Si5351 output buffer.

I built this buffer to test out using a TCXO on the MAIN board instead of just a crystal. (Y1) The use of just a crystal on it’s own means the builder has to calibrate the rig. I have seen posts where the Cal was done and the next day, the frequency was way off again. Using a 0.5ppm TCXO should mean much tighter control or accuracy of the reference frequency in this project.

This was addressed by Hans of QRP-Labs.com Refer to <http://qrp-labs.com/images/qdx/manual_1_12.pdf> and specifically, page 40 for the Schematic.

I built this section up and unsurprising, Hans solution works very well. This modification should be fairly easy to implement on the T41-EP MAIN board. To keep all parts on the top of the board for commercial parts assembly, then the board would need to be re-worked more heavily to fit the TCXO and parts, on the top.

Also:-

As is well known, the Si5351 device suffers from lack of ‘drive’ in some applications.

While building the T41-EP I found I couldn’t get sufficient drive on bands above about 20M to the 74AC74 divider chip. U5 on the Receiver and U? on the exciter boards.

Some kind of buffer would be nice to implement in the T41 project. Just what buffer and location is subject to current discussion in the Group. Possibly also changes to the type of 74AC74 divider might also assist. One suggestion is to use a Schmitt trigger device. egSN74lvc1G14DCKR (Farnell 311620 , no stock though)

An idea for implementation might be to design a long narrow board that contains all the circuitry and fits on or over the edge of the MAIN board and picks up the connections required. The SMA connectors would be removed from the MAIN board and then be fitted to the new “buffer” board.

Vk3pe

Glenn