DMX Lighting

For more information about DMX lighting fixtures...check out this article.

For more information about the DMX protocol...check out this article.

Setting up DMX lighting in Horizons

This tutorial will guide you in setting up an RGB or RGBA lighting fixture in Horizons and set them to follow the alert statuses and (automatically generated) special effects.

DMX settings are controlled by 3 sections in the Designer:

1. "DMX" under the "Controllers" heading, which handles selecting the DMX controller used, and the heartbeat speed for the DMX. This setting is useful for cheaper DMX lights that can't handle the DMX speed. (Covered in Step 3)
2. "Devices" under the "Advanced" heading, which handles the individual types of DMX devices used. (Covered in Step 4)
3. DMX settings per event are managed in the Designer is under "Modules" (Covered in Step 5)

Note: As of release 28.1, in order to use DMX, the game needs to the launched from the Horizons.exe file in the games bin folder. If you open the launcher, you will need to reconfigure any updates you had to do to the config file and reenable DMX on the DMX Controller page in the Designer.

Sample Fixture 1 - RGB

Color	Address
Red	1
Green	2
Blue	3

Sample Fixture 2 - RGBA

Color	Address
Red	1
Green	2
Blue	3
Amber	4

Sample Fixture 3 - ARGB

Color	Address
Red	1
Green	2
Blue	3

Sample Fixture 4 - ARGB, strobe, fade

| Color	Address
Red	1
Green	2
Blue	3
Amber	4

Step One: Plug in DMX lights Daisy Chain

Plug in your devices for setup to the game server computer.

Example: For HedgiePi, this setup includes the Open DMX USB controller, a 5-to-3 pin XLR adapter, and 2 - 6 channel DMX Par lights set up like sample fixture 4.

Step Two: Check the COM Port Settings of the DMX Controller

Open "Device Manager" on the server.

Click on your Windows start menu and type "Device Manager". Click on the device manager, which will open a window similar to the one shown here. Scroll down to "Ports (COM & LPT)". Find the USB device for your DMX controller here. Note the number next to COM in the parenthesis.
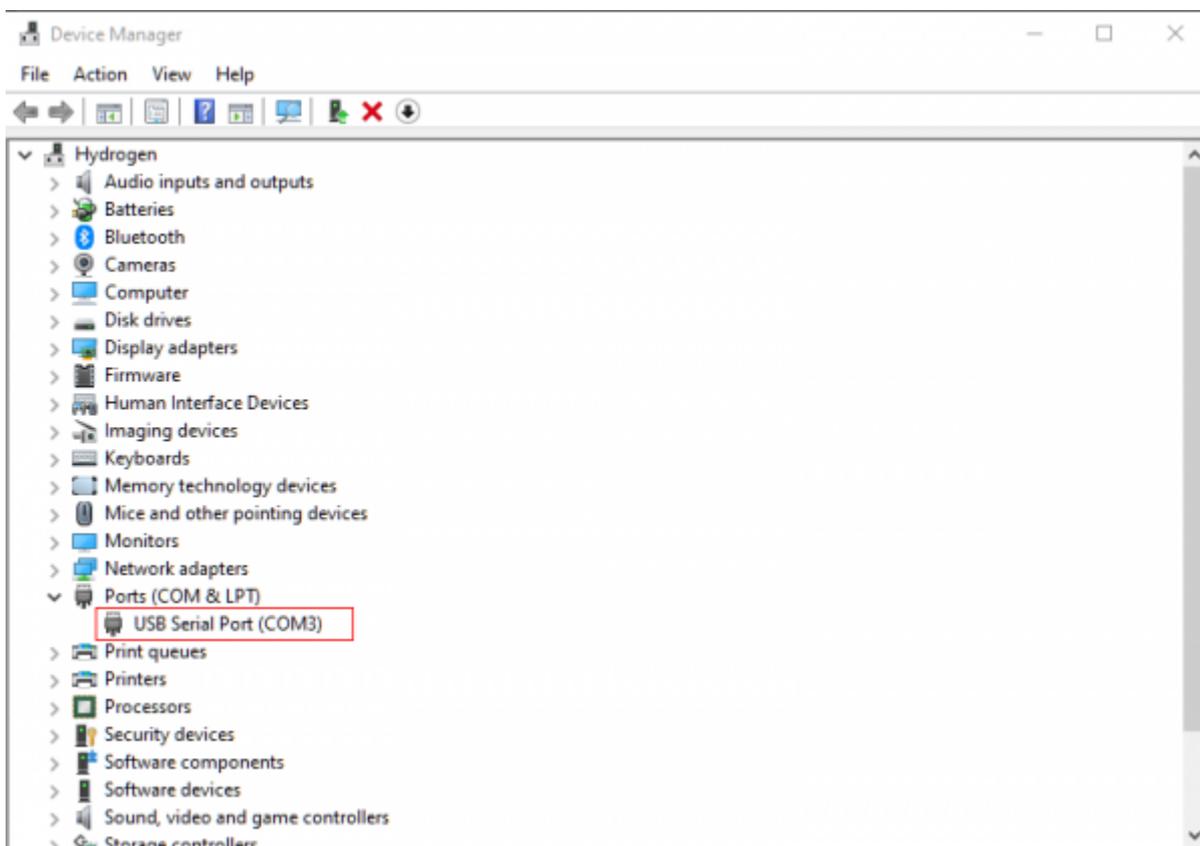
Example: On HedgiePi's computer, the OpenDMX controller is showing up on COM 3.

In the main folder of the game, which in typical installs is found in C:\Program Files (x86)\Starship

Horizons, check the config file for Horizons to make sure the port for the DMX controller matches. If not edit this to match and save. If your having trouble finding this specific line in the file, use CTRL+F and type Controllers to navigate to the line.

```xml
<controllers>
    <dmxs>
        <dmx universe="1" name="DMX" controller="Open DMX" port="3" heartbeat="20" constantdelivery="false" enabled="false" />
    </dmxs>
</controllers>
```

If you had Horizons open when making this change, be sure to close and reopen Horizons for this setting to take effect. Note: As of release 28.1, in order to use DMX, the game needs to the launched from the Horizons.exe file in the games bin folder, which is typically found in C:\Program Files (x86)\Starship Horizons\Bin. If you open the launcher, you will need to reconfigure any updates you had to do to the config file and reenable DMX on the DMX Controller page in the Designer.

