



The Guildenstern (Arduino DMX shield)

Trinculo's Attic Spec Sheet

The Trinculo's Attic Guildenstern is designed to interface between DMX networks and the Arduino Uno or other standard-size Arduino.

Characteristics

Size: 2.3" x 2.1" x 1"

Connectors:

Pass-through headers for attachment to an Arduino.

(1) 3-position screw terminal

(1) RJ45 modular connector

User Interface:

(3) 2-pin jumpers to select resistors

(1) RX/TX switch

(1) Solder jumper

Power

The Guildenstern is powered by the Arduino it is attached to. It is compatible with both 3.3v and 5v Arduinos.

In Default mode:

Data Direction and Termination

By default, the Guildenstern DMX Shield is a half-duplex device. The onboard switch allows you to switch between transmitting DMX (TX) and receiving DMX (RX). In this case, the board only uses the TX and RX pins on the Arduino. By cutting a trace and closing a solder jumper, you can use Arduino digital pin 2 to control the direction. Driving the pin low puts the board in receive mode. Driving the pin high will put the board in transmit mode.

When in TX mode, the on-board 120-ohm resistor should be connected across the data lines. Place its jumper block over the header pins adjacent to the 120-ohm resistor to enable.

A bias network is also available on the board. This will drive the data lines to VCC and GND when no data is being transmitted. This is not required. To enable, place the jumper blocks over the header pins adjacent to the 1k resistors.

Data Connections

The Guildenstern DMX Shield has two options for wiring:

A 3-position screw terminal allows for the direct connection of wiring or the attachment of various XLR connectors.

An RJ45 connector for modular jacks is also available. ESTA's DMX-512 standards permit the use of Cat5 wiring with modular connectors for the transport of DMX data. This will not work with an Ethernet-based protocol like ACN or ArtNet. The RJ45 jack follows ESTA's recommended pin out, so you can use existing RJ45 DMX adapters.

Both can be used at the same time in a pass-through configuration.