

# Halloween Skulls

Thank you for shopping at HalloweenSkulls.com. We appreciate your business. This instruction booklet will give you the information you need to operate your skull and to make it last for years to come with problem-free operation.

## WARRANTEE

Let's start with the parts of your skull. We produce the 3D printed parts that make up your skull and the DMX servo controller board that's mounted inside. We fully warrantee all our 3D parts and will replace any part that somehow breaks under normal use. Normal use does not include dropping it down a staircase for example. That's on you. If a 3D printed part breaks at any time after your purchase due to normal use and wear & tear, we will replace that part at no charge. The servo controller board is guaranteed to arrive in working condition and will be fully tested before shipping. If a board arrives to you DOA, it will be replaced at no charge. You will need to send us the board so that we can examine it first. Since this type of electronics can be damaged by misuse in so many ways, we ask that you carefully follow all directions for connecting power to the board and do not try to rewire it or alter it in any way. Boards can be damaged by static charges caused by handling the board without taking the proper precautions such as grounding yourself, or making sure you are not statically charged. They can also be damaged by incorrectly connecting the power and getting the polarity backwards. Since there are many ways that the end user can damage the board which is not part of the normal use, and since we have no way of knowing how it was handled once it leaves our shop, we can't warrantee the board past the condition of DOA. All boards are tested carefully before sending them out, and arrive to you already mounted in the skull, so it would be a rare occasion that a board arrives DOA. All other parts in the skull are purchased from third party vendors such as Hitec and Vex Robotics. If there are problems with any of these parts, which are not made by Halloween Skulls, we refer you to the manufacturer's warranties for those items.

## SERVO SETTINGS

Each skull will be fully assembled (unless you choose to purchase the DIY kit) and will be aligned so that when the servos are initially powered up and automatically move to their manufacturer's default position, your skull will be centered and looking straight forward. You will be provided with a [blank VSA template](#) that has all the servo settings already set for you. This is to ensure that any programming you do does not exceed the physical limits which the skull moves within. Setting a servo to a position beyond the limits of motion in the skull will burn out the servo or strip gears and will damage your skull. Using our routine template will ensure that you don't exceed the limits and don't damage your servos or any of the skull's parts. All routines that you purchase from Halloween Skulls will be made using these servo settings. The other benefit of a skull from Halloween Skulls is that because of the internal construction and the method of assembly, every skull we produce will have the exact same servo settings. Any routine that works on one of our skulls can instantly be transferred to another skull with no modifications. If you need to swap a skull, all you would have to do would be to change the DMX address for that skull to the one you are replacing and it can be swapped out in a matter of seconds.

## WHAT COMES WITH THE COMPLETE ASSEMBLED 3 AXIS SKULL AND WHAT DOESN'T

If you have purchased the 'Complete 3 Axis Skull with 2 Axis lighted eyes fully assembled' from our store and did not choose any of the additional options, you will get a complete skull that is assembled with all internal parts including the DMX servo controller board. This assumes that you either already have a power supply, or would like to get one on your own. Our power supplies are available as an option for an additional fee. Power supplies must be 6VDC at the output and have a current rating of 4 amps or more. You may be able to get away with less amperage. It won't hurt to try if you already have a power supply you would like to use, as long as the voltage is 6VDC. Our power supplies have 8 amps at the output. We do this because it allows you to add one or more additional skulls and run them all from the same power supply. Once you buy one power supply, you won't need to buy another for every additional skull. We do not include the VSA software. It is what we use to program the skulls, but we do not make or sell the software. You purchase that directly from the vendor here: [VSA Software](#).

You will find that there are several different versions available. Most people will only need the most inexpensive one, the Hobbyist version which as of the printing of this document sells for \$79.95. Unless you plan on synchronizing video with your routine, you won't need either of the more advanced versions. Another item that you will need is a DMX Computer Interface. This takes the output from the VSA software and converts it to the DMX protocol. This item connects to your computer by USB and sends the DMX signal out to however many boards you may have. The company that makes it is called ENTTEC and the product is called the ENTTEC Open DMX USB Interface. Google it for the best price. This unit is fully supported by VSA. Other DMX interfaces MIGHT work, but if there are issues, you're on your own. There are many places that sell the ENTTEC Open DMX interface at an average price of around \$70.00. You will only need one of these no matter how many skulls or other DMX Lights or props you buy (Up to 512 DMX Channels). Additionally, you will need a DMX adaptor to convert the output of this unit from a 5-pin output to a 3-pin output. These adapters are also available from multiple sources on the web. I will list one here so you can see what I am referring to: [DMX Adapter](#). Finally, you will need DMX cables. You will need one long cable to run from your computer to wherever your skull is. We STRONGLY recommend buying real DMX cables which are labeled as such. Some people like to use Mic cables with the same XLR jacks, and that MIGHT work for you if you're not going very far with it and there is no interference where you happen to be, but if you want to be sure you don't get unexpected issues and problems running your routines, buy the slightly more expensive DMX cables. They are more heavily shielded and have a twisted pair of wires running the length keeping outside interference from ruining your show. Buy your cables from whatever source on the web you find or on eBay if you like, just be sure they are real DMX cables. Here is one source you might like for DMX cables: [DMX Cables](#) You can go hundreds of feet without signal loss with DMX unlike the serial interfaces you might be used to. Your skull will come with one DMX cable input. If you are running just one skull, all you need to do is to connect a DMX cable from your ENTTEC Open to your skull, and connect the power from the power supply to the skull and you're ready to play a routine. If you plan to get a second skull, or external DMX lighting, choose the optional 'DMX Output Cable for daisy-chaining 2<sup>nd</sup> skull'. With DMX, the signal goes in one skull, then out and into the next skull, and so forth. This is also the manner in which you connect lights for your show if you so desire. We do offer an optional 'External DMX Spotlight' for an additional \$35.00. This is the same color-changing spotlight you see in the demo video. It can dim up or down, change to any color, or change to a strobe light all from the VSA software. Finally, you will need a terminator if you are running more than one DMX device in your chain. Here is what I'm talking about: [DMX Terminator](#) The terminator gets connected to the last device in the chain. It doesn't matter what device that is. You will need to buy as many DMX cables as you need to connect all the devices you have together. There are also wireless DMX transmitters and receivers if you want to get fancy. Here is an example: [DMX Wireless](#). You will no doubt be able to find systems MUCH cheaper than these, and you're welcome to try them, but I've heard that many of those selling in the \$30 to \$50 range are very poor at filtering out interference which can wreak havoc in your show.

### **I'M STILL LOST! WHAT DO I DO?**

I have written several tutorials on VSA, DMX, and other related things. You can find them [HERE](#). If that doesn't help, you can reach me directly by email at [Bob@HalloweenSkulls.com](mailto:Bob@HalloweenSkulls.com) or by phone at 978-790-1367. I can talk you through whatever issues you are having.