode for the arrow buttons.

Palette (P): Configures modes for the palette wheel

P Dimmer enable: Enables dimmer adjustments.
P Color enable: Allows color adjustments.
P Speed enable: Enables speed control.
P Scene enable: Permits scene management.
P Default: Sets a default mode for the palette wheel.

Scene (S): Scene management options

S 0(off) enable: Displays an empty "off" scene before scene 0.
S Pause enable: Pauses a scene when the scene button is held for 1 second.
S Stop enable: Stops a scene when the scene button is held for 4 seconds.
S Fade config: Manages fade transitions between scenes:
- From Show: Uses fade times set in the show file.
- Force: Overrides show file fade times with menu settings.
- Force Max/Min: Uses the longest/shortest fade time between the show file and menu.
- Never: Disables fading.

INTERNAL MENU

S Fade time: Sets automatic fade duration between scenes.
S Setting Mode: Determines how dimmer, speed, and color overrides are saved:
- SaveAlways: Saves overrides for all scenes until reset.
- NeverSave: Overrides are not saved.
- AutoReset: Saves overrides for the current scene only.

S Trigger: Configures scene triggering:
- Auto: Immediately plays the selected scene.
- Time Delay: Adds a short delay before activation.
- Scene Butt.: Requires pressing the scene button to play the selected scene.

First Start (F): Default settings for initial startup

F Scene Nr.: Specifies the default startup scene.
F Start Scene Mode: Sets startup behavior:
- Scene Star: Starts a specific scene.
- Recovery: Resumes the last calendar/time-triggered scene after power loss.
- Off: Activates the "off" scene.

F Display Time: Displays time on startup.
F Display Firm: Displays firmware version on startup.
F Start Trigger: When enabled, resumes calendar-triggered scenes from their previous state after power interruptions.

Trigger (T): Manages external triggering

T Time enable: Enables clock-based triggers.
T Ports enable: Activates the 8 dry contact ports:
- Binary Mode: Triggers up to 256 scenes using port combinations.
- Port Replay: Restarts the same scene if the same port is triggered again.

T RS232 enable: Enables RS232 scene triggering.
T IR enable: Activates the infrared port (disabled by default to avoid interference).
T UDP enable: Allows UDP message communication for network control.
T Blackout port: Enables blackout relay output, triggered by the standby button.

Ethernet (E): Configures the controller's network settings

Ethernet: Enables the Ethernet socket.
LAN: Activates local network discovery.
WAN & Remote: Allows direct IP connections from remote networks or the Internet.
TCP Wan Port: Specifies the connection port (default: 2431).
Remote Pwd: Sets a password for remote control app connections.
Software Pwd: Sets a password for programming and configuration software.
Dynamic IP Addr: Enables DHCP for automatic IP assignment from a router.
Sync Blackout: Synchronizes blackout mode across all controllers when standby is activated.
Enable NTP: Activates Network Time Protocol for Internet-based clock synchronization.
NTP Server: Specifies the IP address for clock synchronization (default: 005.135.141.108).
DHCP Status: Displays DHCP connection success or failure.
Device's IP Addr: The static IP address used if DHCP is unavailable.
Lease: Defines the duration of the DHCP-assigned IP address.
Mask: Configures the subnet mask (typically 255.255.255.0).
Default Gateway: Specifies the router's IP address when DHCP is disabled.
MAC Address: Displays the controller's unique network identifier.

Date/Time (D): Adjusts and manages the controller's clock

Date: Sets the current date.
Time: Sets the current time.

INTERNAL MENU

Graphics (G): Manages screen and display settings

G Image enable: Enables scene–assigned images.
G Image full: Displays images in full screen, hiding scene and area information.
G Image time: Time delay before displaying images in full screen.
G Sleep enable: Activates screen dimming after inactivity.
G Sleep time: Sets the delay before screen dimming.
G Bright normal: Adjusts screen brightness during normal operation.
G Bright sleep: Adjusts screen brightness while the controller is sleeping.
G Bright LED: Sets the brightness for mode, reset, and standby LEDs.

