DrumKid input/output requirements

DrumKid has fairly simple input/output requirements when used as a basic consumer product, but since it is also “hackable”, I have detailed its underlying input/output requirements separately. Where I refer to VCC, it means the voltage supplied by the batteries or external PSU.

As a consumer product

Inputs

- 3 x AA batteries (either standard or rechargeable - both have been tested)

Outputs

- 3.5mm stereo audio jack - can be connected either to headphones or (via a 3.5mm stereo cable) to another device’s line input

As a hackable product

Inputs

- Power - the battery clip lead can be detached from the battery holder and used to power the unit from an external power source, which should have a voltage between 3.6V and 5.5V (i.e. a 5V USB supply would be adequate). You may find that you need to add additional decoupling capacitors if you are using a noisy power supply
- Analog Arduino pins - pins A4 and A5 are currently not used, so you can use them as additional analog inputs, with a voltage range between 0V and VCC
- Serial input - pin D0 is currently not used, and is the Arduino serial input pin, meaning it can be used (with an optocoupler) for MIDI input or similar

Outputs

- Audio output - pin D9 is the raw PWM audio output from the Arduino, before any filtering, attenuation, or amplification has taken place, and will have a range of 0V to VCC
- LED outputs - pins D2, D3, D4, D5, and D6 are the LED pins. Their signals can be intercepted and used (for instance) to trigger larger, brighter lights for a stage show, or to trigger various functions on Eurorack synthesizer modules. The voltage will be either 0V or VCC

- Serial output - pin D1 is current not used, and is the Arduino serial output pin, meaning it can be used for MIDI output or similar. As with other pins, it will generate a voltage up to VCC