



JUMPER  
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# 1 Making Male-Male Jumpers

The jumpers that connect your x1000 pre-amp to a DVM or other device can be purchased pre-assembled from [www.Distinti.com](http://www.Distinti.com) or you can assemble them from parts obtainable from Radio-Shack as shown in this how-to-manual. By assembling them yourself, you can tailor the jumpers to your particular application (Some meters have pin connectors instead of banana type jacks). Check other sections for Oscilloscope and Audio connectors.

To make your own short jumpers, purchase the following items from your local electronics store such as Radio Shack.

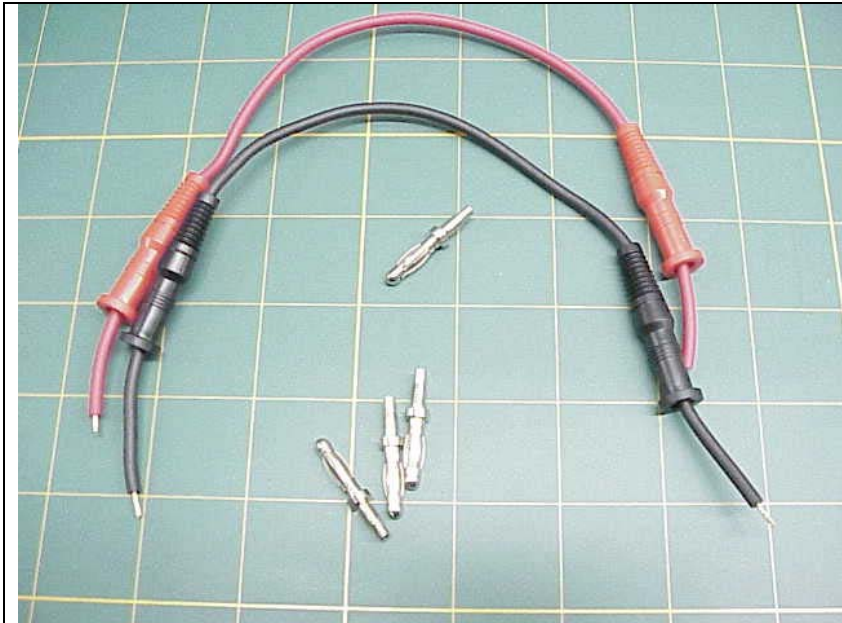
- 1) Test Probe Wire 278-563 (red) and 278-564 (black). You can save money by using the same color wire.
- 2) Banana Plugs (2 sets) 374-730

You will also need a soldering iron and a solder.

Note, If your meter uses pin connectors (instead of banana jacks) replace one set of banana jacks above with a set of pin connectors.



As shown in the following picture, separate the banana jack insulating/strain-relief covers from the metallic connectors then cut two lengths of wire to equal length as required by your application (the pair available at our website are 12 inches in length). Keep them as short as possible. Strip the ends of the wire to about 1/16 inch longer than the solder cup depth of the connectors (in this case about 3/16 of an inch). The slide the strain-reliefs onto the wires as shown in the next photo.



Note: You should make a third short length (6" of wire) jumper to serve as a shorting strap.

