

GENISYS USB Conduit

Version 1.0.0.21 (BETA)

Documentation

12-13-2024

Note:

This application is currently in beta. Performance and stability improvements are being made often.

Background:

The GENISYS USB Conduit application is designed to bridge the IL 797 USB Light(s) with an Ethernet network through a computer running Windows 10/11. Doing so will expose DMX control over Ethernet along with a simple control API using JSON formatted ASCII strings sent via UDP over the network.

Windows (11) Dynamic Lighting:

The USB version 1.4 protocol released in 2023 included support for USB lighting products through the use of LampArray attributes. Windows 11 includes support for these LampArray capable devices under the feature known as Dynamic Lighting. The IL 797 USB Light supports the LampArray attributes and therefore can be natively controlled by Windows 11 without any additional software.

Control within Windows 11 can be customized by going to *Settings > Personalization > Dynamic Lighting*.

By default, Windows Dynamic Lighting typically delegates control of these devices to applications running in the foreground only. You may need to disable the Dynamic Lighting feature in Windows 11 if you plan to use the USB Conduit application as it may conflict with Dynamic Lighting.

GENSIYS USB Conduit:

The GENISYS USB Conduit is an application written to extend the control of the IL 797 USB Light(s) beyond the Windows 11 Dynamic Lighting functions. It was originally created to bridge 3rd party control of the USB Light(s) through the computer it is connected to, but also permits control from a computer running Windows 10 which does not support Windows Dynamic Lighting.

GENISYS USB Conduit : Settings

You will need to configure the application to control the USB Light(s) after installation. In some cases, you will need to run the application as an Administrator so the application can save the configuration successfully.

Once the USB Light(s) are connected, run the application and open the Settings page. Change the System Device drop down and select a USB light. The Type should be set to RGBW in the drop down next to the System Device.

After selecting the USB light, hit the Save button and then Close the Settings window. From there you can control the light via the other options in the application.

GENISYS USB Conduit : Settings : sACN / E1.31

The application exposes the USB Light(s) to control via DMX over Ethernet. Open the Setting page and assign a Universe, starting channel and channel qty. Make sure the Type is set to RGBW and the channel qty is set to 4. The four channels will be RGBW (red, green, blue and white). Point your DMX controller to the IP address of the computer running the USB Conduit application. Take note that some firewalls may block the listening port (5568) by default.

GENISYS USB Conduit : UDP API

The USB Conduit application supports control of the connected USB Light(s) from a simple API by sending JSON formatted ASCII strings via UDP to the IP address of the computer running the application. The port to send the strings is 10000.

Sample strings:

```
{"method":"RGBW.Set","params":{"id":0,"rgbw":[0,0,255,0]}}
```

```
{"method":"RGB.Set","params":{"id":0,"rgb":[0,0,255]}}
```

The above strings would turn on the light to a bright, blue color.

“id” can be 0-7 and represents the light fixture as configured in the Settings page.

“rgbw” is an array of red, green, blue and white brightness values from 0-255.

GENISYS USB Conduit : Manual/Auto Control

The USB Conduit enables control of the USB Light(s) from a Windows 10/11 computer through manual on/off/color selections or even a few automated functions.

Note that you’ll need to forgo using the Auto functions in the application if you plan to manually control the USB Light(s) or utilize 3rd party control via DMX or the API.