

Warning: Do not perform the installation with the counter plugged in into the mains outlet.

Opening the counter

Note: For possibly better instructions on how to do this, please consult the service manual of your frequency counter.

Step 1: To open the counter, you have to first remove the back panel frame. It comes off after you unscrew the two captive screws on the sides.



fig. 1

Step 2: Once that is done, with the counter bottom-side up, unscrew the screw that holds the case connected to the chassis.

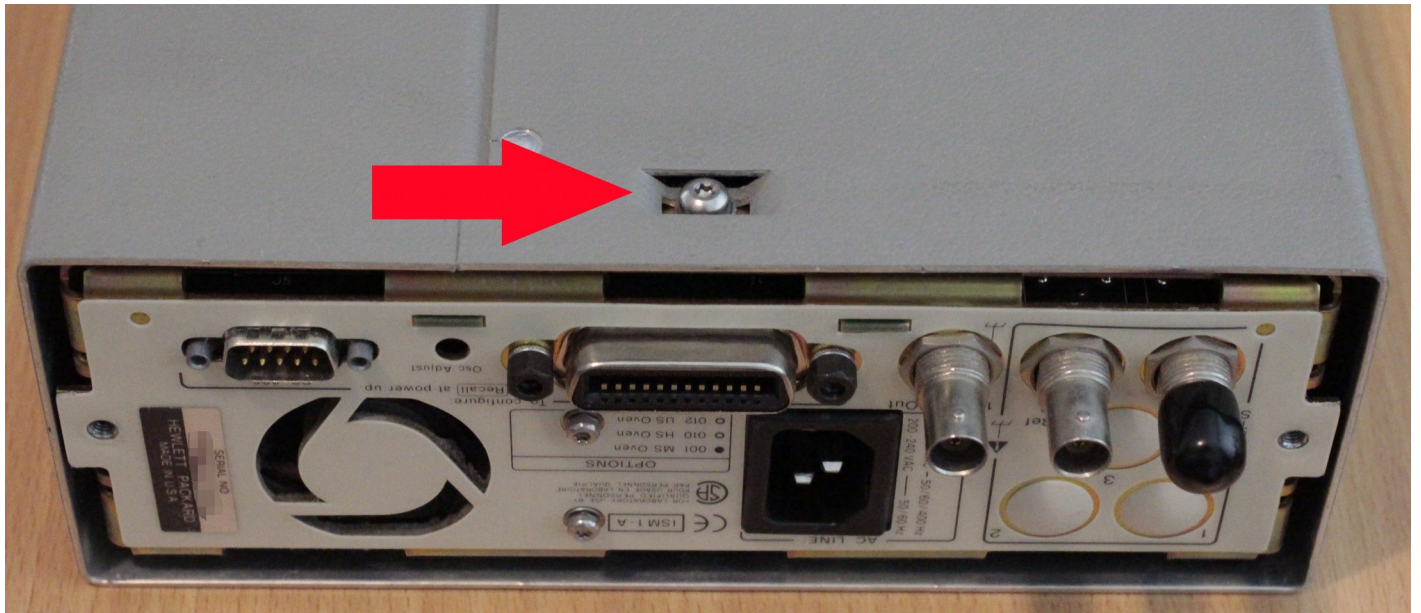


fig. 2

Step 3: While holding the front bezel with one hand, pull the cover off with the other hand, by sliding it backwards.



fig. 3

Installing the board

Step 4: As you can see from the photos, the plastic plug that covers the spare channel 3 (channel 2 for HP 53181A) has 2 clips on the sides which have to be pushed in, while the cap plug itself has to be pushed out (towards the front of the instrument). Sometimes it's possible to just push them out, without having to worry about the clips.



a



b



c

fig. 4

Step 5: Loosely mount two of the six included spacers on the prescaler board. It should come with 3 pairs of 10mm, 11mm and 12mm spacers, in order to accommodate variations in the instrument chassis and board curvature. You should select the two that fit the best, in such a way that strain on the board is minimized.