DMX Output (X): Configures DMX message timing and priority (advanced settings)

X MBB: Time delay before sending each 512–channel DMX packet.
X Break: Time delay before resetting the DMX line for a new packet.
X MAB: Initiates data transmission to the receiver after the reset.
X MBS: Delay time between sending each channel's data within a DMX packet.
Univ–1/Univ–2: Allows different timing settings for each DMX universe.
X Alphab Mode: Prioritizes the highest–lettered area when the same scene is triggered in multiple areas.
X LTP Mode: The latest scene triggered takes priority across areas.

Sensitive (S): Configures touch sensitivity settings

S USB Init: Resets sensitivity when a USB connection is made or disconnected.
S Auto Time: Time delay before automatic sensitivity reset.
S High Sense: Increases touch sensitivity.
S See Values: Displays button numbers and palette values for touch sensitivity.

Language (L):

Sets the language for on–screen text.

About:

Firmware Version: Displays firmware version and release date.
Controller Name: Allows the assignment of a custom controller name.

Reset:

Restores all settings to factory defaults.

TROUBLESHOOTING GUIDE

Touch Buttons Not Responding

If the STICK controller is unresponsive to touch input and the display is stuck on RGB values, it may be due to improper calibration of the touch–sensitive buttons. This is not a hardware defect and can be resolved.

Possible Causes and Solutions

Electronic Interference:
- Ensure the controller is powered on only after securely mounting it to avoid movement.
- Avoid mounting on metallic surfaces, which can cause interference. If necessary, connect the metal surface and Stick–DE3 GND to earth.
- Use a non–metallic surface for mounting when possible.

Cabling Issues:
- Use a deep back box to ensure cables do not touch the back of the PCB.
- Keep the mounting surface flat to prevent bending.

TROUBLESHOOTING GUIDE

All LEDs on the Controller Are Flickering

This typically indicates that no show file is detected on the SD memory card.

Steps to Resolve:
1. Format the SD card on a computer.
2. Rewrite the show file to the SD card.
3. Replace the SD card if issues persist.

All LEDs Flicker Except the Standby LED

This suggests the SD card is not detected.

Solutions:
1. Verify the SD card is properly inserted.
2. Use an SD card of 32GB or smaller.
3. Format the SD card to FAT16 or FAT32.
4. Rewrite the show file.
5. Replace the SD card if necessary.

Controller Not Detected by the Computer

Steps to Resolve:
1. Confirm the latest software version is installed.
2. Connect the controller via USB.
3. Open Hardware Manager and check for detection.
4. If detected, update the firmware.

Cannot Write Show

Solutions:
1. Use Hardware Manager to write an empty show.
2. Format the SD card to FAT format (disable the Quick Format option).

Displayed Error Messages

INIT SD: The controller cannot initialize the SD card.
NO SD CARD: The SD card is missing.
DATA ERROR: The SD card data cannot be read.
EMPTY SD: The SD card contains no data.
CAPSENS: Issue with the touch sensitivity chip.
- Disconnect the USB cable from the controller.
- Update the firmware to version 1.09 or later.
- If unresolved, contact support.

ERROR XX: Error with the show file.
- Rewrite the show file.
- Contact support with the error number.

RTC QUARTZ: Hardware fault. Contact support.

Lights Are Not Responding

Check the Following:
- Ensure DMX +, –, and GND are correctly connected.
- Confirm the driver or lighting fixture is in DMX mode.
- Verify the DMX address is set correctly.
- Ensure no more than 32 devices are in the DMX chain.
- Check if the DMX LED (near the SD card) is flickering.

Testing Steps:
- Connect to a computer and open the Hardware Manager software.
- Navigate to the DMX Input/Output tab and adjust the faders. If fixtures respond here, the issue may be with the show file.

4 Mode LEDs Are Flickering

The controller is in boot-loader mode, a startup mode before the firmware loads.

Troubleshooting Steps:
1. Check for metallic objects touching the back of the controller.
2. Rewrite the firmware using the latest Hardware Manager.
3. Format or replace the SD card.