Ribbon Controller Project

Part 2

Now it is time to begin the final assembly of the ribbon controller elements. My dad did a great job routing the shallow grooves into the hardwood, but his work will not be seen anymore. The conductive webbing will now be permanently suspended in the center of the groove by the stretch velvet material, hovering over the copper tape. I have had experience-mostly bad and always stressful-gluing fabric to wood and other materials. It was time to face my old nemesis, contact cement.

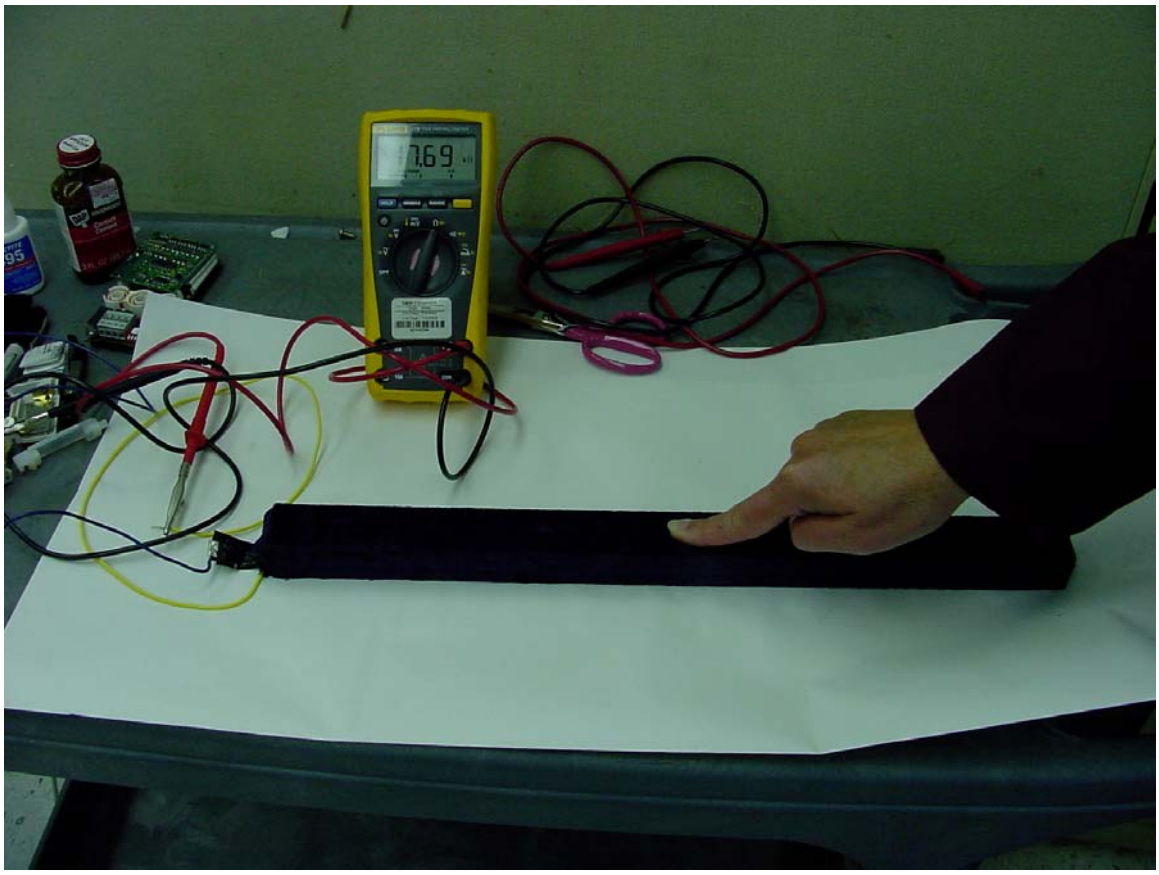
Honestly, the key to working with this mixture of materials and adhesive is to take your time and break the job down into small bits. I prepared only one pair of mating surfaces at a time. This takes a LOT longer, because you need to let the contact cement dry for about a half-hour before you can adhere the two surfaces together. To quote Mr. Paul Schreiber, "this is not a speed contest. It is an accuracy contest." For me, it is a not-getting-your-hair-or-cat-or-fingers-stuck-to-a-bunch-of-velvet-and-wood contest. So put the cat in the bedroom and tie your hair back! Let's begin the process:

1. After determining the amount of stretch to be applied to each side of the webbing-about an 1/8"-the area that was to be cemented to the wood was coated with the contact cement. I used masking tape to prevent any errant cement from landing on the webbing and to create a nice straight edge for the cement. This would make lining up the wood a cinch.

I must apologize for the reduction in photo quality here and in the next two photos. This was taken at home, probably around 10pm. I'm not always at my best after chasing around with my 3 ½-year-old grandson, but I wouldn't miss it for anything!

2. While waiting for the cement to set-up, I prepared the terminal ends with PVC tape to insulate them from each other. The corner edges of the copper tape were likewise covered. I felt that if there was going to be a problem area with the webbing contacting the copper tape, it would be here.

3. Now the surfaces are mated. I lined up the top-corner edge of the wood to the straight edge of the glue. When I was satisfied with the alignment (after what seemed like an hour!), I rolled the wood down onto the velvet and pressed the cemented surfaces together. As you can see in the photo, the next pair of surfaces to be mated were then prepared in the same fashion as the first and with equal care.



4. After allowing the cement to cure overnight, I did the final trimming and cementing. The velvet was cemented to the underside of the wood, leaving a ¼" wide gap for the screw holes that would be drilled later to mount the element. The narrow ends were tucked and folded and glued down with super glue. Don't use that hardware store junk! This was done with Locktite 495. I also like the Hot Stuff line of anerobic adhesives. Life is too short to watch your adhesives let go…

Finally, the test! Here the talented Chris Steiling (who also prepared this report as a PDF file-thank you VERY much Chris!) applies what now appears to be an excessive amount of pressure to the approximate mid-point of the ribbon. Note the meter reading. She didn't need to press that hard as the controller responds well to a very light touch. Success! Now to finish the 30" ribbon controller, the cool housing for the dual control system and the DC amplifiers. Well, after I put Malachi to bed and do the dishes…