CBUS NAC Control Freak® eDIDIO Library

Firmware Version – 1.0

Date – 21/8/24

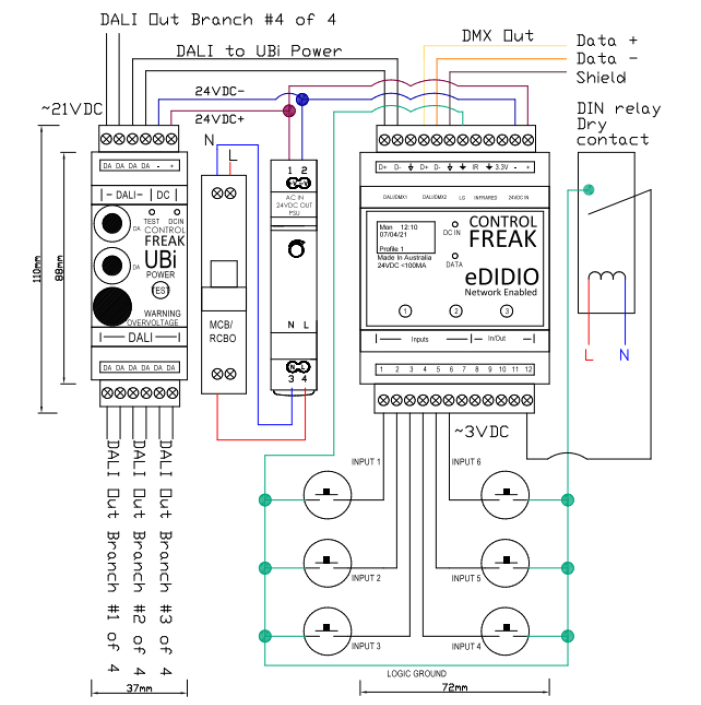
**Introduction**

This document outlines the CBUS NAC Control Freak® eDIDIO Lua library. This guide shows how to use the library to control DALI and DMX interfaces via TCP/IP.

**Hardware Considerations**

The eDIDIO controller must be connected to a 24V power supply. It must be on the same network as the CBUS NAC. Appropriate network settings must be configured to allow a TCP connection between the NAC device and the eDIDIO controller.

If the eDIDIO controller has DALI, it must have a suitable DALI PSU to control the lines. The DALI line(s) should be addressed and grouped as necessary. We suggest the Control Freak UBi DALI PSU. An example 1D1X is shown below.

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The eDIDIO can be ordered in a multiple of configurations. 1D1X refers to DALI | DMX. 2D is DALI | DALI.

A 4-line unit is also available

## 5500NAC Configuration

* Log into the 5500NAC Configuration. This can be done by entering the units IP address into a browser.
* Click on Configurator
* Navigate to Scripting -> Tools and press Restore Scripts
* Open the eDIDIO Scripting Library provided.

## Lua Functions

The library includes several functions for DALI and DMX commands, as well as enumerations for ease of use.

### Enumeration

* DALI\_0 to DALI\_63
* DALI\_G0 to DALI\_G15
* DALI\_BROADCAST
* DALI Type 8
  + SET\_TEMP\_X\_COORD
  + SET\_TEMP\_Y\_COORD
  + ACTIVATE
  + SET\_TEMP\_COLOUR\_TEMP
  + COLOUR\_TEMP\_COOLER
  + COLOUR\_TEMO\_WARMER
* DALI Fade
  + DALI\_NO\_FADE
  + DALI\_0\_7s\_FADE
  + DALI\_1\_0s\_FADE
  + DALI\_1\_4s\_FADE
  + DALI\_2\_0s\_FADE
  + DALI\_2\_8s\_FADE
  + DALI\_4\_0s\_FADE
  + DALI\_5\_7s\_FADE
  + DALI\_8\_0s\_FADE
  + DALI\_11\_3s\_FADE
  + DALI\_16\_0s\_FADE
  + DALI\_22\_6s\_FADE
  + DALI\_32\_0s\_FADE
  + DALI\_45\_3s\_FADE
  + DALI\_64\_0s\_FADE
  + DALI\_90\_5s\_FADE

### Functions

|  |  |
| --- | --- |
| **Function** | **Command** |
| Send a DALI Level (0-254) | sendDALIArcLevel(line, address, level)  Note that DALI Arc Level commands will override DALI2 sensors if sent to a sensor controlled group. |
| Sends 3 DALI Levels to an RGB fixture | sendDALIRGBMessage(line, address, red, green, blue) |
| Converts RGB to XY Coordinates for DALI DT8 | sendDALIRGBDT8Message(line, address, red, green, blue, brightness) |
| Converts Kelvin to Mirek and outputs DALI CCT DT8 | sendDALICCTDT8Message(line, address, kelvin, brightness) |
| Set the DALI fixtures to a specific fade (See Enums) | sendDALIFadeMessage(line, address, fadetime) |
| Sets the DALI fade time and then sends an Arc level | sendDALIArcLevelWithFade(line, address, level, fadetime) |
| Sends a specific DT8 Command | sendDT8Cmd(line, address, cmd, arg) |
| Sends a singular DMX Level. Fade = fadetime \* 10ms. Repeat for block commands | sendDMXLevel(line, channel, level, fadetime, repeat) |
| Sends a DMX RGB command. Repeat for consecutive addresses | sendDMXRGB(line, channel, red, green, blue, fadetime, repeat) |
| Sends a DMX RGBW command. Repeat for consecutive addresses | sendDMXRGBW(line, channel, red, green, blue, white, fadetime, repeat) |
| Starts an inbuilt List made with the DIDIO Configurator | startList(index) |
| Stops an inbuilt List | stopList(index) |