Step Three: DMX Controller Setup

Once fixtures are plugged in and the server is running, open the Designer which is opened like a console from the station select screen. Open a browser, navigate to localhost:1864, and you'll see the below screen. Click on "Designer".
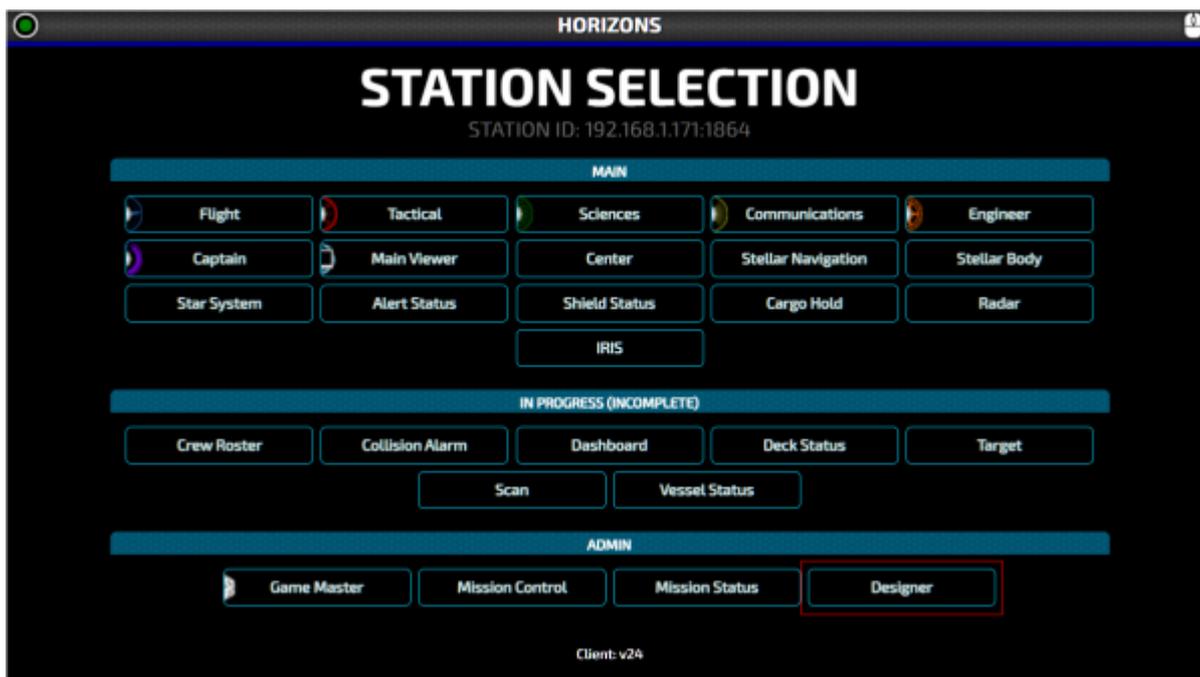

Once in the Designer, click on "DMX" under the "Controllers" heading in the menu on the left.
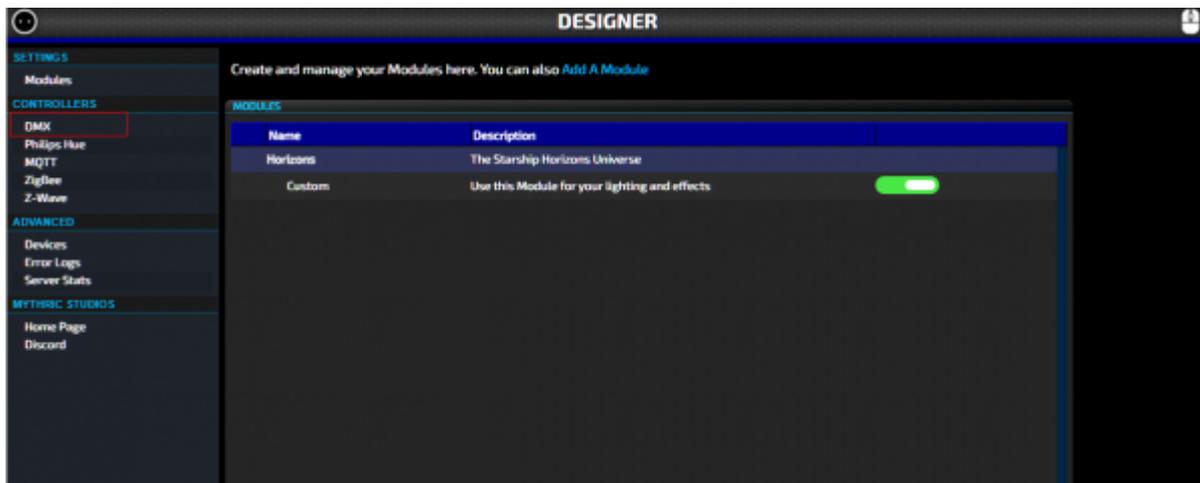
Type in a name for the controller you are using, or leave it as the default name "DMX". Select the type of controller being used from the drop down, which should be listed on the device you are using as the DMX controller. The heart beat settings largely depend on your lights and what rate they handle. Depending on your devices, you may need to check the "Constant Delivery" check box as well. Turn the "Enabled" toggle on and click "Save". If you have multiple controllers, you can add them here, but only one is necessary in most setups.

