Version 0.1:

First attempt at making a custom Arduino with a music shield integrated into it. This design includes a USB connector for the lights as well as SMD resistors capacitors and audio analyzer chips. The main microcontroller is thru-hole type.

Status – Works without the need for more modification.

Physical aspects – Fat design very, all parts on one side, Cymaspace logo and Gutar Pedal v1. (Wrong Spelling in Guitar) On the back

Problems – No USB programming, very limited space for more additives.

Version 0.2:

Second attempt at making a custom Arduino for a guitar pedal, with a few added changes, including USB programming, and all SMD components, we have crammed everything in on one side of the PCB making everything except the crystal, connector, and headers surface mount. This was our first attempt at making USB programming and required a separate chip that communicates to the Arduino. Upon soldering the PCB together, we got connection to the computer but we were not able to program the chip using USB. We realized that we missed a critical part in the connection to the Arduino chip. The reset had to be activated with a short pulse at the beginning of the programming stage and pulses had to continue to a specific timing while programming chip. By lots of trial and error, we found the right components to get the right reset pulses to program the chip through USB. We got this version to work by lots of surgery and loose connected components. In addition, we tried to add a midi input chip to this version, which never got tested and wasted lots of space on the PCB.

Status – USB programming only works with modification, everything else works.

Physical aspects – Much slimmer throughout the PCB than version 0.1, with a big bulge on the corner that is the MIDI chip. Cymaspace logo still on the back with text printed Guitar Pedal V2.

Problems – USB programming does not work

Version 0.3

Continuation to improving the Guitar Pedal PCB. Changes added to make the USB programming work from the start. MIDI chip removed. Headers added to make connecting led pins easier.

Status – Works without need for modification

Physical aspects – Components clumped together on one side of the PCB, Slim design except for the ICSP header and the USB connector, which are next to each other. Cymaspace is gone on the back with text Guitar Pedal V3.

Problems – One of the 10uf capacitors can be replaced with a 10nf capacitor to improve speed of programming. In addition, there is no way to select between regulated and unregulated power input to the led strip.

Version 0.4

10nf Capacitors replaced the 10uf ones and a header was added for selection of regulated and unregulated power of the led strip. Decision was made to use an RJ10 jack for led connection, and to make the name officially Audiolux one.

Status – Fully working with no problems.

Physical aspects – Same as Version 0.4 with a header added by the power connection, a few labels were added to make connection to the PCB easier. No Cymaspace logo on the back instead text AUDIOLUX ONE V0.4

Problems – There is no way to mount the RJ10 jack on the PCB and on the enclosure.

Version 0.5

In this version, we tried to make the assembly of AUDIOLUX ONE very simple. In this version, the rj10 jack is attached to the PCB and so are the two potentiometers. The only wiring that will need to be made is from the audio jacks, the footswitch and from the power connection; all other wiring is done on the PCB. Here we also added an addressable led onboard which will light up the guitar pedals bottom, unfortunately we did not put the led on the right side which may cause the lighting up portion to be slightly ineffective.