### Parameters

* Line – This depends on the installed hardware. I.e. eDIDIO 1D 1X = DALI | DMX
  + Physical Line 1 = 0x01
  + Physical Line 2 = 0x02
  + Physical Line 3 = 0x04
  + Physical Line 4 = 0x08
  + Multiple Lines (Line 1 + Line 2) = 0x01 + 0x02 = 0x03
* Address – See Enum. DALI\_0 to DALI\_63 + DALI\_G0 to DALI\_G15 + DALI\_BROADCAST
* Red, Green, Blue, White, Brightness
  + For DALI, values range from 0 to 254
  + For DMX, values range from 0 to 255
* Fadetime
  + For DALI, seen Enum, DALI\_0\_7s\_FADE = 0.7s fade
  + For DMX, total fade time = fadetime \* 10ms.
* Repeat
  + Value can be 0 to Max DMX.
    - For Standard DMX, value can be 512 – channel
    - For RGB, value can be 512/3 – channel
    - For RGBW, value can be 512/4 – channel
* Index – Can be 0-31

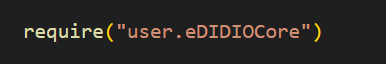
## Library Configuration

Library Configuration is through the eDIDIOConfig script. Enter the IP of the eDIDIO.

The IP can be found through the DIDIO Configuration software, or via the keypad on the unit.

## Examples

Requirements



Example DALI Arc Level based on CBUS Event Level

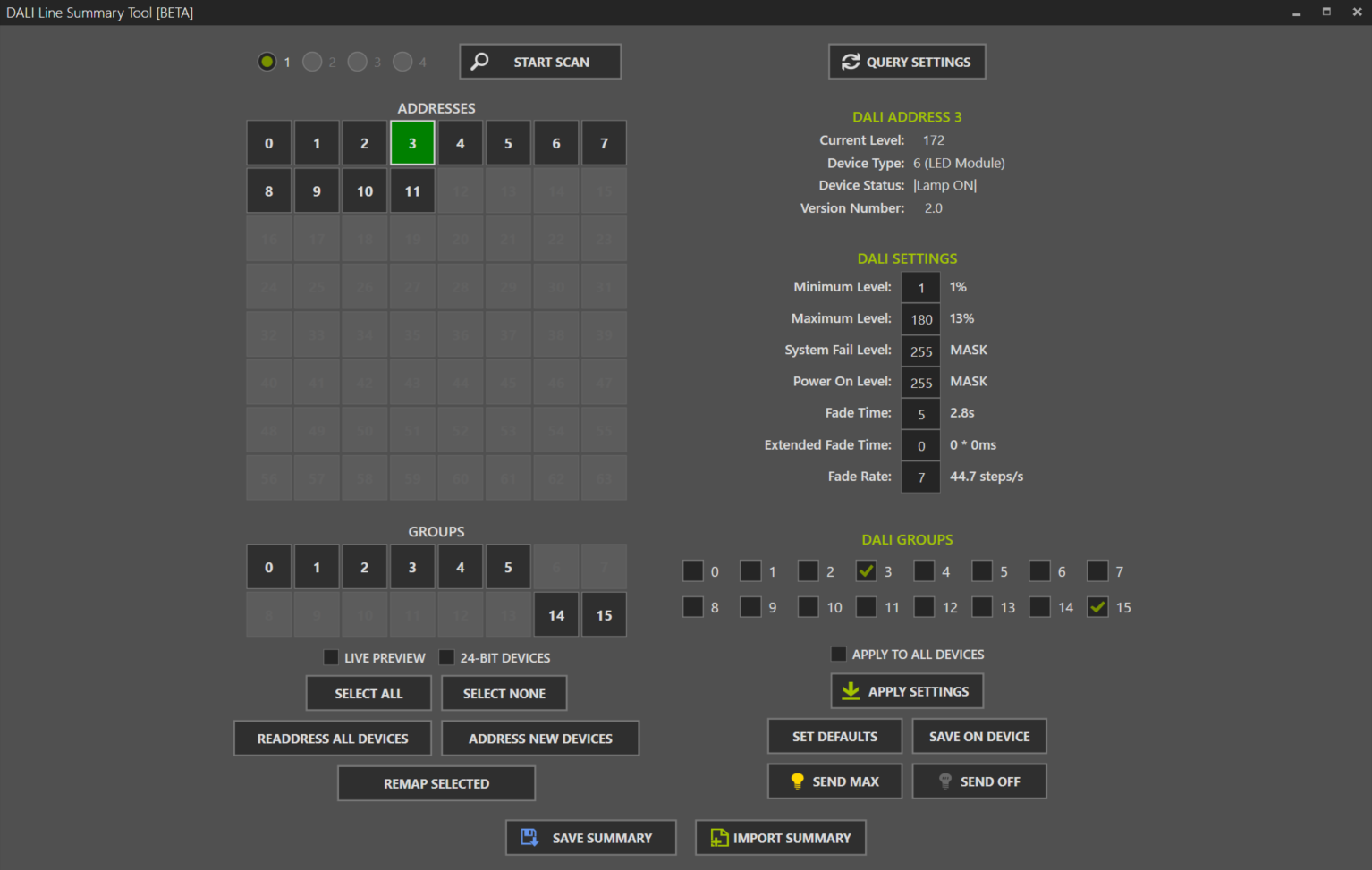
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Description automatically generated

**DALI Installation**

The DALI fixtures should be configured into controllable groups. This can be done using the Control Freak DIDIO Configurator software.

<https://github.com/CreativeLightingAdmin/DIDIO-Configurator-Releases>



**DALI Speed**

DALI DT8 commands are slow. Please note that to change colour via DT8 can take around 11 DALI messages.