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## ATX LED Hub 3B

DALI bus master  
System Hub

Hue emulation,  
home automation,  
white and tunable white



### [Product Description - ATX LED Hub](#)

This hub manages a DALI lighting system. It can operate stand alone or can connect a DALI bus with the Cloud. It assigns useful names to the physical addresses of each driver, and allows all DALI features of the drivers to be configured by any user. If cloud enabled, it allows access to Alexa, Google and Siri for home automation. The main user friendly features of this device are:

- Assign persistent friendly names to each DALI switch or DALI driver
- Synchronize names and status with Alexa / Google Home
- Create/Edit/View Scenes and Groups
- Turn on/off any device, set brightness, fade rate, minimum/maximum levels
- Create schedules and macros, support API calls
- Connect with DMX devices via AL-DALI-DMX
- Control tunable white with DT8
- Set special modes like Fan timers, 3-Way switching
- Detect power outages and manage as needed
- Powered by Passive PoE cable

### [Local Management](#)

This device connects by Ethernet or WiFi to your network. Then, you can connect to it to access the management pages. Examples are shown below: Use any web browser.

### [Hue Emulation](#)

After assigning names to wall switch or fixture, the device will appear to the Hue App as a Hue Bridge with the names of the lights that you created.

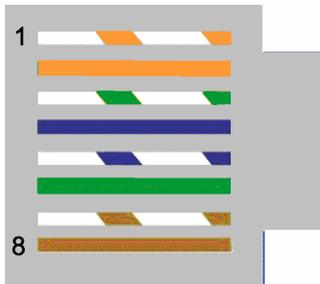
### [Schedules and timers and macros](#)

Use the built in scheduling or use Cloud apps for advanced controls. Run Python scripts as you like.

## Technical Features

- Passive PoE Power from RJ45 44 to 56 volts, 300 mA required
- DALI bus power provided by the ATX LED Hub. Selectable options for Off or 16 volts with current limits of 80 mA or 200 mA on pins 1 and 6
- monitoring of the 48v inputs. The System reports the status of power on pins 4 and 5 of the RJ45

- DALI bus on the White wires from the Green connector



Pin	RJ 45
1	DALI +
2	NC
3	NC
4	+ Voltage A1
5	+ Voltage A2
6	NC
7	Ground, DALI-
8	Ground

## DALI bus power – automatic maximum current

The ATX LED HUB has an on-board DALI power supply with 0, 65 or 200 mA. If you elect to connect multiple DALI power supplies in parallel – then please observe the polarity. The Hub measures the DALI line at power up, and adjusts the on-board supply to insure that at least 65 mA is available, and not more than 260 mA. This feature can be managed in software.

## Raspberry Pi

The ATX LED Hub uses a Raspberry Pi Linux computer. We provide the power 5 volts 10 watts to the PI.

## First Time use – WiFi and Internet

Connect the Hub to the power source, Connect the Ethernet port to your home network. Note: – our devices have the SSID “ATX LED ZWD” and password 12345678 already saved – so you can always connect if you use a temporary network with that name.

Then – go to the following web site from the same WiFi or LAN network: <http://me.atxled.com> – this will redirect you to the ZWD application that runs on the Hub. If you are not on the same network – you will get an error message. Visit the WiFi page and connect to your home WiFi network, or use the Ethernet port

## First Time use – DALI bus provisioning

Once in the Hub – go to the **Admin** tab and click on update to assure you have the latest version. Then in the section **Provisioning** click on **Address Assignment** to find and set the addressing of the DALI devices. From the factory – DALI devices only respond to Broadcast commands. Provisioning assigns a short address to factory defaulted drivers. After a short address has been assigned, the drivers will appear in the **Devices** tab, then you can give these devices names. Two names are assigned for each device, a name for the installation, and a name you wish to use for Alexa / Google / Siri. Leave the Alexa et all name blank to hide it from cloud management.

## Connect via Hue to Alexa, Siri, Google and remote diagnostics

With Hub configured with devices and names – you can now enable Cloud management. See <https://atxled.com/Hue> for details.

