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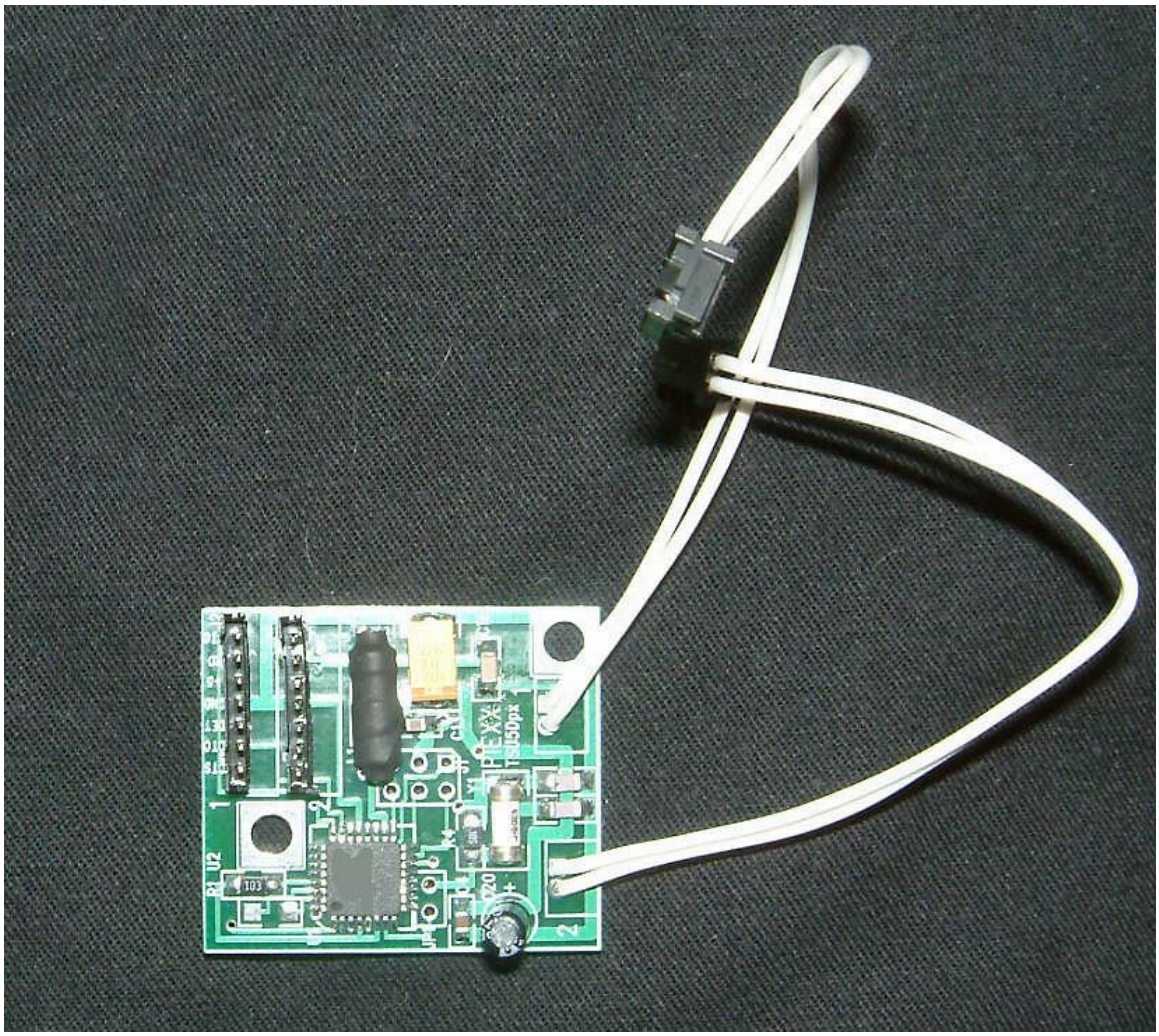
PIEXX TSU-5 px
Installation Instructions