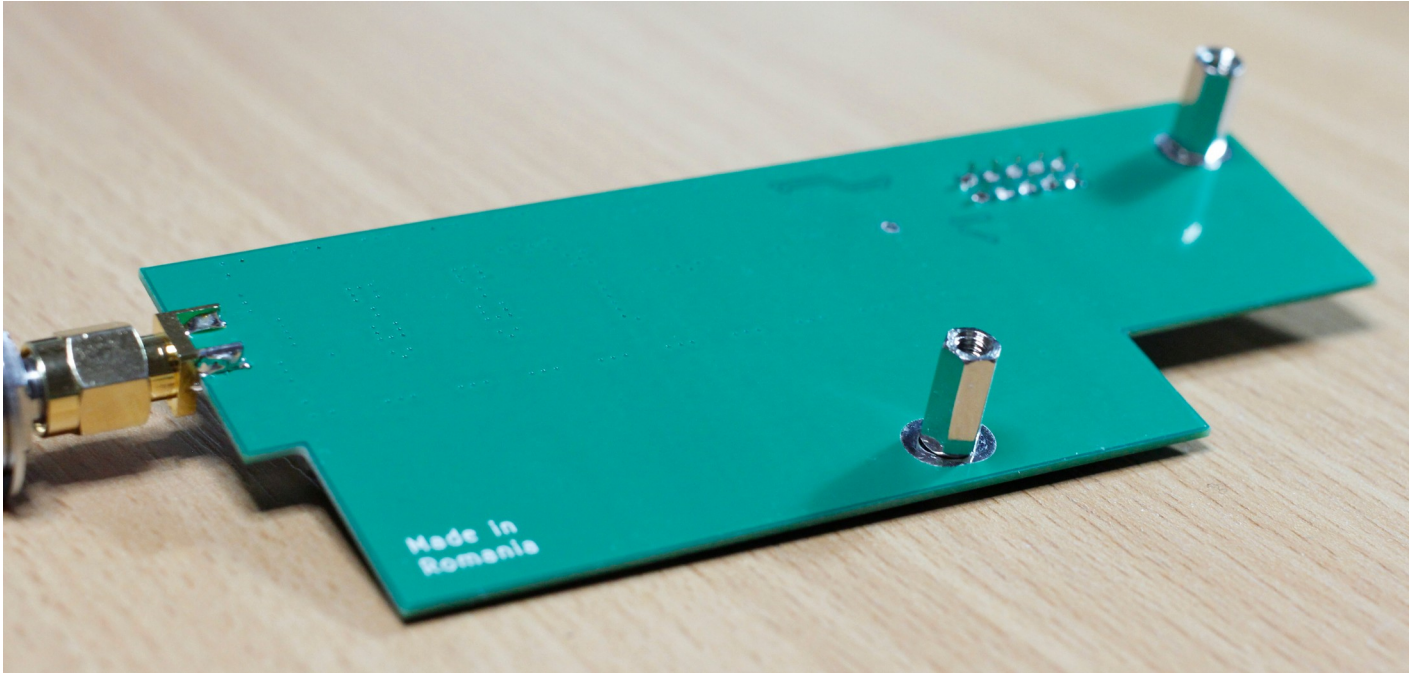
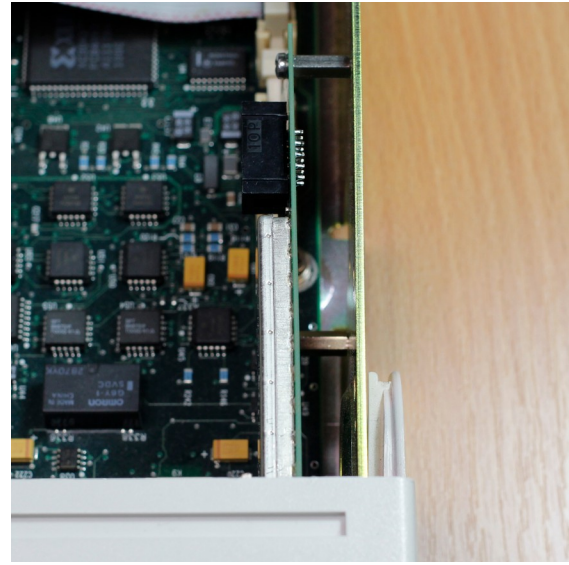


