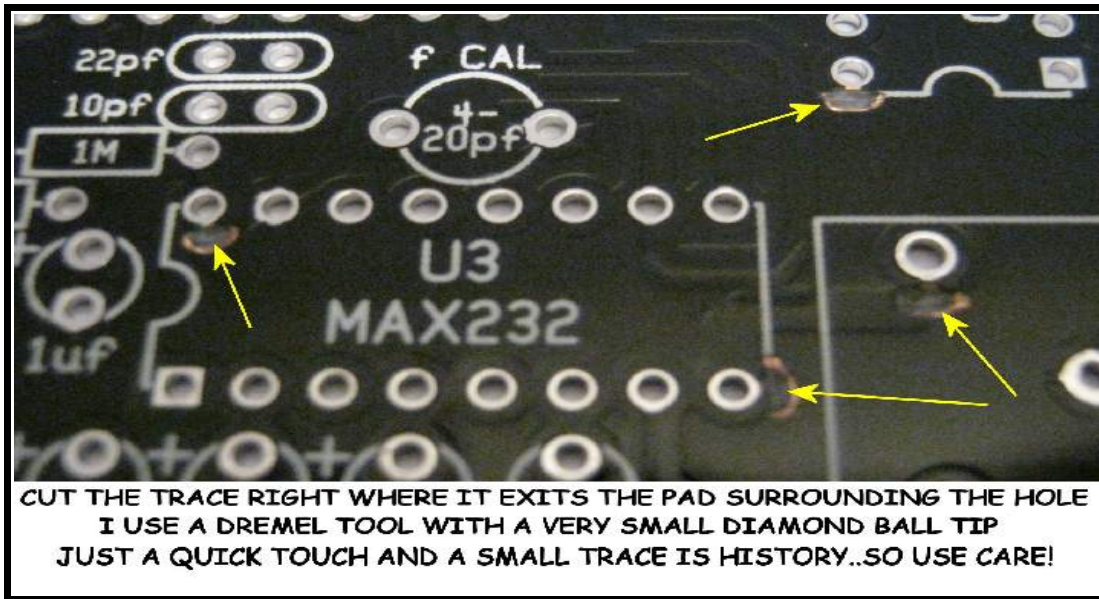


FDIM 2015 Buildathon Kit - Frequency Counter Module

For those of you who got their boards in Dayton at the Buildathon, you will need to make some pcb trace cuts to make the frequency counter module work. For those who received their kits in the mail, I have already made the pcb cuts, but you will still have to add the mods on the back side of the board to make it work properly.

I use a Dremel with a wand attachment and a very small diamond ball cutting bit. This is what the PROs use to make pcb mods. They might use a smaller more specialized bit, but I have found this readily available bit to work just fine. On the frequency counter pcb, you need to cut traces as they pass through the unflowed area around the pads, just before they enter the copper flow area which happens to be the ground plane which will short the 3 signal lines to ground. That is a bad thing....