Example: HedgiePi using the following setup for the DMX controller.
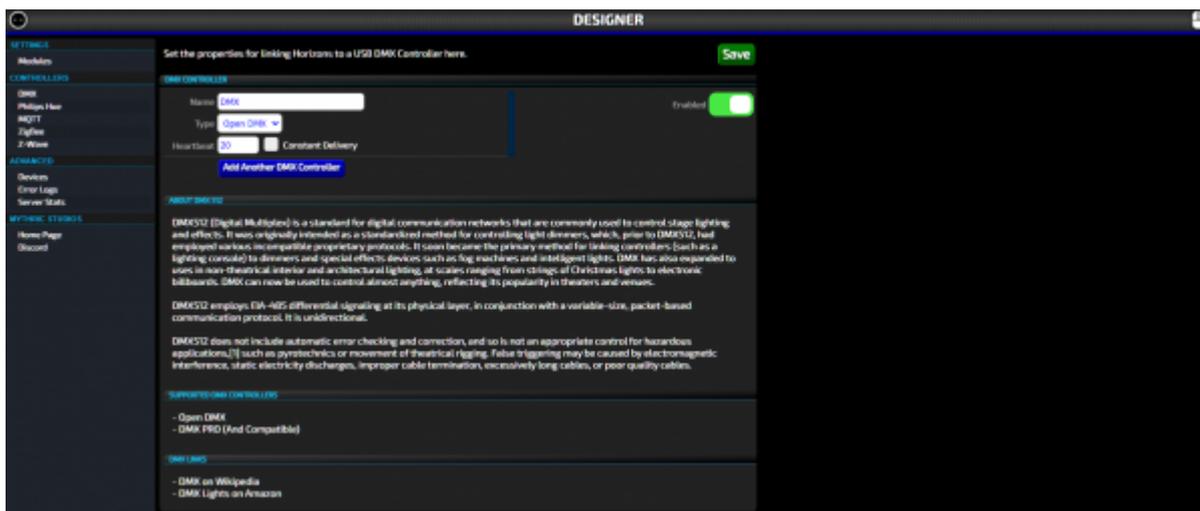
Step Four: Add DMX Devices

We're going to start with adding 2 devices: "DMX Effects" and "DMX Alerts", so that different DMX lights in our environment can be used for different utilities. The effects lights will activate for in game effects such as taking hull damage. The alerts lights will show current ship alert status. If you only have one DMX light, just set up one device here.

In the Designer click on "Devices" under the "Advanced" heading on the left.

Click "Add A Device" to bring up the Add Device Wizard. The first window is a welcome to the wizard. Click "Next". For the first device, "DMX effects", input the desired name and description in the text boxes. Click "Next".
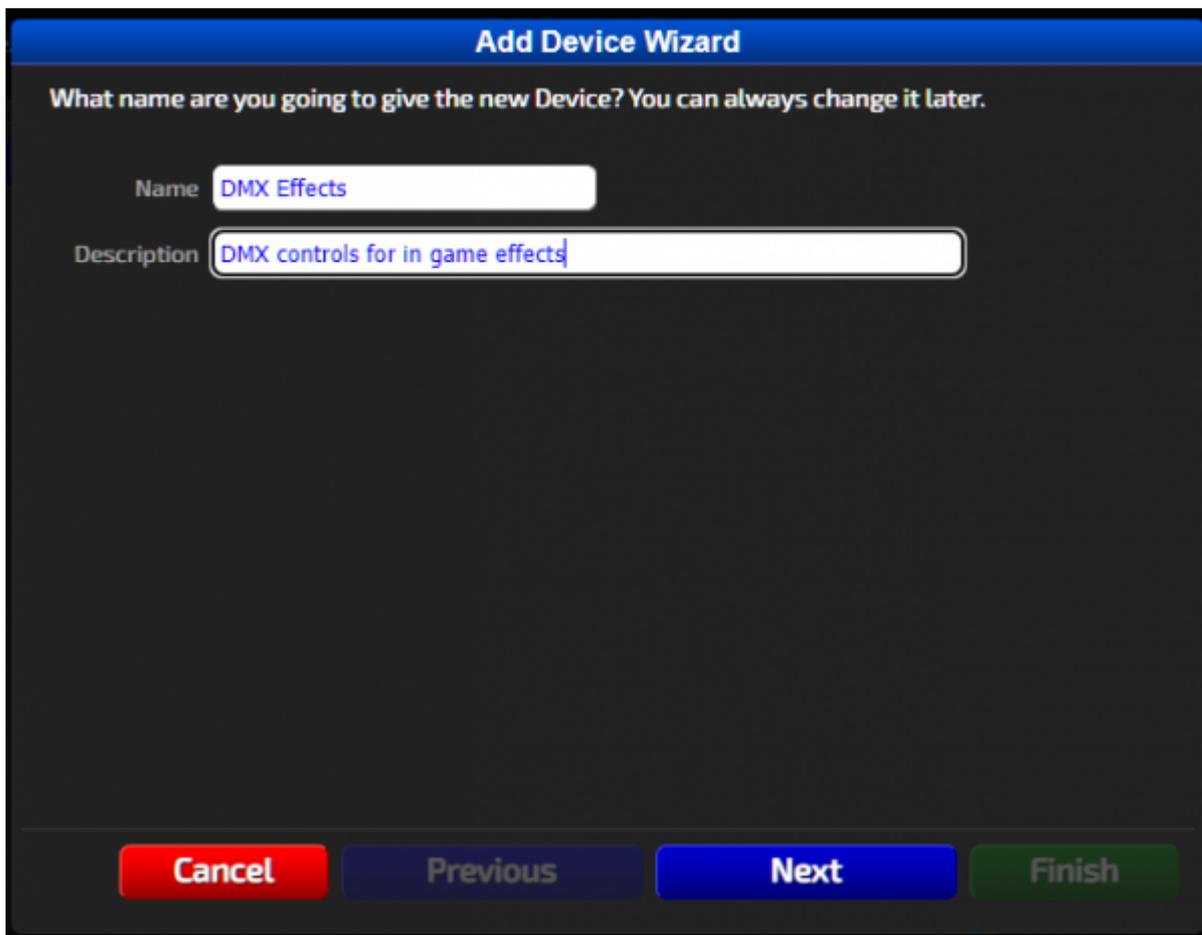