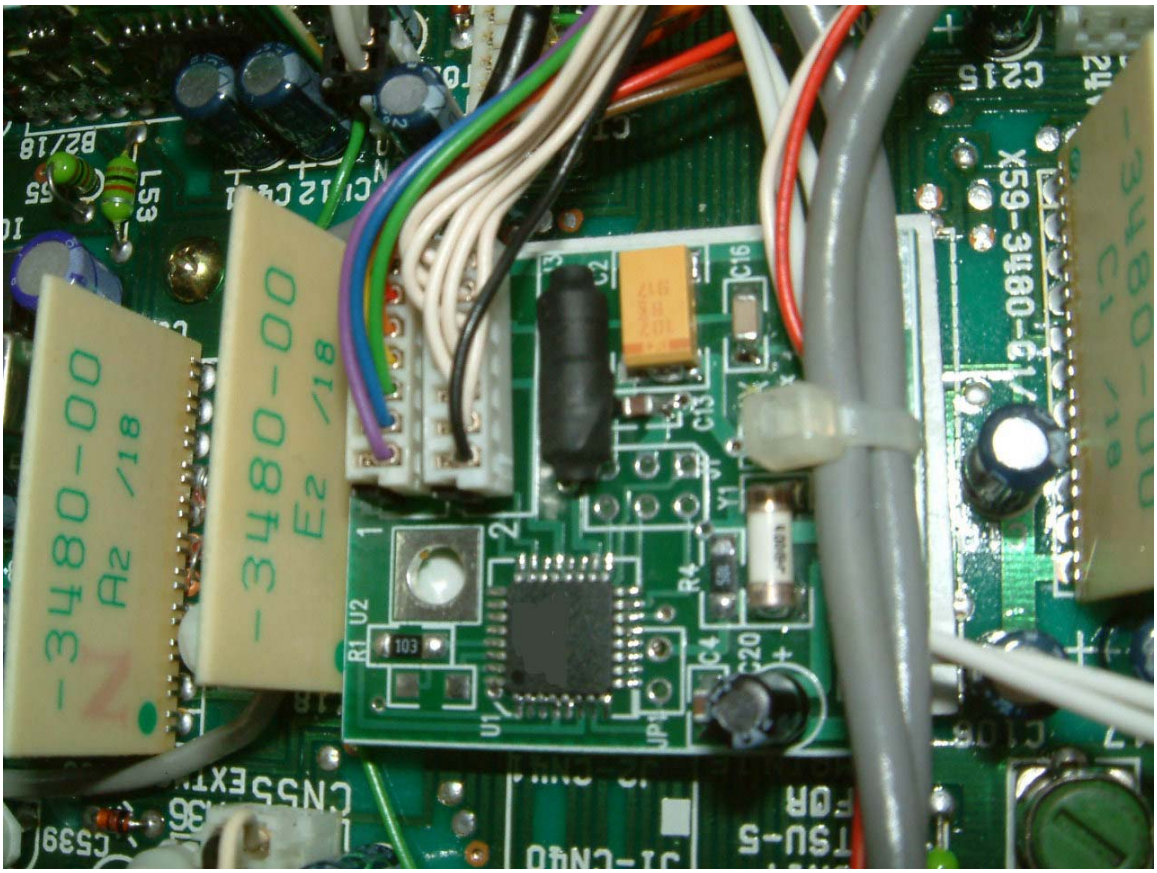
The PIEXX TSU-5px is a physical and electrical replacement tone decoder for the original Kenwood TSU-5 tone decoder. In addition to the single channel TSU-5px tone encoder, we also manufacture a dual version of the board that can be used in the TS-790A to replace tone decoders in both the main and sub channels.