For controlling your lights when not at home, our recommendation is to use the Smartthings hub from Samsung. See <https://atxled.com/SmartThings>

**For advanced users, to manage this device remotely – please create an account with the service <https://dataplicity.com>. For tech support from ATX LED – we will need you to set up Dataplicity and give us access remotely.**

# Sample Web Pages

The dashboard includes a header with the ATX-LED logo, a clock icon, a 'Show More Devices' button, the location '815 Brazos Residence', and a settings gear icon. Below the header is a brightness slider. The main area contains a grid of 16 light controls, each with an 'ON' or 'OFF' button and a percentage indicator. The controls are: Kitchen 100%, Living 80%, Study 75%, Garage 100%, Master 0%, Kids 0%, Entrance 0%, DALI driver 0%, Group A 77%, Group B 0%, Scene A 10 minutes ago, and Scene B 2 hours ago.

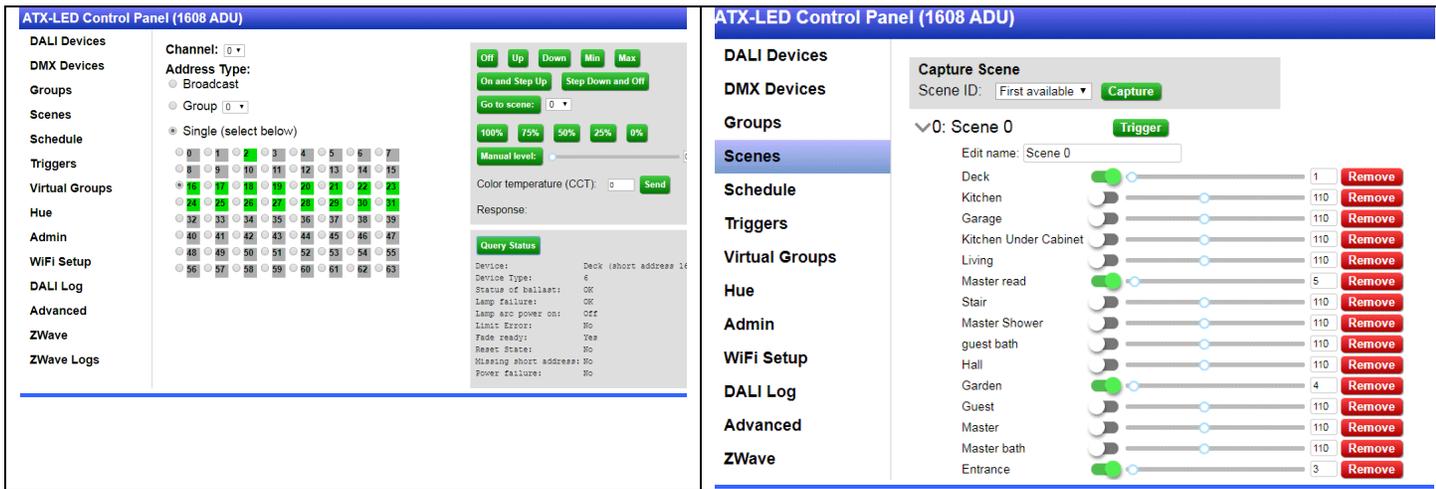
The 'Hue Emulation' app interface shows a 'Hue Bridges' section with a 'Philips hue' bridge connected at 192.168.5.30. The 'Bulbs' section lists several light bulbs: Desk ATX-LED, Kitchen ATX-LED, Laynew ATX-LED, Light 16 ATX-LED, and DR2F ATX-LED. Each bulb has a corresponding color and a brightness slider. A 'Hue Bridges' sidebar on the right shows the bridge status as 'Connected' and provides details like ID, IP address, MAC address, and SW version.

The configuration page for DALI Devices includes a sidebar with categories: DALI Devices, Other DALI, Groups, Scenes, Schedule, Triggers, DMX Groups, Hue, Admin, Support, WiFi Setup, DALI Log, Advanced, ZWave, and ZWave Logs. The main area shows settings for 'DR2G 2x6' and 'DR2G 2x4 CCT'. A 'Status' section displays: Channel: 1, Short address: 25, Model ID: -, UPC: 0, Serial #: 0, FW Version: 187, HW Version: 5, and Phy Min Level: 145. A 'Config' section includes 'Edit name' (LDD), 'Hue name', 'Hide from Hue', 'Groups' (a grid of 15 buttons), 'Fade Time' (0 seconds), 'Fade Rate' (357.8 steps/second), 'Min Level' (145), 'Max Level' (254), 'Power On Level' (149), and 'Fail Level' (149).