Next, select "DMX" for the Device Type, which will automatically take you to the next screen in the wizard.
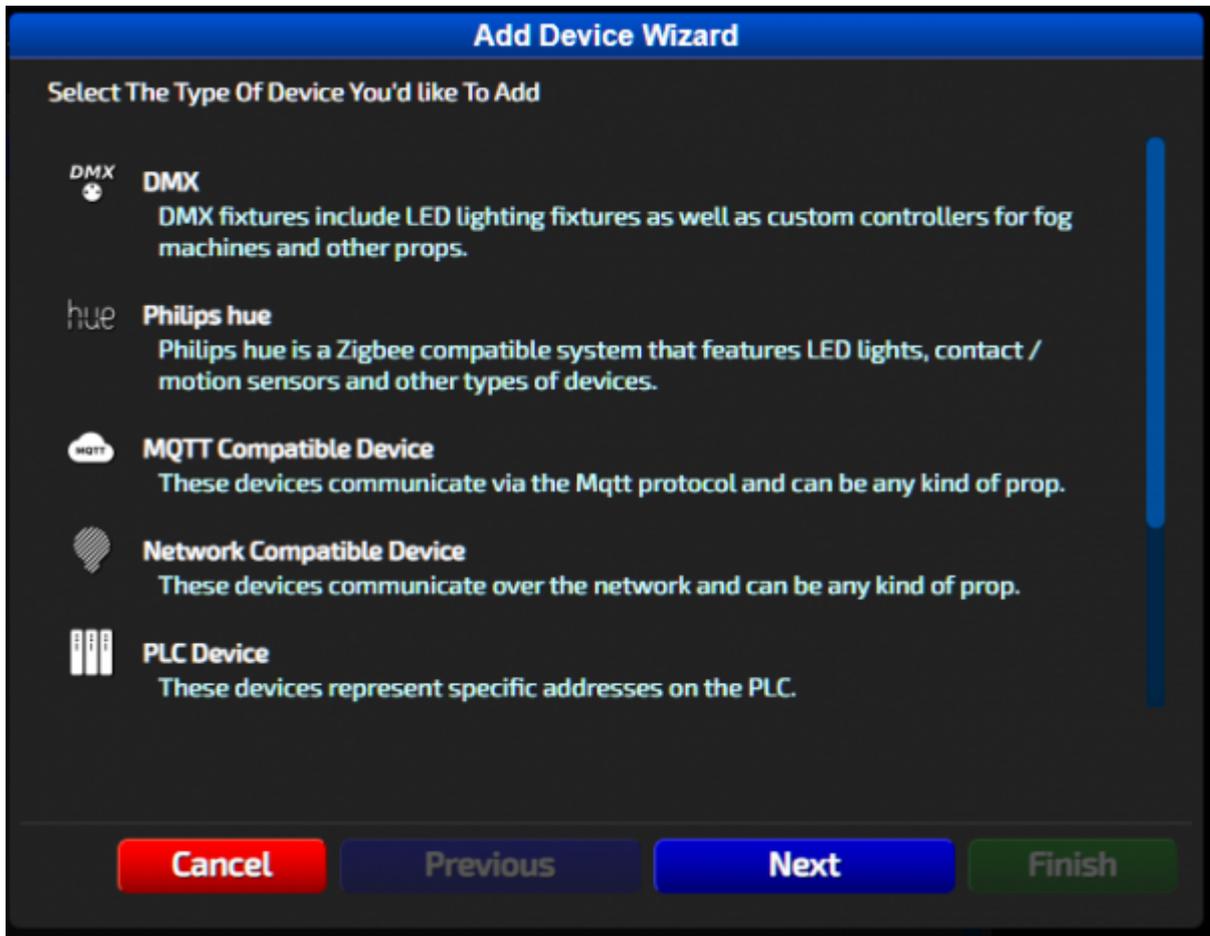
In the next step of the wizard, you will need to know which format your device uses. If you don't know and don't have a device manual to reference, some guess and check can help here (using another DMX software, such as FreeStyler or QLC+, is helping in doing this quickly). If your lights are not one of the options, pick the closest. We can edit the format manually later. Clicking the desired device format will automatically take you to the next screen of the wizard.

