

INSTRUCTIONS FOR SETTING UP YOUR SKULL

1. Unpackage carefully, and don't ever force the skull to change positions manually while the power is off. While it is possible to make the servos turn by applying pressure and moving the skull by hand it is also likely that you could snap a part inside or strip some teeth off a gear. The servos have a good amount of torque due to all the gears inside so you would be applying a lot of pressure to force them to move in that way. In short...don't do it.
2. Mount your skull. The skull's center rod has a coupler at the bottom. It is designed to fit over a 3/8" rod or threaded bolt. I work on them by mounting mine to a long 3/8 – 16 bolt sticking up through a square of plywood and use it like a stand. The 3/8" size was chosen because that is the size of the steel rod that runs up the spine and through the skull of a Bucky Skeleton, which is the most commonly used skeleton and is the proper scale for these skulls. To mount to a Bucky skeleton, first, remove the skull that comes with it and use it someplace else as a static prop. Then cut the rod with a hacksaw so about an inch or two is sticking out. Remove the vertebra that comes with the Bucky right down to the collar bone. You'll be replacing it with the neckpiece that comes with the skull and hides the wires. Double check before cutting the rod the enough is sticking up to attach the head to and it places the head at the correct height. Once that's determined, make your cut, place the coupler on and tighten down the set screw.
3. **Be sure of your polarity!!** Do not cook your controller board or all your servos. The red wire coming out of your skull goes to the positive (+) terminal (or wire) on your 6VDC power supply. The black wire goes to the negative (-) or GND terminal for the DC Voltage output from your power supply. On the supplies I sell, the + and – are clearly etched in the casing above the screw terminals. You can damage your controller board very quickly by plugging it in backwards. If you do that, and leave it connected backwards, the power will still be going to the servos. They will also fry when exposed to reverse voltage for more than a few seconds. Be very sure of this before connecting power. If you need to, measure the voltage with a meter to be sure it's 6VDC and that you know which wire or connection is - and which is +.
4. Connect your skull to the power supply **BEFORE** turning your power supply on. Rapid fluctuations in the power can lock up your controller board, and although it won't physically damage it, it will need to be reset with special software, and that will cost you time and frustration. When you're connecting the power wires to the screw terminals or whatever connectors you are using there will be many quick connections and disconnections as you are getting the wires into place before everything is tightened down. This will cause those power fluctuations, so make sure all power is off when making these connections.
5. If you are using a power supply that I provided, it will provide enough current to comfortably run up to 4 or maybe even 5 skulls. These supplies have a current output of 8 amps. If you are running multiple skulls, be sure your power supply has enough current to do the job. A good rule of thumb is to allow 2 amps per skull. That's probably more than needed, but it's always better to have more current than you need than not enough. The power supply Must be 6VDC. That is what the controller board and the servos require.
6. Important links for you regarding your skulls.
 - a. Sample routines for your skulls: <https://halloweenskulls.com/uploads/routines.zip>
 - b. VSA Software (You will only need the hobbyist version):
https://www.brookshiresoftware.com/vsa_order.php?ct=yes&PHPSESSID=s72e0phhd3f22hrms5gtdh6g_p3
 - c. Audacity (Free multi-track recoding/mixing software): <https://www.audacityteam.org/download/>
 - d. Tutorials on using Audacity: <https://manual.audacityteam.org/man/tutorials.html>
 - e. My Tutorial for using VSA: (Ignore the part about the SSC-32 card. We are using DMX now): http://sindyskinless.com/VSA_Programming%20101.pdf
 - f. USB to DMX adapter (US Distributor): <https://dmxprosales.com/products/dmxking-ultradmx-micro>
7. I am available to help you anytime if you have questions or are not sure of something. I can also help you to understand the VSA software if you are not familiar with it. This is all part of the support I offer for my skulls.