Quick and Easy Control Panel

Background

I'm right in the middle of building the New SLF which I will eventually operate with Digital Command Control. I have already purchased the basic DCC components, but at the moment am more interested in laying track and building the scenery substructure than in buying and installing all of the needed bits and pieces to provide full DCC control of the layout. But I am wiring and testing the layout as I go, so I need a simple control panel that will allow me to run trains and check the gaps that are still a good idea with DCC.

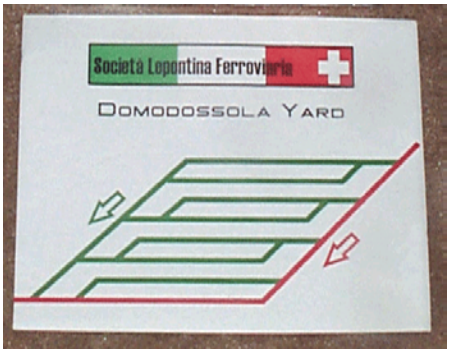
Materials and Tools

The basis for this control panel is a clear acrylic 'box' picture frame. This type of frame used to be more popular and could be found almost anywhere; after checking the major department stores, I finally found them in stock at Hobby Lobby. Box frames come in a variety of standard photo sizes including 4x6, 5x7, 8x10, and 8½x11; I chose the 8x10 at a cost of $3.74 plus tax.

Besides the frame, you'll need whatever switches you are going to use and a track diagram.

The tool list is fairly short and consists of a fine-tip permanent marker, a hobby knife, suitably-sized wood-boring spade bits, and a wrench or pliers.

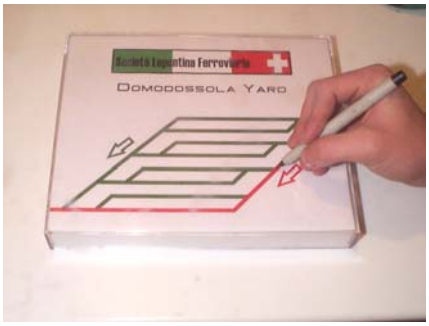
Track Diagram

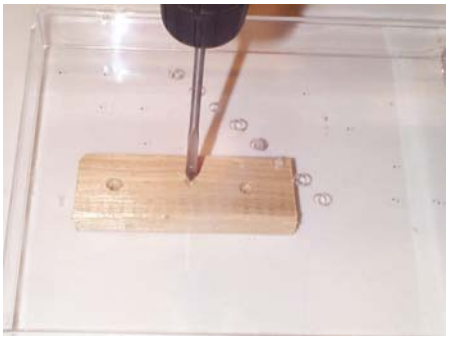


The next step is to draw some sort of track diagram to mount in the frame. I did mine on the computer using a basic drawing program and printed it on a color inkjet printer. You could also do it freehand using any combination of colored markers, colored tape, and dry transfer lettering. When laying out your artwork, consider where you will need to drill holes to mount toggle switches and other controls; be sure to leave enough back side room between the components and at the edges!

Construction

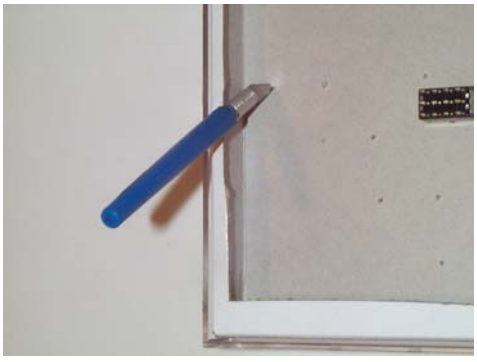
With the track diagram complete, assemble the picture frame with the diagram sandwiched between the frame and the cardboard backing. Determine where toggle and pushbutton switches should go and mark the spot with a permanent felt-tip marker on the face of the frame. Turn the frame over and cut out the back of the cardboard box about ½ inch from the edge (leaving this lip helps maintain the structural integrity of the cardboard). Remove the cardboard backing and the diagram and set them aside.





A regular twist drill does not work well in plastic, particularly when used with a hand held power drill; it makes a ragged hole and there's a high likelihood that the plastic will splinter and crack. Instead, drill the switch mounting holes with a wood-boring spade bit in a variable-speed drill. Each of my miniature toggle switches required a ¼ inch hole; use appropriately-sized bits for your components. Set the frame face-down on a piece of scrap wood and carefully drill through the plastic at each mark you made in the previous step. Use very light pressure and allow the spade bit to do the work. If partially melted plastic builds up on the bit, scrape it off before continuing.

Use a hobby knife to de-bur and true up the holes. Reassemble the control panel making sure that the diagram is properly oriented. Working from the front side and supporting the cardboard from the back with a block of wood, center punch the cardboard at each hole. Turn the assembly over and carefully open each hole from the back with a sharp hobby knife. Cut outwards from the center punch and around the circumference of the hole using the plastic as an invisible guide. To keep everything aligned, open two holes on opposite edges of



the control panel and temporarily install switches in them. You can then cut the remaining holes without things shifting.

Finishing

Disassemble the control panel one last time and give the plastic a thorough cleaning inside and out. Reassemble the panel and install the switches, tightening them carefully so as to not damage the plastic. Proceed with wiring the switches into the layout. I'm bundling the wires from my "free standing" panel into an umbilical cable. The thickness of the frame will allow the panel to lay flat on a table top and keep the back side of the switches from coming in contact with anything that could cause a short. For a permanent installation, you could mount the panel on or behind a fascia plate or in a purposely-constructed control panel fixture.