Example: HedgiePi's DMX lights are actually 6 channel (like sample fixture 4), but the first 4 channels are ARGB, so HedgiePi chose ARGB as the DMX Device format.
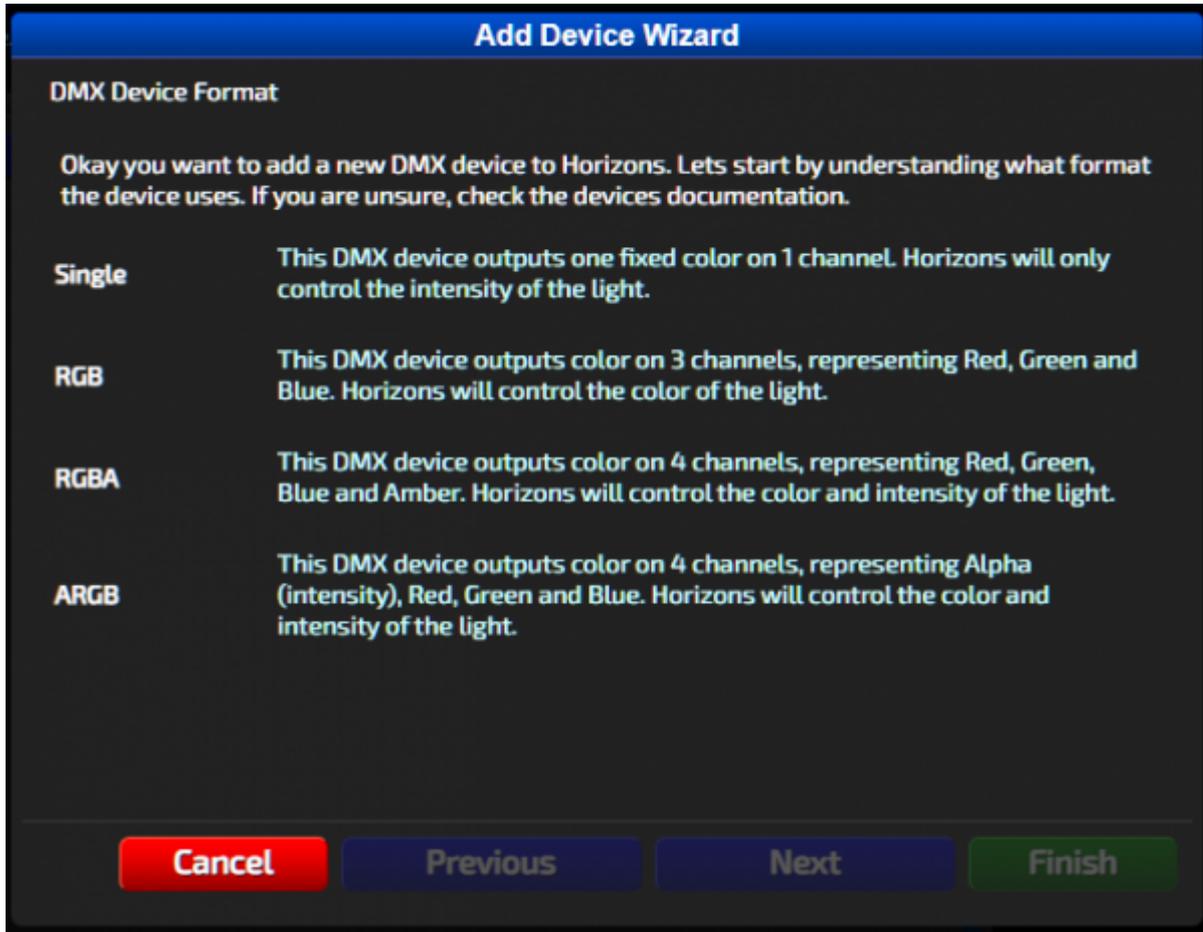
Next, you'll need to select the starting channel for the device. Then click "Next". Example: Since this is the first device being used, HedgiePi is picking channel 1.
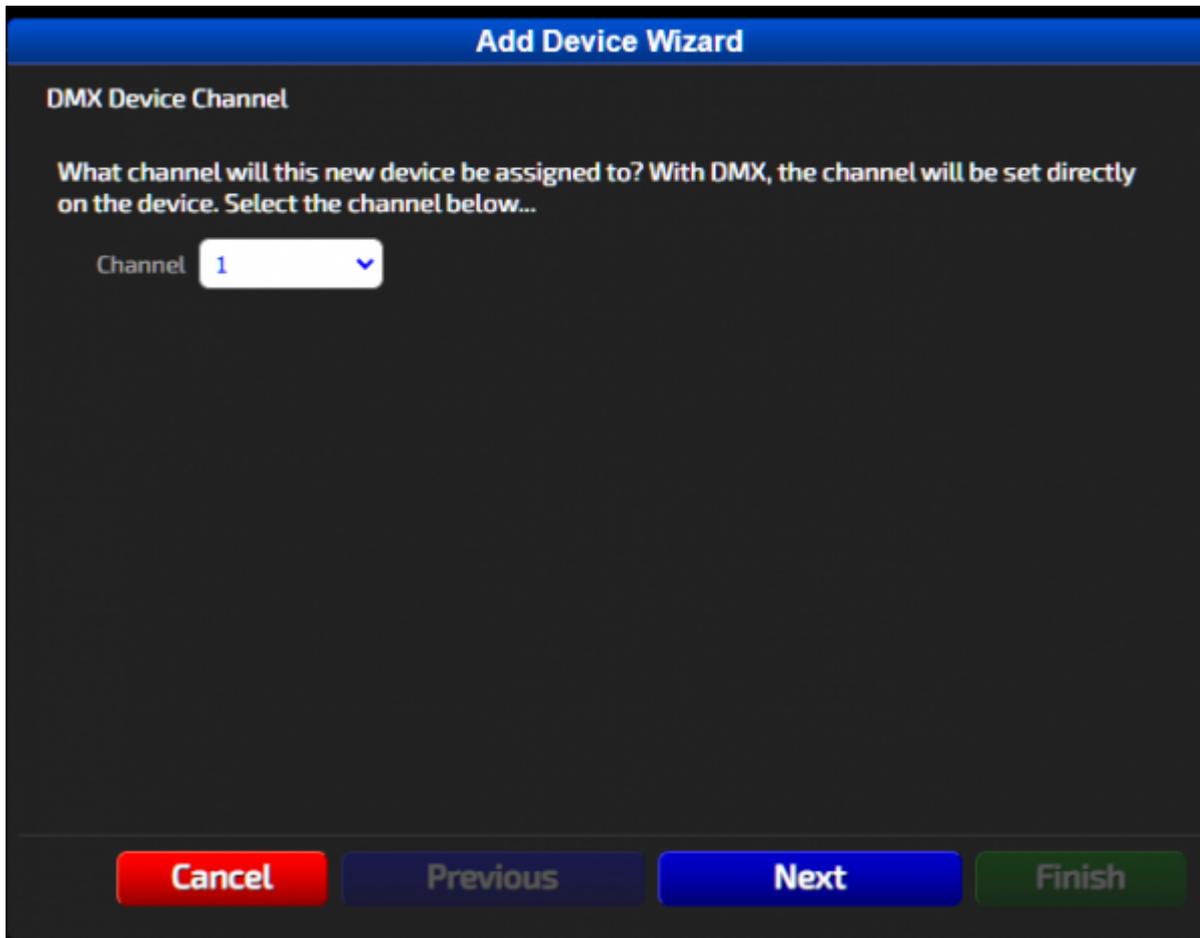
Clicking "Finish" will complete the Add Device Wizard. Now the device will show up in the list of devices.

Clicking on the device here will allow for any manual updates to the settings as required. Open the Edit Device window by clicking on it's name in the list. Select a Controller for the Device, this is the name of the controller you set up in step 3. If your device doesn't match the Channels as set up, they can be adjusted here. When done checking the settings, click "Save", then "Close".