TS-790A Installation

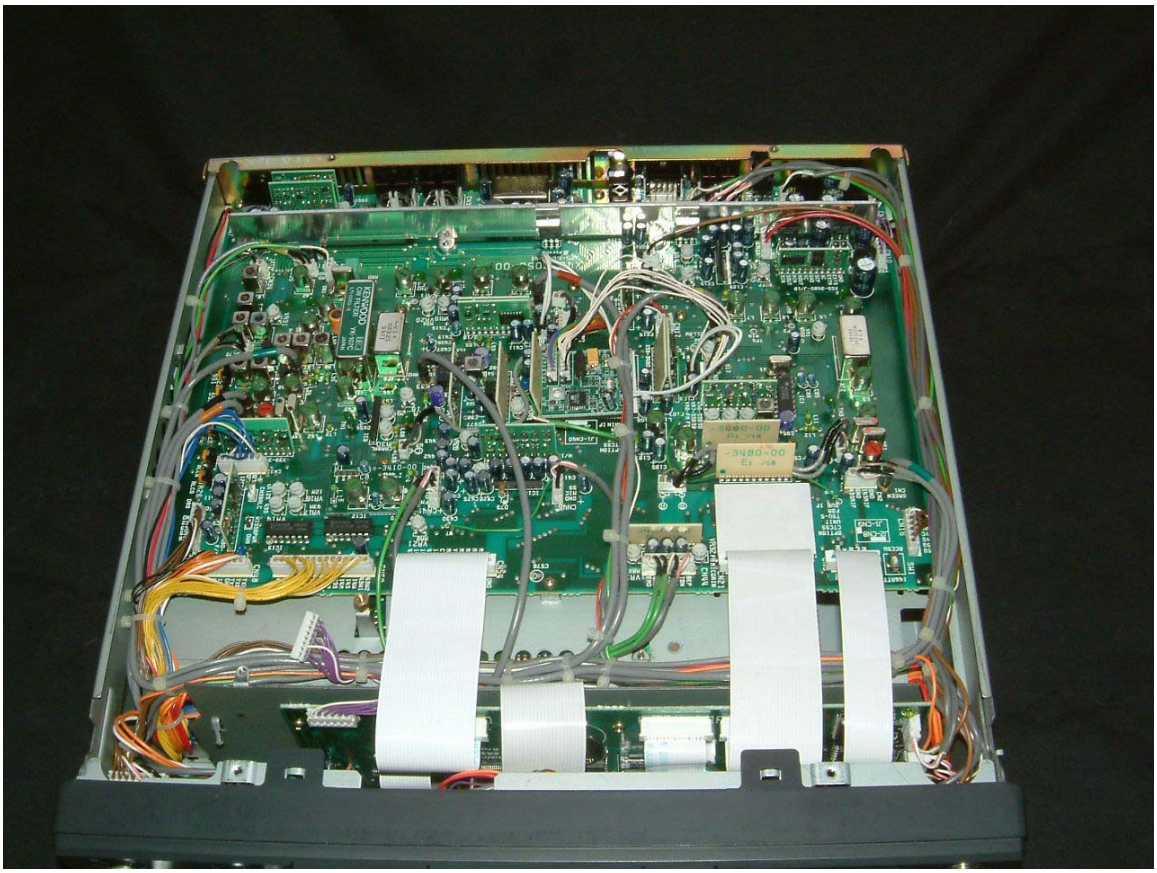
1. Remove the bottom cover of the TS-790A transceiver.

2. Locate the multi-colored interface cable coming from connector location CN41 on your transceiver.

3. Mate this connector up with the 7pin-mating receptacle on the TSU-5px board as shown in the following picture. This is the main channel tone board connector.
4. If you wish, you can remove the 2 pin jumper plug from your radios CN40 connector and replace it with the TSU-5px 2 pin cable / connector marked in position 1 on the TSU-5px board. This cable inserts a 300 Hz low pass filter in the audio path, if employed. This 300 Hz filter will remove any remnants of the CTCSS sub-audible tone from the audio path, but it will, obviously, restrict the low frequency response of your radio slightly. Try it both ways and decide which you like better.
5. Remove the protective cover from the adhesive backed double stick tape already located in your transceiver. This is the approx. 1 inch white square located near CN41. Press the TSU-5px onto the exposed adhesive.
6. If you are installing a TSU-5Dpx, dual tone decoder board, in you radio you will need to route the free end of the cable affixed to radio connector location CN8 to the 2nd 7-pin connector on the TSU-5Dpx. This cable has all white wires except pin 7, which is black. The audio cable coming from the TSU-5px can be installed in CN9, in place of the jumper, if you wish to have the 300 Hz low pass filter inserted in the Sub audio path.
7. Reinstall the bottom cover.



