

Your Guyver Helmet



Thanks for purchasing a Guyver helmet! Time to make it your own!

Special note!

Your helmet includes a USB cable for easy display and code updating. Inside, you'll find the USB cable connected to the Arduino and routing down to the inside of a hose insert, where it is connected via velcro. **This cable should be removed while wearing the helmet.** The helmet can be powered through this USB cable using a standard USB-C cell phone charger. **Make sure the power switch is set to OFF if displaying using a USB charger!** You may damage the Arduino otherwise.



Step 1: Fit it!

Your helmet is made out of thermoplastic, and as a result it can (and should!) be molded to your head. Just like an actual Guyver, it molds around your face for a custom fit.

On a sunny and warm day (>75 F), remove the USB cable inside and place the helmet outside (with any other electronics, foam, etc. still installed) and in the sunlight to heat it up. In about an hour, the helmet should loosen up significantly. Remove the back rear panel, which is affixed with magnets and elastic straps on the left and right. The straps are velcroed in and should be removed from the bottom panel.

Once the panel is off, feel free to strap the elastic to the velcro on the new bottom of the helmet - these tabs are designed to keep the straps from getting lodged up into the helmet when you go to wear it. When the straps have been secured, grip the helmet by the hose inserts on the bottom, put the helmet on, free the straps, then connect the back panel and secure the velcro to the inside of the panel.



The helmet may be a little tight in areas, and it should be fairly warm, and it might be a little stinky (as a result of the thermoplastic loosening) but as you wear it it'll begin to form to your head!

Wear it for about 10 minutes outdoors, pushing or pulling on sections as needed to form it to your head. The foam and thermoplastic are both designed to mold to your head, so feel free to move around and manipulate the helmet. If it still feels too tight at the end of this fitting, remove it and cut the green foam insert(s) accordingly. The green foam inserts can also be removed, they are also velcroed in place.

After about 10 minutes of molding, return to a cool area and allow the helmet to cool on your head. When it's at room temperature to the touch, remove the back panel. The helmet remains in a semi-rigid state even when cool - remove the helmet, manipulating as needed. Then reaffix the rear panel and allow it to sit on a flat surface until cooled to room temperature.

Your helmet has now been fitted! This process can be repeated if needed.

Step 2: Customize it!

The hose inserts were designed to run with 7/16" outer diameter hoses, if you'd like to connect it to armor. If linking to a smoke system or similar, the hoses can be fed into the ventilators. Feel free to drill a hole out in the ventilators - they have been sculpted with kneadable epoxy so they shouldn't crack, and the thermoplastic is easy to drill through.

The arduino can be removed, reprogrammed, or repurposed. The code it currently carries can be downloaded here: https://github.com/pr0t34n/guyver_helmet/

The on/off switch on the underside of the helmet controls both the arduino and the lens LEDs. The button switches modes - short-presses (less than or up to about 1 second) change the

pattern mode, long-presses (about 3 seconds or longer) change the color scheme. By default, there are 5 patterns loaded and 4 color schemes. The patterns are, in order:

- Medium pulse
- Beacon
- Glitch
- Scanner
- Communications
- Sparkle

The color schemes are, in order:

- Amber/Natural White
- Dark red/amber
- Dark green/lawn green
- Blood orange/violet

Note that the actions occur on release of the button. So, if you're long-pressing, **no changes will occur until you let go of the button.** Even then, the color will only change when the next cycle of animation begins. This varies depending on the animation, but as an example a medium pulse will finish the full pulse cycle with the currently selected color before switching to the next before the animation begins again.

Step 3: Fix it!

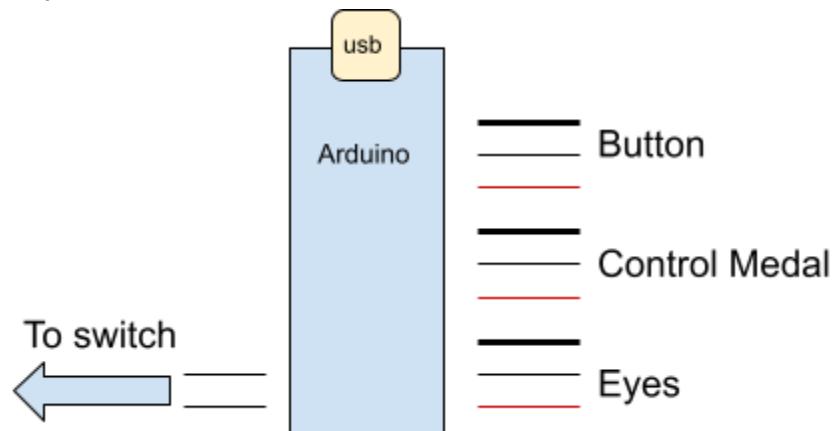
If the lenses get dirty, remove the lens foam insert. Clean the inside of the lenses with windex or soap and water. Spray the cleaner onto a towel and wipe the lenses, do not spray the cleaner on the lenses directly. Reaffix the lenses.

If the screen covering the lenses gets dirty or damaged, it can be replaced easily. The fabric is white tulle, and should be easily found at any local store which sells fabric. The velcro has been designed to affix the fabric, just press down.

Avoid touching the control medal and other chrome sections. While they have been treated with a clear gloss coat which will protect them to some degree, they may still haze over if excessively handled. They can be cleaned with a damp cloth if dirty, but hazing cannot be repaired and will require a repaint. **Do not use Windex, or any cleaner containing alcohol.** This will eat through the gloss coat and may damage the paint.

The helmet has been clear coated and can be washed if needed. It is hand wash only, use soap and water only (cool or warm water, not hot), and dry with a terry cloth towel. The foam inserts can also be cleaned with soap and water if needed.

If removing the lenses, control medal, or any other component, you may need to reaffix the microcontroller or other electronics. The pinout follows. Just note, ground is always green, and ground is always up!



Circuit diagram. Each pin cluster to the right is in the pattern: Ground, Signal, Power. Just remember ground is green!



Strapped in! Note the green cables always point up!