

## **Constructing the LAN Cable Assembly – R1 031215**

The Roboxsumo main harness is easily made by cutting up commercially manufactured LAN harnesses. However, you can make the LAN harness yourself and it's a good exercise for more advanced participants. These instructions cover just the assembly of the LAN cable portion. The provided diagram shows a completed harness with all the components.

Remember: When using this step by step guide, you do not have to stick to it verbatim. If you wish to change or modify something, please do. Please see Table 3 on the Roboxsumo Components List.

### **SAFETY**

**CAUTION:** Use caution when using hand tools.

The utility knife is very sharp. Use cut resistant gloves when possible to reduce the possibility of cuts or scrapes.

The soldering iron is very hot. Take care to rest the iron in a safe place between uses and work over a surface that will not be damaged by the heat.

The hot glue gun is hot. The glue takes a long time to cool and you may need to hold glued items in place for some time till the glue cools. Take care to avoid the glue till it has completely cooled.

### **TOOL LIST**

See Table 4 on Roboxsumo Components List for additional details.

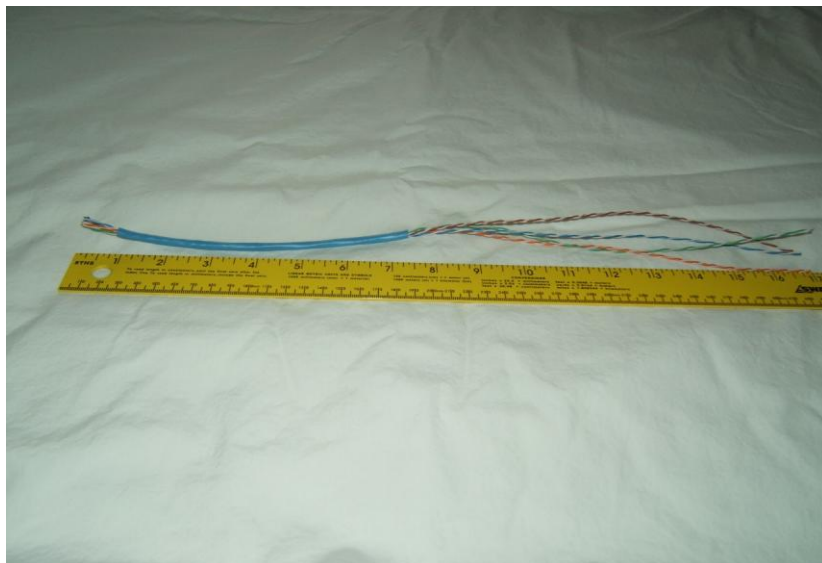
- Tape measure or ruler
- Sharpie marker
- Utility Knife
- Wire cutters
- Wire stripper suitable for 24 AWG wire
- RJ45 crimper

**NOTE:** It's a good idea to test the cable assembly after you build it and before you proceed with the other components. You can use a multimeter to confirm the correct wire assembly. If you are making a large number of assemblies, you can build and use the cable tester described in the Roboxsumo Cable Tester document.

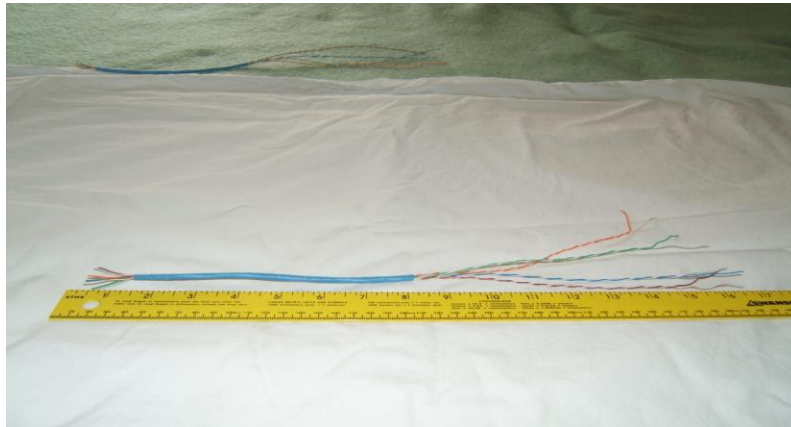
**Step One** – Use the wire cutters to cut a 17” length of LAN cable. If you use an existing piece of LAN cable then you can save a step by using the existing molded end.



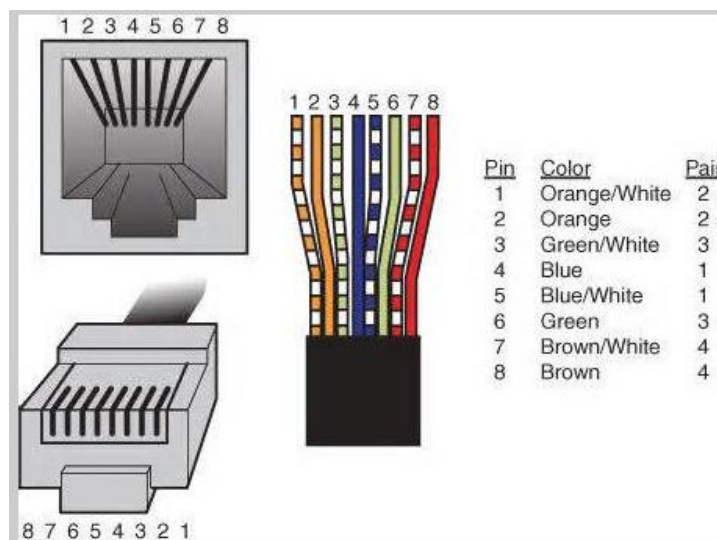
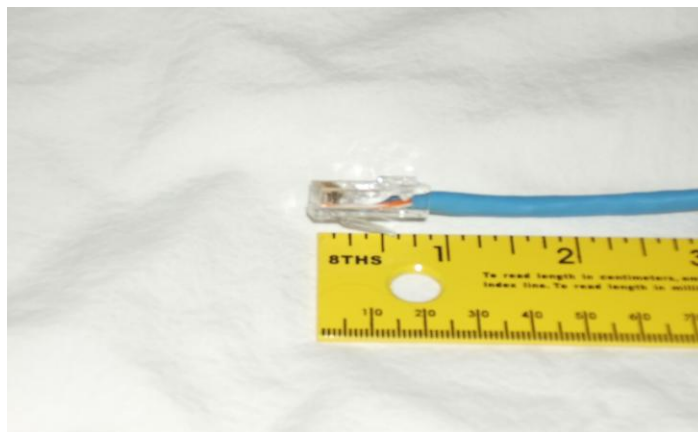
**Step Two** – Use the utility knife to remove approximately 1” of the outer insulation (blue in this case) from one end and 9 ½” from the other end. Leave a 7” strip of insulation on the cable.



**Step Three** – Splay both ends of the exposed cable to spread out the conductors.



**Step Four** – Install an RJ45 connector on the short end of the cord. Follow the instructions provided with your crimping tool. The cable is following the T568B convention and the colors are in the following order: Orange/white, orange, green/white, blue, blue/white, green brown/white, brown. See attached cable sketch.



# CABLE assembly details