Example: The last 2 channels for HedgiePi's DMX lights (strobe and fade) are not as useful in Horizons, so HedgiePi just skipped the channels rather than adding them.
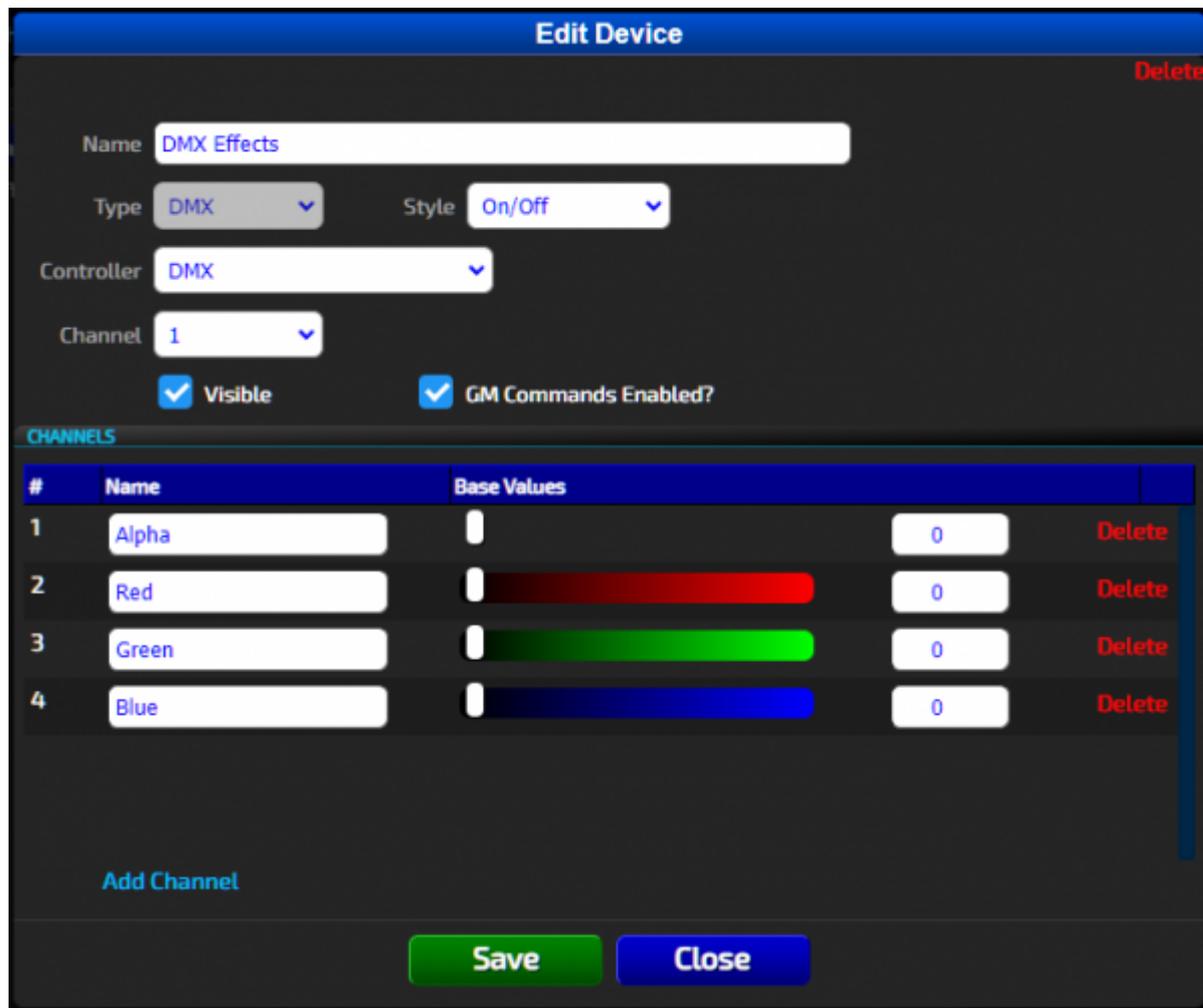
Repeat the process for the "DMX Alerts", For the starting channel, pick a value after the number of channels your "DMX Effects" devices use to avoid channel interference.
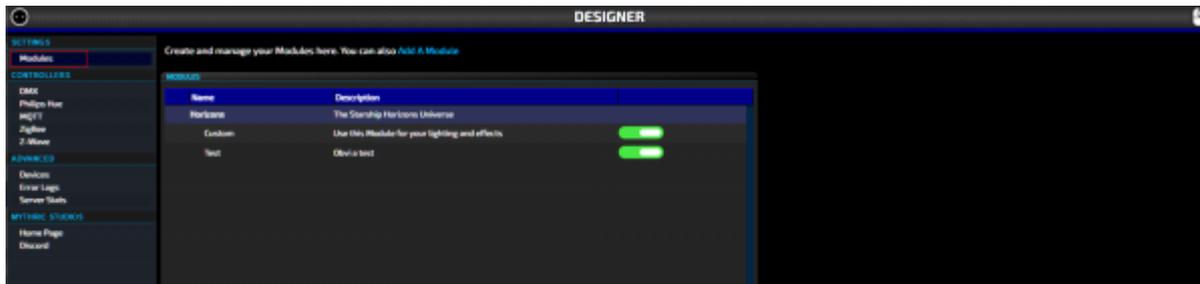
Starting Channel

| "DMX Effects" Device Channels	Starting Address for "DMX Alerts" Device
3	4
4	5
5	6
6	7
7	8

Example: HedgiePi selected channel 7 for the starting channel since channels 1-6 are being used by the DMX Effects devices.