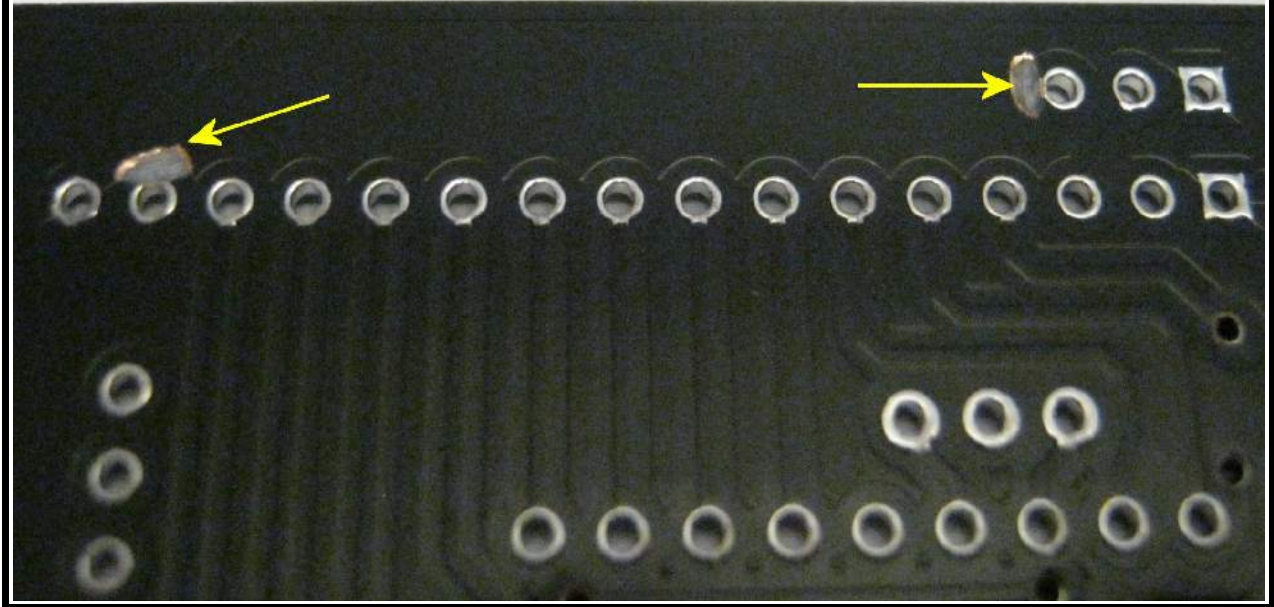


The first pair of trace cuts is where the +5 volt power trace leaves the MAX232 chip, on Pin 16 and enters the OSC CAN socket on Pin 14. From the picture above, you can see the grind marks where I ground off the small trace just as it exits the actual solder pad.

You will have to make a replacement trace on the back side of the circuit board using hookup wire.....BUT.... only if you intend to replace the 4 Mhz crystal with a more accurate oscillator can in the socket. I haven't found the need so I haven't added the replacement wire on my board. As my young daughter used to say: "But maybe...!" In the future, you might want to use the oscillator can.

The second pair of trace cuts is where an RS232 signal trace leaves the MAX232 chip, on Pin 8 and enters the upper pin on the stereo jack pad. If you ever want to use the module in the RS32 mode, you do have to add a replacement trace on the pcb for the module to work in the RS232 mode.

CUT THE POWER TRACE WHERE IT EXITS THE PADS ON THE LCD CONNECTOR
ON THE BACK SIDE OF THE BOARD



Likewise, the +5 volt power trace from the contrast pot to the LCD backlight pad is shorted to the ground plane on the bottom side of the circuit board. Cut the 2 traces just before they enter the ground plane and solder in a short piece of hookup wire to connect the two pads together.

The pcb mods should be made before anything is soldered onto the board! Once parts are installed, TOP side pcb mods are either problematic or impossible to make. BOTTOM side mods are usually much easier to make so no big deal with those....

If you don't have access to a Dremel, then this would be a *GOOD EXCUSE* to buy one and pin the blame on QRPme and this kit that you already bought! But there is a second method of making mods on circuit boards that you can use...

Another way of making circuit board trace mods is to use a VERY sharp Xacto blade, as in a NEW blade. To make a pair of cuts across the trace at either end of the area that you want to remove.

PROBLEMS:

Don't cut into the GOOD areas of the board.

Don't stab yourself or cut you finger off.

When making tiny cuts in delicate areas, don't try to cut thru the entire trace with one cut. Make MANY small light cuts tha eventually make it all the way through the trace. Once both ends of the problem trace have bee cut through, you can place the hot tip of your soldering iron on the trace and in a second or two, it will lift right off the board.

BE EXTRA CAREFULL, as flesh cuts way better than copper!

Wear whatever protective wear you have that you think might prevent an accidental slip of the blade from becoming a accidental slice of skin.....

Rex W1REX