DRAGONFRAME

DDMX-S2
DMX Lighting Controller
User Guide v1.1

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Introduction

The DDMX-S2 is a hardware device that you can pair with Dragonframe to:

- Automate a work light (bash light) turning on and off.
- Automate front-light/back-light lighting passes.
- Automate keyframe-based lighting programs for your scene.
- Trigger a RED camera, film camera, or unsupported still camera.
- Trigger a motion control system for shoot-move-shoot integration.
- Trigger Dragonframe from an external system.

Control Lighting

DMX512 (or DMX) is a standard protocol for controlling lighting. When paired with one or more DMX dimmer/switch packs, you can control up to 99 different light channels.

Control Devices

Interact with external devices using the built-in relay switch, digital input and digital output.

Hardware Warranty

The DDMX-S2 comes with a two year hardware warranty.

You can find the warranty on the product page for the DDMX-S2, in the Resources section.

Setup Instructions

CONNECTING THE DDMX-S2 TO YOUR COMPUTER

Install Drivers (Mac 10.8 and *older*, only):

> Open Dragonframe and open a scene, or create a new one. Choose **Install FTDI Serial Drivers** from the **Help** menu.

Plug USB connector directly into the computer or into a POWERED USB hub.

CONNECTING THE DDMX-S2 TO A DMX DIMMER/SWITCH PACK

If your dimmer/switch pack has a 3-pin XLR connector, use a 3-pin DMX cable to connect the DDMX-S2 to it. Do not use a microphone cable.

If your dimmer/switch pack has a 5-pin XLR connector, use a 3-pin to 5-pin XLR cable to connect the DDMX-S2 to it.

CONNECTING THE DDMX-S2 TO A DIGITAL INPUT

The DDMX-S2 can sense external events via its digital input. You can use this to trigger shooting or playback in Dragonframe.

Connect an external switch or 5V logic level input to the DDMX-S2 connectors labeled **GND** (for ground/earth) and **IN**.

CONNECTING THE DDMX-S2 TO A DIGITAL OUTPUT

The DDMX-S2 can output a logic level signal that can be active-high or active-low. For active-high output, connect your external device to the connectors labeled **GND** and **HI**. For active-low output, connect your external device to the connectors labeled **GND** and **lO.**

CONNECTING THE DDMX-S2 TO A RELAY SWITCH

The DDMX-S2 has an internal relay that can be used for connecting to an external device that needs a switch closure. Connect your external device to the two connectors labeled **RELAY**.

CONFIGURING THE DDMX-S2 THROUGH DRAGONFRAME

Watch the video tutorial on DMX for an overview:
http://www.dragonframe.com/tutorials/

Read **Automate Lighting with DMX** in the User Guide (in the Help Menu) for complete instructions.

Technical Specification

OUTPUTS

To prevent **any** possible damage to the host computer from badly grounded peripherals, all DDMX-S2 outputs and inputs are optically isolated from the host USB bus. The I/O channels "float" electrically relative to the USB, thereby minimizing the opportunity for ground loops.

DMX out

DDMX-S2 supports a USIIT standard DMX512 output protocol. The DDMX-S2 output will easily drive a standard 120 ohm bus termination.

The DMX channel provides packets of 299 slots, with a 50mS inter-packet period.

The DMX port is typically equipped with a 3-pin XLR connector for easy connection to "entertainment" style DMX packs. To connect DDMX-S2 to a USIIT standard 5-pin XLR connector for use with "professional" style equipment, use a standard 3-pin to 5-pin adapter.

RELAY out

The **relay** is intended to switch low-power control signals like button presses, but it can also switch small amounts of power. Do not exceed 0.5A @ 24VDC, or 0.25A @ 125VAC.

LOGIC out

Logic out is a standard 5V, TTL level, logic signal (relative to the ground terminal).
The signal is provided in both active-high and active-low versions. Maximum load is 30mA in each state. These signals may also be used as a differential pair with a termination load greater than 220 ohms.

SWITCH in

Switch in is designed to sense a switch closure to ground. This input will also take a 5V TTL level signal. Note that in keeping with a switch closure, the logic on this pin is active low. This pin is internally pulled to 5V with a 1Kohm resister. When driving this pin externally, do not exceed 5 volts.

PHYSICAL

4.7" X 3.7" X 1.3", weight, approximately 12oz. (12cm X 9cm X 3.5cm, 340g) with 5' (1.5m) Type A USB pigtail.

DDMX is built ruggedly, in a .090" thick cast aluminum box and painted with a hard powder coat to survive years in a harsh stage environment.

POWER

DDMX-S2 is a "high current" USB peripheral, drawing up to 220mA with all outputs active and fully loaded. As such it must be plugged directly into either a computer port or a powered USB hub. Your power source must provide at least 4.5 Volts.

DDMX should not be plugged into a unpowered USB hub. USB peripherals send their power requirements to the system on initialization, and unpowered hubs are supposed to reject peripherals that do not identify as "low current", that is, any peripherals that require more than 100mA.