



TS-2000 RF bandpass filters Modification

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This is a mod to replace the hf RF bandpass filters diodes with low noise schottsky units. I used BAR43 diodes. Mouser's part number is 511-BAR43FILM and they are thirty two cents each.

This is a three leg device and only two leads conduct. The single leg is the cathode and if one looks at the diode right side up with the dual leads facing up the right one is the anode. Began by removing diodes D8, D12, D14, D16, D18, D20, D22, D24, D27, D29, D31 and D33. D20 has another diode D11, close by. **DO NOT remove D11**. These are all on the component side of board.

Replace with the BAR43 diodes observing polarity and correct lead hook-up. I check my connections with an ohmmeter set to the diode position before and after changing individual diodes..

After finishing the top side of board remove the seventeen screws which hold down board, the one rf cable near back and IC9 clip. Flip board over and replace diodes D10, D13, D15, D17, D19, D21, D23, D25, D28, D30, D32 and D34.

These are all in line with each other and are rounded. Observing polarity and correct lead orientation replace with the BAR43 diodes.

After replacing diodes on bottom side of board it can be fastened back in place with the seventeen screws. The heat sink clip and the rf cable are put back in place.

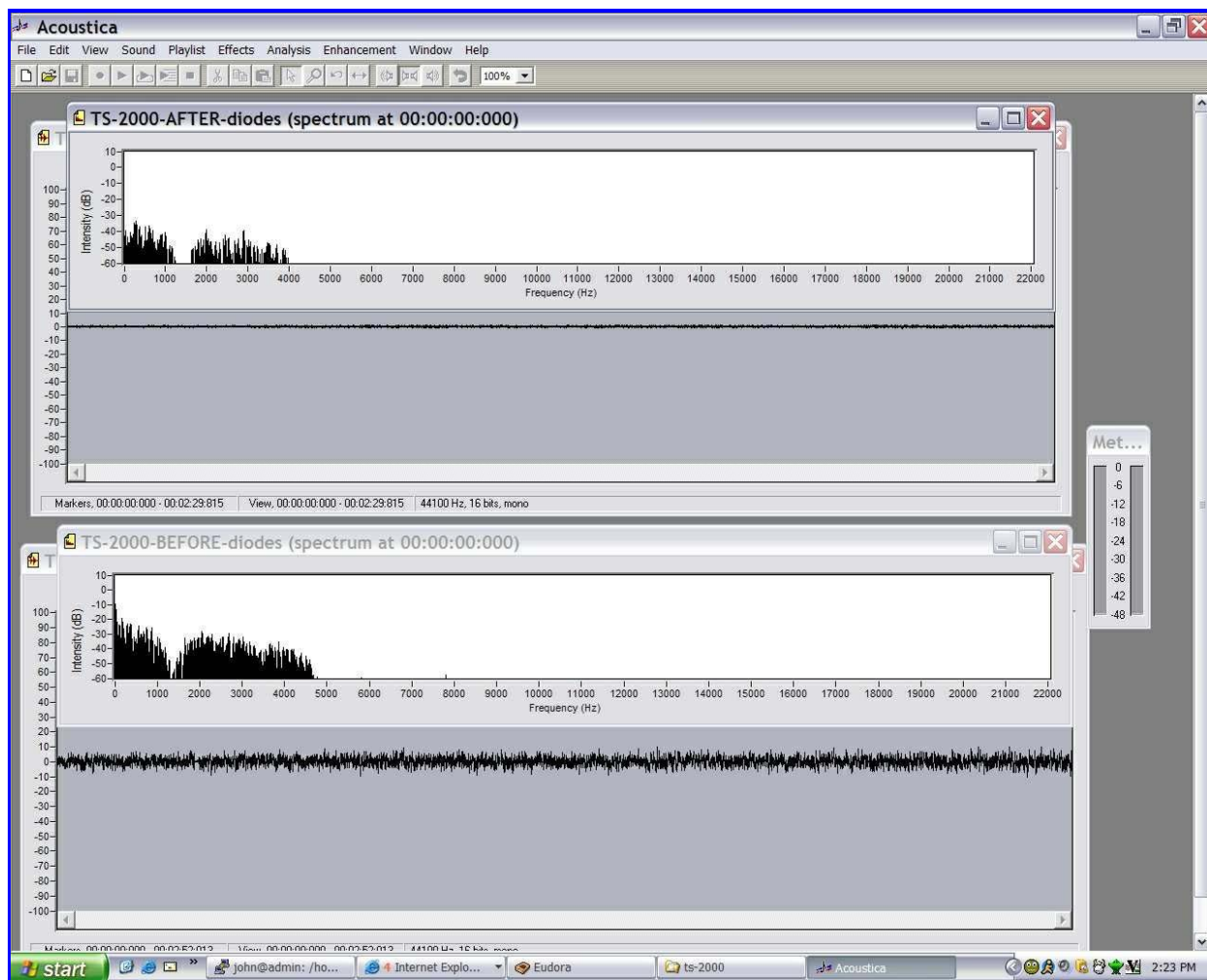
This modification does wonders for the internally generated noise the TS-2000 has. One can leave the antenna lead off on hf or 50 Mhz and even with the volume wide open in hf SSB this receiver is quiet. Checking this before and after mod does wonders as the TS-2000 is a noisy receiver. The modification also helps receive sensitivity.

SMT components are tiny so exercising care, an isolated tip soldering iron and using the right tools is a must. I accept no responsibility for someone performing this mod with disastrous results. Downloading the service manual on CD and checking parts location is very important.

Charlie W5VIN

Thanks to John VE3NFK for the audio analyse before and after modification.

I took 15 sec recordings of all the major bands in USB, full bandwidth, and neutral controls with all antennas disconnected - through a sound card using 'audio out' from the TS-2000 to avoid volume control problems. The results are amazing - before, the noise level was -24 db and after -36 db....



The results from an audio analysis program showing the before /after.

John VE3NFK

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