TSU5Dpx installed in TS-790A Transceiver (close up)

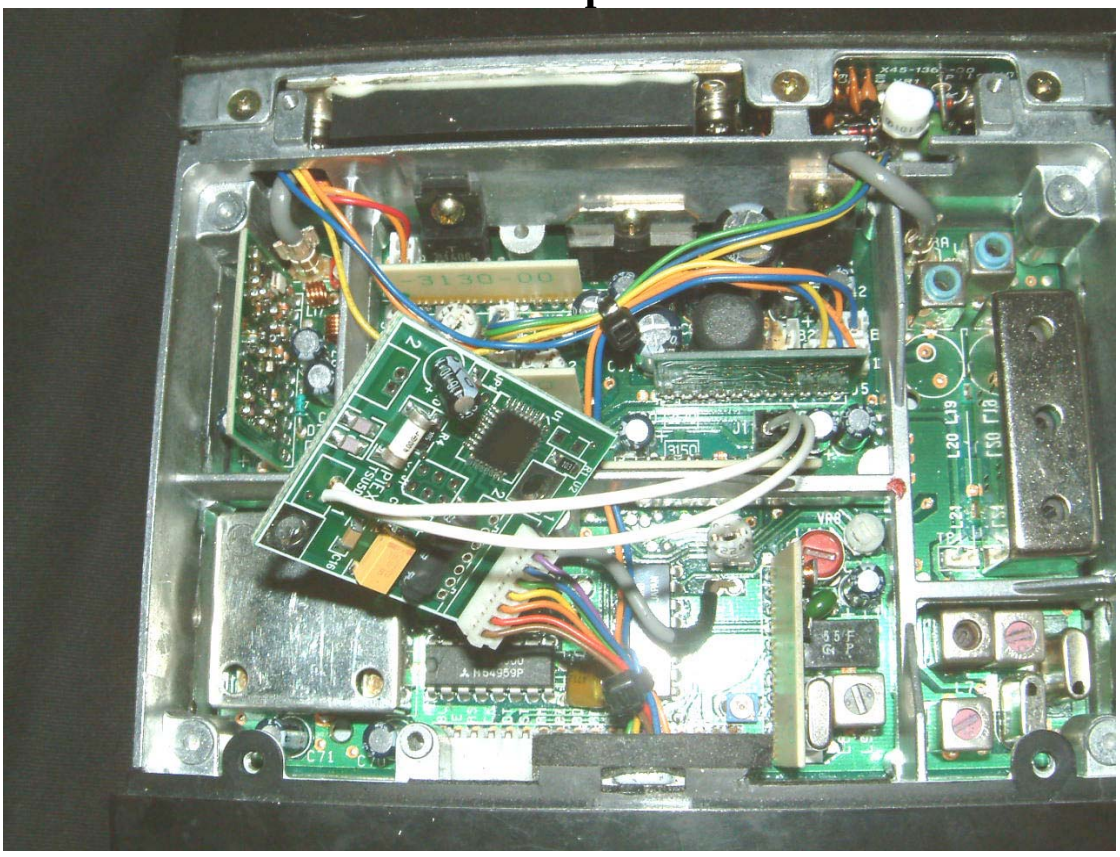


TSU5Dpx installed in TS-790A Transceiver

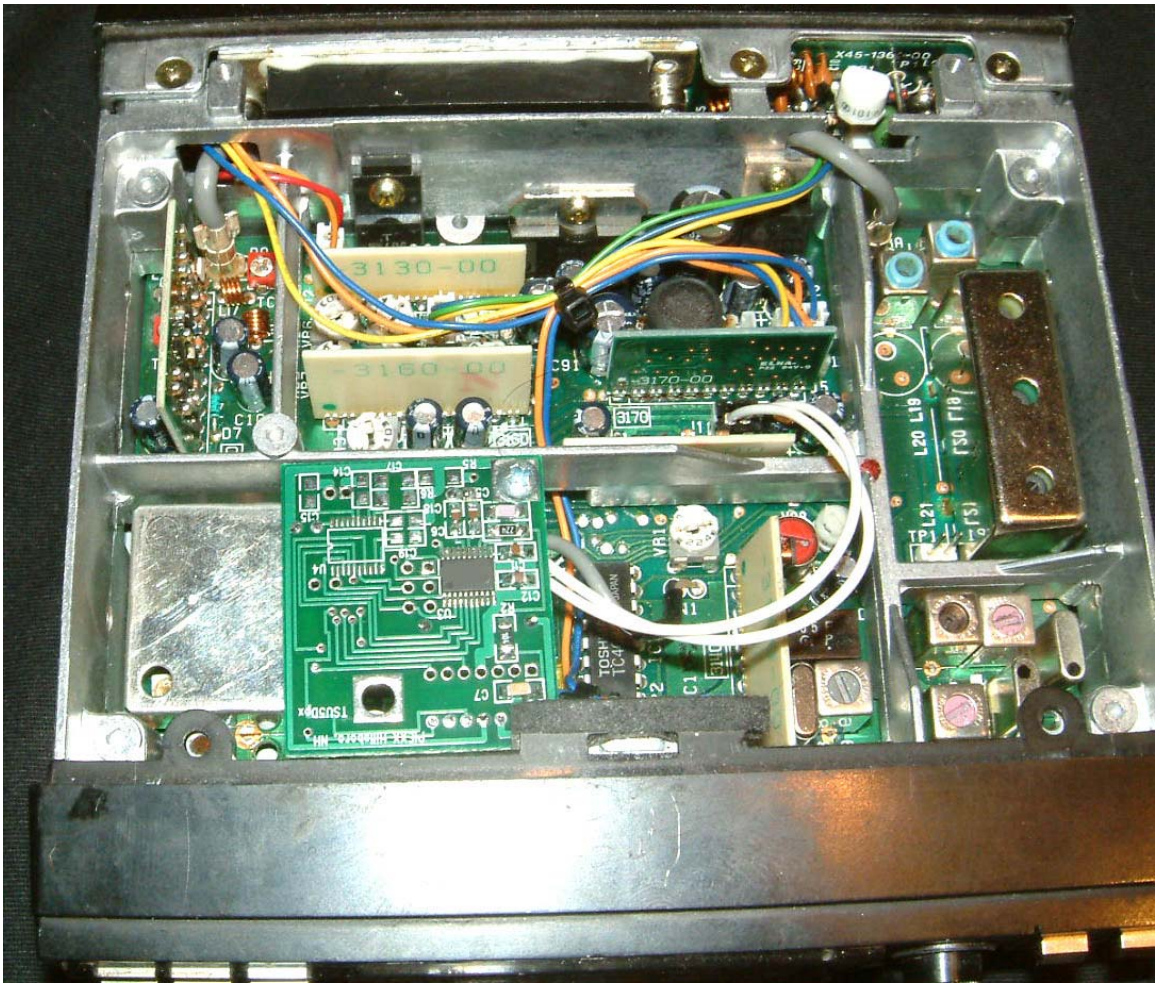
TM-221A Installation

1. Remove the TM-221A's top cover.
2. Locate the free end of the 7 pin multi-colored cable coming from the radios front panel.
3. Mate this connector up with the 7 pin receptacle on the TSU-5px as shown in the following pictures.
4. If you wish, you can remove the 2 pin jumper plug from your radios J1 connector and replace it with the TSU-5px 2 pin cable / connector marked in position 1 on the TSU-5px board. This cable inserts a 300 Hz low pass filter in the audio path, if employed. This 300 Hz filter will remove any remnants of the CTCSS sub-audible tone from the audio path, but it will, obviously, restrict the low frequency response of your radio slightly. Try it both ways and decide which you like better.
5. Flip the TSU-5px over and screw the board down with the 4-40 sheet metal screw supplied with the TSU-5px. Tighten this screw sufficiently to keep the board from moving.
6. Replace the top cover of the radio.
7. To set the tone frequency, for both encode and decode functions, press the M.In button on the radio followed by the TONE button. Rotate the main tuning dial to the appropriate CTCSS tone. Press any key to return to normal operation.

TM-221A with the Top Cover Removed.



TSU-5px Installed in the TM-221A. Note 7 pin Connector Orientation.



TSU-5px Screwed down in the TM-221A