The 'Schedule' configuration page includes 'Export' and 'Import' buttons. A 'New Entry' button is visible. The 'Scenes' section shows 'sunrise'. The 'Schedule' section is expanded to show 'sunset' with an 'Edit name' field, 'When?' dropdown (Sunset), 'Offset' (10 minutes after), and 'On weekdays' checkboxes (M, Tu, W, Th, F, Sa, Su). The 'Actions' section shows 'Set' dropdowns for Deck, Garden, Entrance, and Master, each with a slider and a red 'Delete' button. A 'Bedtime' section is also visible.

The 'Admin' configuration page shows 'DALI Devices' and 'DMX Devices' sections. The 'Status' section displays: ZPDS version: 0133-94f577d, Channel: 1, H1 type: 1, H1 version: 02, FW version: 08, DALI power status: mode: 88 mA (locked), voltage: 15.715V, current (at 0v): 0.042A, current (at 0v, peak): 0.170A, current (at 0v, final): 0.176A, Hot power status: voltage A: 47.6V, voltage B: 47.6V, Local IP Address: 192.168.1.119, and MAC Address: b827ebc65a6c. The 'Site Name' is '1608 ADU'. The 'Provisioning' section includes buttons for 'Rescan Addresses', 'Assign Addresses', and 'Assign Addresses (quick)'. A warning message states: 'This address assignment is faster, by skipping devices that already have short at the same short address, so won't always be correct.' The 'Manual address reassignment' section includes a 'WARNING: only use this if you know what you're doing!' and a 'DALI Channel' dropdown (1) with 'Old Address', 'New Address', and 'Re-assign Address' checkboxes.

The 'Groups' configuration page shows 'DALI Devices' and 'DMX Devices' sections. The 'Groups' section is expanded to show 'Group 0' (Deck, Garden, Entrance) and 'Group 2' (Living, Kitchen). Each group has a slider and a red 'Delete' button.



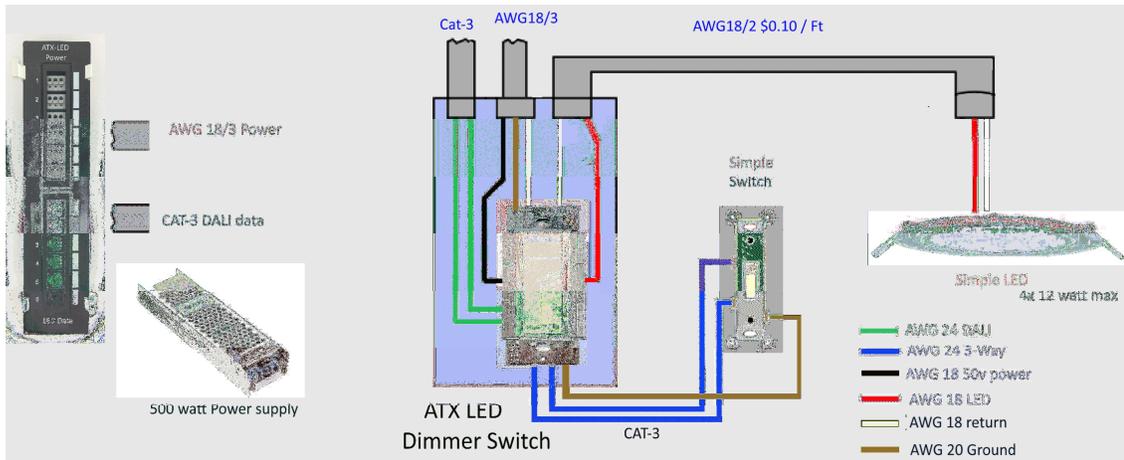
## [API for custom applications](#)

Knowledgeable users can write a python or other program to transmit and receive DALI commands using an API. See [http://atxled.com/Pi/API\\_OnOff.py](http://atxled.com/Pi/API_OnOff.py). An example of a shell command is this:

```
curl -XPOST -d '{"channel":0,"commands":["hFE00","h0AFE"]}' -H
"Content-Type: application/json" http://localhost/dali/api/send-raw
```

please see the AL-DALI-HAT data sheet for the format of these commands. One or many DALI commands can be sent with one API call. In this example, two commands are sent. FE 00 turns all lights off. 0A FE sets light at address 5 to 254. The API sends the commands and returns a response. The processing time is about 25 ms per command. The above examples will return "N,N" meaning 2 commands were sent and neither had a response. A response is formatted as a Jxx where xx is the 8 bit response. For the one channel device – the only value is 0 ( for 2, and 4 channel hats – the values are 0,1 or 0,1,2,3 respectively )

# DALI bus products from ATX LED Consultants



## Low Voltage house lighting product line

