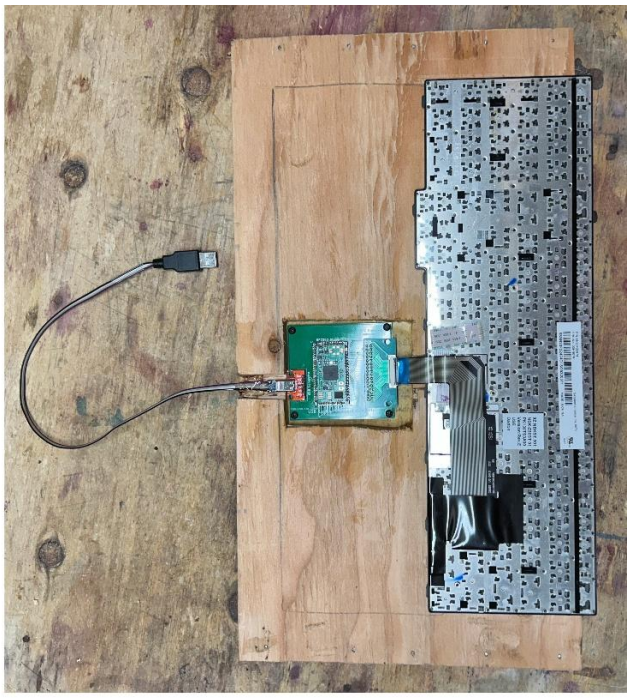
Laptop Keyboard Bridge

My Lenovo E550 laptop is a decade old and won't run Windows 11 so I bought a Lenovo IdeaPad 5 laptop from Costco, on-line. I didn't get a chance to type on it first which was a big mistake. The IdeaPad keyboard is scrunched down so the keys are unusable for touch typing. I can only type using the two-finger "hunt and peck" method. To make matters worse, the up and down arrow keys are half size. All of this forced me to come up with a way to use my trusty E550 keyboard. I don't need the trackpoint or touchpad to work, just the keyboard. The electronics to make the E550 keyboard work over USB was accomplished with a Solder Party 2350 Stamp XL running KMK as documented here. The next step was to come up with a way to package the E550 keyboard so it sits on top of the IdeaPad keyboard. This picture shows the finished laptop keyboard bridge.

The top board for the bridge is 3/16" 3 ply finish grade plywood. This board was sanded and may be stained and/or varnished in the future. I placed the keyboard on it and traced the outline, then cut it out with a jig saw. The board underneath is ½" 4 ply standard plywood. The keyboard sits on this board and could be screwed down with the threaded fasteners on the back of the keyboard. I chose to just make the keyboard opening in the top board a tight fit so it can't move. The 2350 Stamp XL controller board sits in the cut out. The bottom board is glued to the middle board and provides a way to screw down the controller board. The controller board cutout could have been made with a router, eliminating the need for the bottom board. The FPC

cable and USB cable each need chiseled openings cut in the wood. These pictures show the 3 plywood boards and the cable connections.



The side boards are glued to the plywood and are cut from ¾” solid pine. They provide just enough clearance so the bridge doesn’t touch the laptop underneath. The controller boards’ USB cable is plugged into the laptops connector which is accessed through a cutout on the right side. The left side has a larger cutout for the other USB laptop connectors. Screws hold the top plywood piece in place. The bridge was sliding around on my desk so I cut rubber shelving material and glued it to the bottom of the side boards.