Step Five: Setup in Modules

Along the left hand menu, click "Modules" from under the "Settings" heading. Once in Modules, click "Custom".
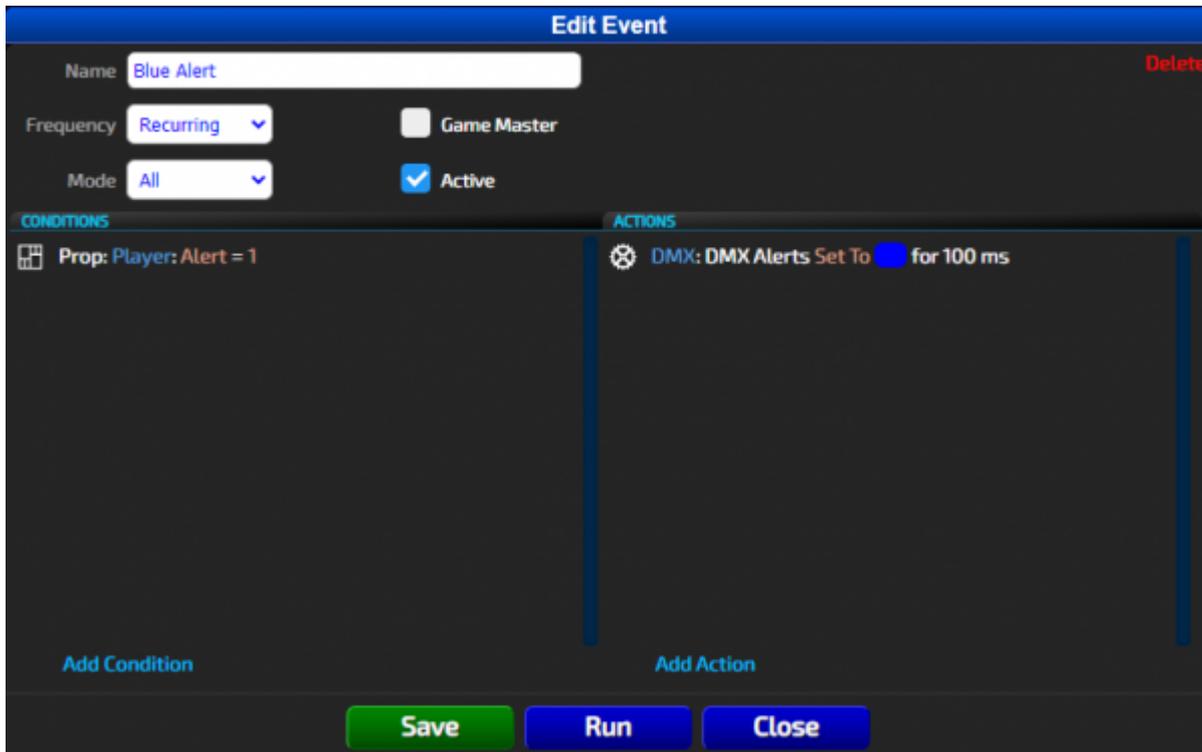
Once inside the Custom Module, click "Events" under the "World Building" sub-heading. This will take you to a list of events that happen in game, which is where you can edit and test DMX settings for the various events.
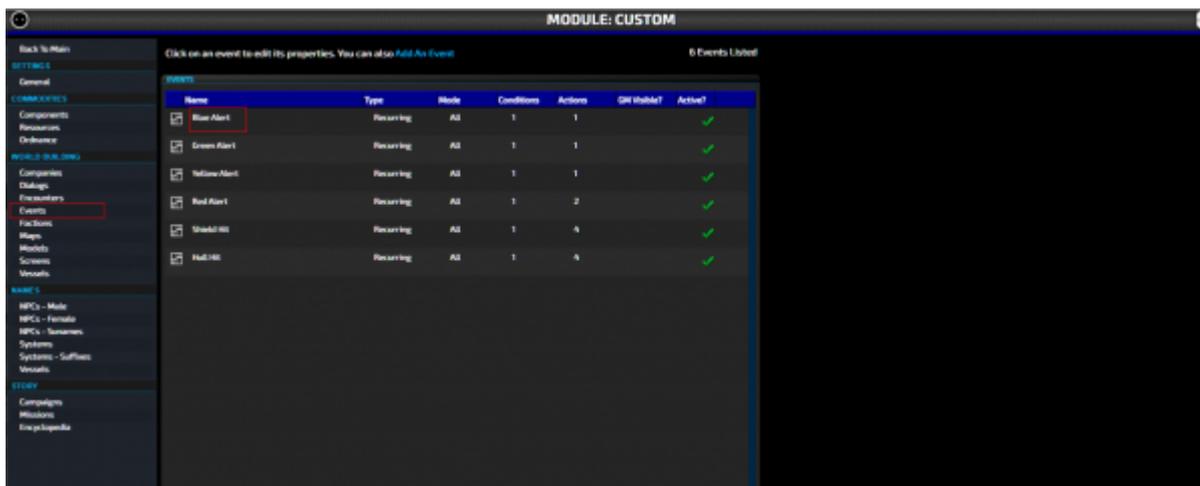