# JUMPER

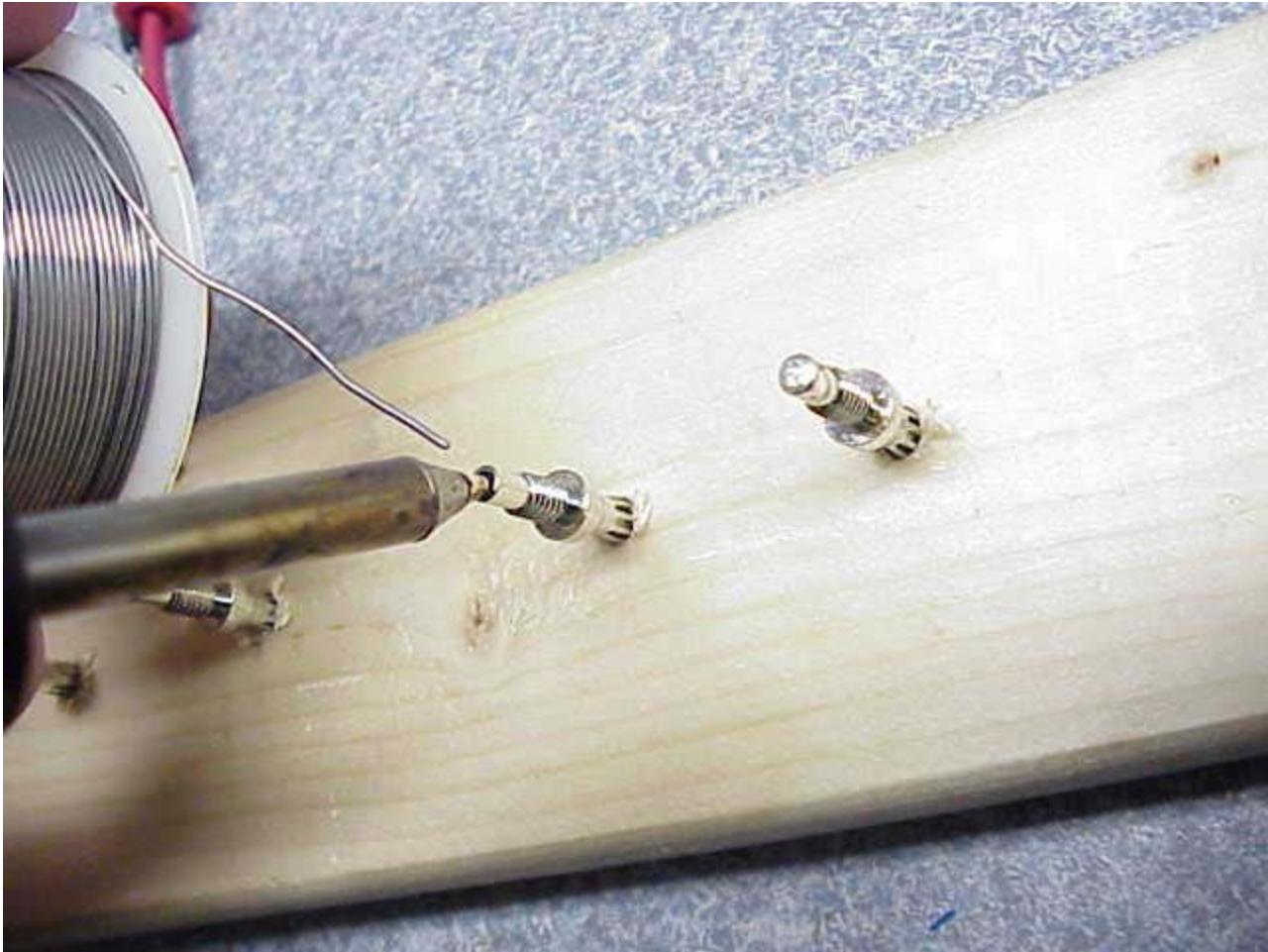
Next, apply solder to the ends of the wire, this is called tinning.



Using a board with 5/32 holes to hold the metallic ends, fill the solder cups with solder almost to the top. Do not allow the solder to run down the side (like the one shown at right), the solder on the outside may make it difficult to slide the connector covers over the metallic ends. It may take a while for the iron to heat the ends; be patient and don't worry about the burning wood smell.



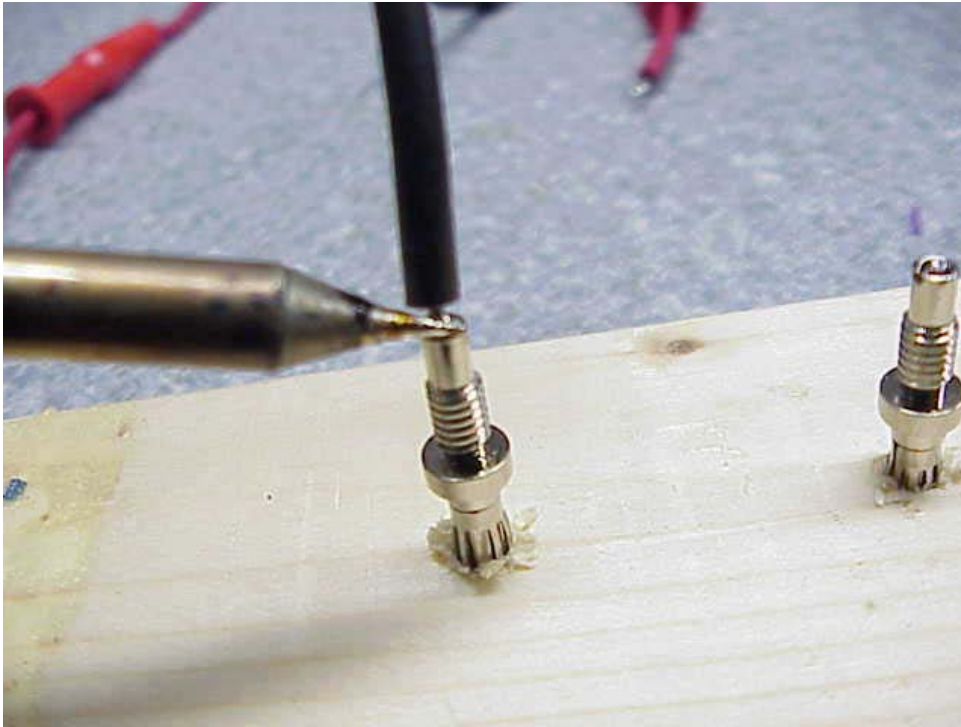
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Next, heat each metallic end until the solder inside the cup melts, then insert the tinned wire end into the cup until the insulation almost touches the outside of the cups. Let the solder cool before releasing your grip on the wire.



# Jumper Leads



Finally, allow the metal to cool, and then screw the protective covers down over the metallic ends. The final result should look like the above.