

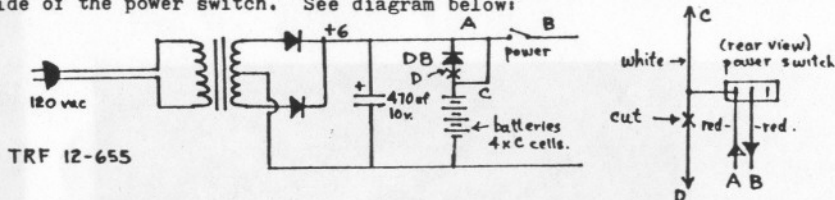
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Using Ni-Cad batteries with the TRF
by Don Moman

m2x

The Radio Shack TRF is a very popular receiver among MW listeners. It can be made even better (and cheaper to use) by installing Nickel Cadmium batteries. If you are a heavy user of batteries, then pay attention!

I purchased four "C" size Ni-Cads and after charging and installing them I noticed the sound was somewhat distorted. This was predictable since each NiCad is rated at 1.25 volts (compared to a "normal" battery which is rated at 1.5 volts) and the four together would only give 5 volts. A quick check of the schematic showed we were "wasting" about .7 volts across D8. Since the purpose of D8 is to protect the radio against reverse battery installation by non-radio types (DXers would never put them in backwards!) I decided to bypass the diode, D8. It's located in some hard to get at place so the best way to bypass it is to relocate the white wire from the + lead of the battery holder. Cut it long enough so it can be soldered onto the on/off power switch. Then solder it to the transformer side of the power switch. See diagram below:



The colors shown are for my 12-655 model; yours may be different but the mod is extremely simple to do. If you find the radio won't shut off after the mod it just means you put the white wire on the wrong switch terminal. Try the other one!

A bonus is also included--the radio will now charge your nicads for you whenever you plug the AC cord in. In my set the charging rate was about 100 mA which is just fine for these C cells. The current is self limiting due to the small power output of the AC transformer built into the TRF. At this rate about 16 hours should charge your Nicads fully. Do not leave the radio plugged in for longer periods of time as you will be overcharging the Nicads. This is wasteful and possibly detrimental to the life of the cell.

With the cost of Nicads being about three times that of normal alkaline cells it doesn't make sense not to use Nicads if you use the TRF a lot. After the third recharge you are saving the price of four alkaline cells (about \$5-6 here) each additional time you recharge the Nicads. With an expected life of over 500 recharges, that adds up!!

Good luck and happy (and cheap) listening. (ed. note: The radio won't be suitable for use with ordinary cells after this mod, as it will charge the cells every time the radio is plugged in. Not a good idea especially with alkalines. But if you're using Nicads, why go back to cheapo cells?)