Start with Blue Alert by clicking on the "Blue Alert" event name. This opens an "Edit Event" Window similar to one of the two images below.
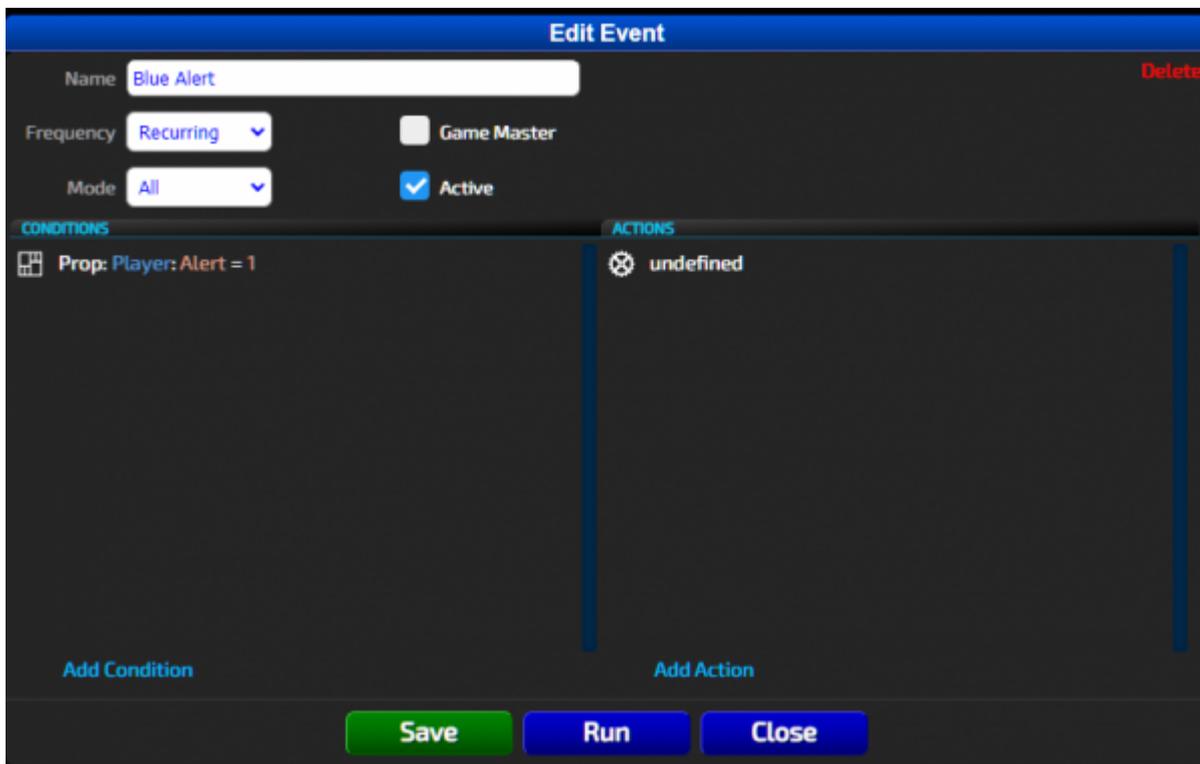
Each event has several fields. For already created events, there is additional setup actions to do for DMX for each event. Click on the item under the "Actions" header, which may read "undefined" or "DMX: DMX Alerts Set To [color] for 100 ms". Clicking this item will open an "Edit Action" window.
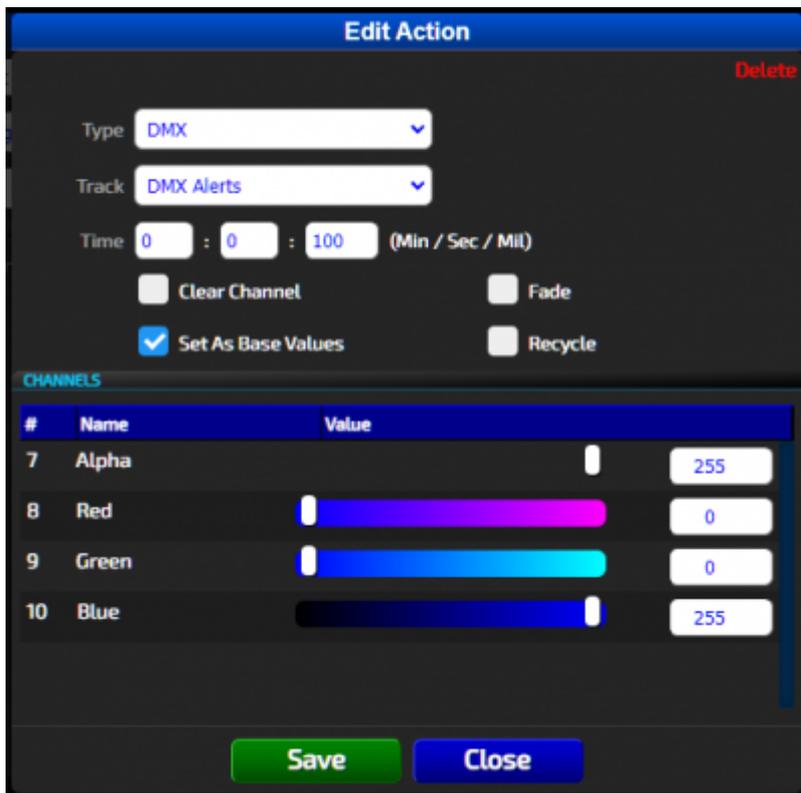
Inside the Edit Action window, set the Track to the desired device that we set up. Since this is an Alert light, set this to the "DMX Alerts" Track. Make sure the "Set As Base Values" box is checked and the color is set to blue according to your channels. Save these settings. Repeat this step for each Action in each Event. Note: You can edit the color mix here to work to your fixtures and color preference. If your device has an Alpha channel, be sure to set this to 255 to ensure the light turns on.

At this point, test the light setup. With your physical DMX alert lights set to the starting channel that you set for the DMX Alerts device(s) (ex: d001), click "Run" in the Edit Event Dialog Box. The lights should turn to the color blue. Repeat this for each Alert Status color event. Similarly follow the steps for the shield and hull hit events, but select the "DMX Effects" Device, leaving "Set As Base Values" unchecked. If you only have one light, just set the track to one device you set up instead of two separate tracks. Note: you can set multiple of the same fixture to the same starting channel to have them all act the same.

For those doing modding, you can set up your modules events to work with DMX lights as well by making sure you create events with DMX Actions.

Troubleshooting:

Remember that in Horizons, DMX settings are controlled by 3 sections in the Designer:

1. "DMX" under the "Controllers" heading, which handles selecting the DMX controller used, and the heartbeat speed for the DMX. This setting is useful for cheaper DMX lights that can't handle the DMX speed. (Covered in Step 3)
2. "Devices" under the "Advanced" heading, which handles the individual types of DMX devices used. (Covered in Step 4)
3. DMX settings per event are managed in the Designer is under "Modules" (Covered in Step 5)

Lights not reacting? Double check that your COM port for the controller matches with the setting in the Config file and that the DMX Controller is enabled. (Steps 2 & 3). The Config file can get reset, so don't get angry like HedgiePi, just check these settings again. Also try the tip below.

Lights reacting, but acting funny? In the Controllers section, set the "Constant Delivery" field as enabled. This may be required for some set ups. If everything else is set up right, but it's still being weird, try changing this setting.