fig.5

Step 6: Place the board in its final position and only secure it in place by tightening the SMA nut with your hand. This is done so you can decide if the spacer length you selected is the best fit. Ideally, the spacers should lie flat on the metal chassis of the counter, without pushing on the prescaler board. At this point, the board should be firmly in place (held by the SMA connector), while the spacers should move freely, without any resistance.



a). spacers are too short.



b). good spacer length.

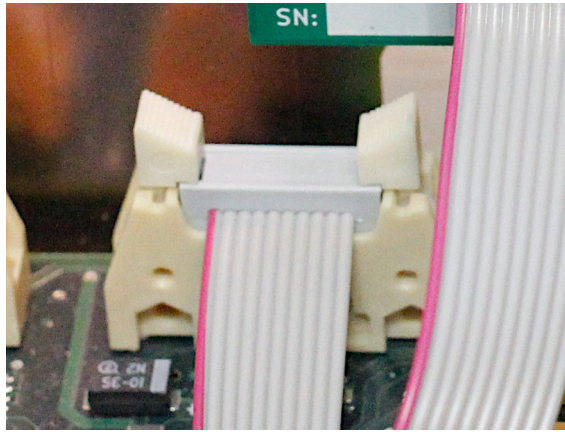
fig. 6

Step 7: Once you are happy with the spacer length, use the other two screws to secure the board in place, from the outside of the chassis, but don't tighten it all the way, so no additional tension is created in the next step.

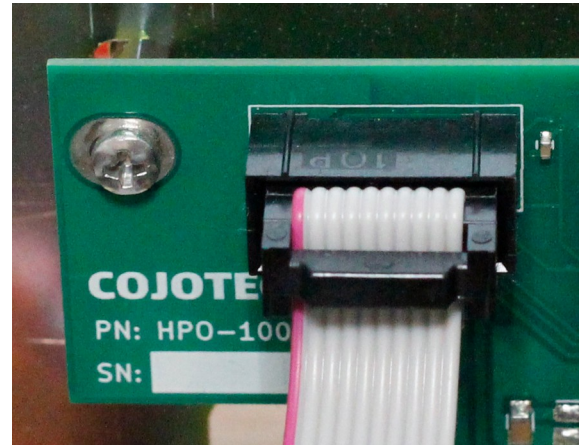
Step 8: Using a 9/16 key (tubular keys work great), tighten the SMA nut. This is the final tightening done on this nut, so it should be tightened enough such that strain on the connector, during normal usage, wouldn't transfer to the prescaler board. When tightening it, keep an eye on the prescaler board, making sure that it doesn't warp.

Step 9: Finally tighten the screws from step 7 – again, make sure the board doesn't warp.

Step 10: Once that is done, the IDC cable should be connected like in fig. 7, with the side that doesn't have a top cover (fig. 7a), inserted in the connector on the mother board, allowing the clips to grip it when you push it in, and the side that has a top cover (fig. 7b), inserted into the connector on the HPO-100.



a



b

fig. 7

At this point the installation is done. When closing the counter, make sure that you don't clip the prescaler board with the cover of your counter.

You can now enjoy your new 3rd channel.

Testing

To test operation, simply turn the counter on and hit the Frequency & Ratio button until the new channel is selected.

In order to test correct operation, you have to feed a known signal.

Troubleshooting

Channel not being detected

If the new channel is not detected (does not show up when you try to select it), check that the provided IDC cable is correctly connected. If it is, try with a different IDC-10 cable.

Wrong reading or no reading at all

Contact us for support.