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Step by Step Instructions to  
build a  
**4V Geodesic Sphere**  
Using Sonostar ***standard***  
***Geohubs***



1. Use the Sonostar **Standard sphere** calculator to determine the correct length of the different size struts. It automatically **deducts** 2.28" from **each** strut. That is the hub width itself, and it **will** make a difference. If you bought a **Full Sphere Kit**, then the struts are already cut to length and you can skip to step 5.
2. Cut all your struts before you begin. Hubs are designed for Schedule 40 PVC.
3. Use a PVC cutting tool to cut the pipe, or set up a cutoff saw.
4. Color code all your struts with a stripe of colored electrical tape about 6" from either end
5. Follow the color coded map on the other side of this document
6. Lay all your parts out beforehand and make a final count
7. If using glue, have enough primer and welding glue on hand to do the job
8. Even if you're not going to keep the nuts and bolts in the finished sphere, it really helps to hold the pieces in place when gluing.
9. Apply primer to all your struts prior to beginning, if you're using glue.
10. If your radius is more than 5', be sure to have a ladder on hand
11. **Start your sphere by building a 4V dome**, using 6-way connectors for the base. Your base ring will use all green-coded struts. After that, lay out one row in advance and have someone else double check the color coding using the map guide.
12. Push the struts all the way into the hubs. Use a hard rubber mallet to bump the struts to the inside limit of the hubs. Bolt or glue each strut as you go. If you're drilling the struts, drill from one side, then the other. **DON'T** try to drill all the way through or you might come out in the wrong place, and it will damage the hubs.
13. When the upper section is completed, suspend it in a way that you can connect the lower section.
14. Next, build the lower section of the dome starting with the bottom pentagon - just the opposite of how you did the other section. When you're done, position the lower section beneath the suspended upper section. Then connect the two hemispheres together to make your sphere.
15. Tell your friends what you're doing, and let them help – it's a lot more fun with more people helping. Ask someone to take pictures from beginning to end.





Frequency 4 Standard Sphere (4V)  
For Sonostar Geohubs and 1/2" PVC

