

CBUS NAC Control Freak® eDIDIO Library

Firmware Version – 1.0

Date – 21/8/24

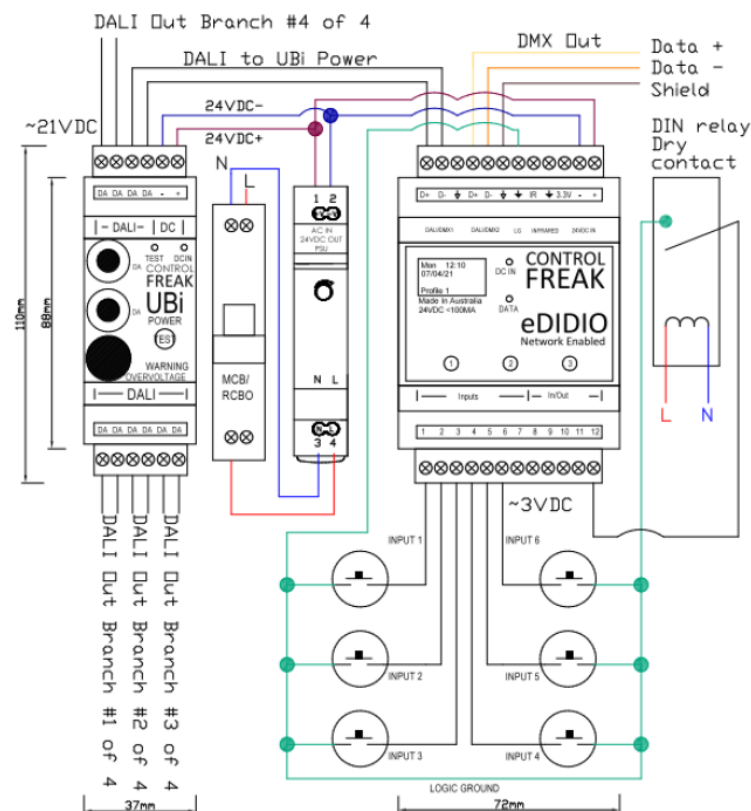
Introduction

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.



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_TEMP_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

```
require("user.eDIDIOCore")
```

Example DALI Arc Level based on CBUS Event Level

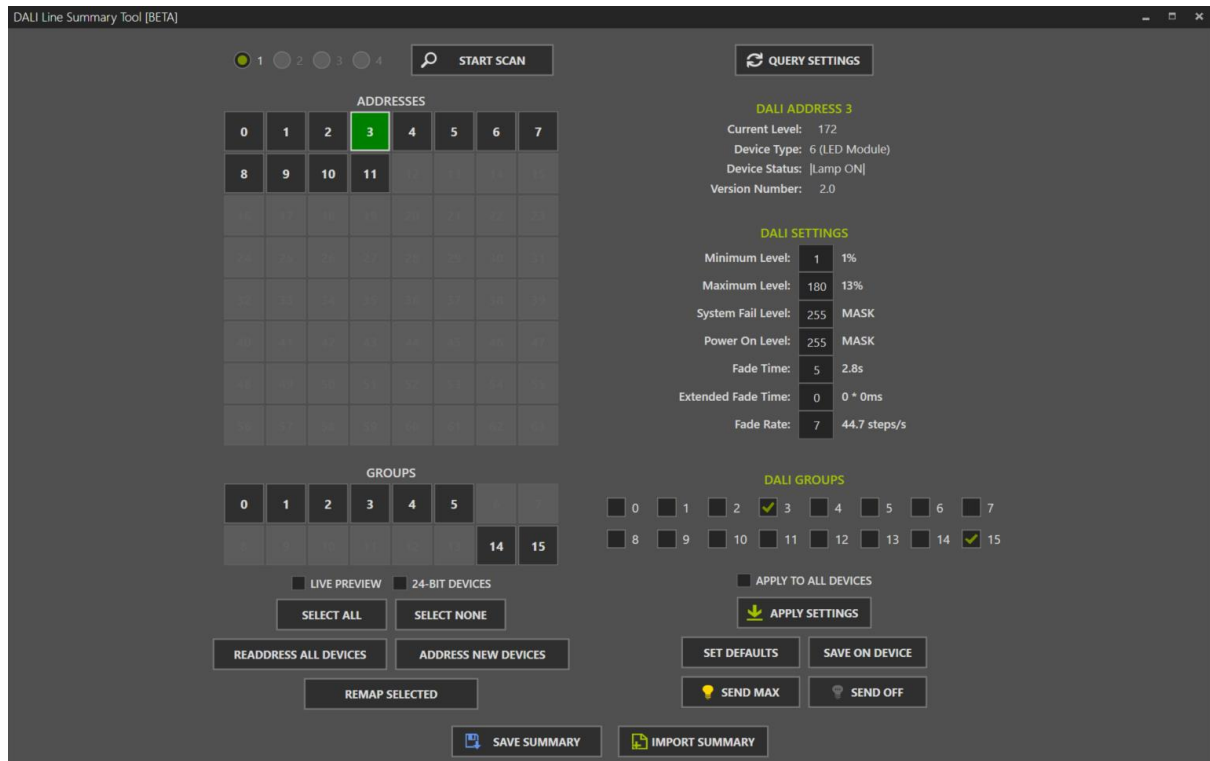
```
require("user.eDIDIOCore")

level = GetLightingLevel(0)
if (level == 255) then
    level = 254
end
sendDALIArcLevel(0x01, DALI_G0, level)
```

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.