

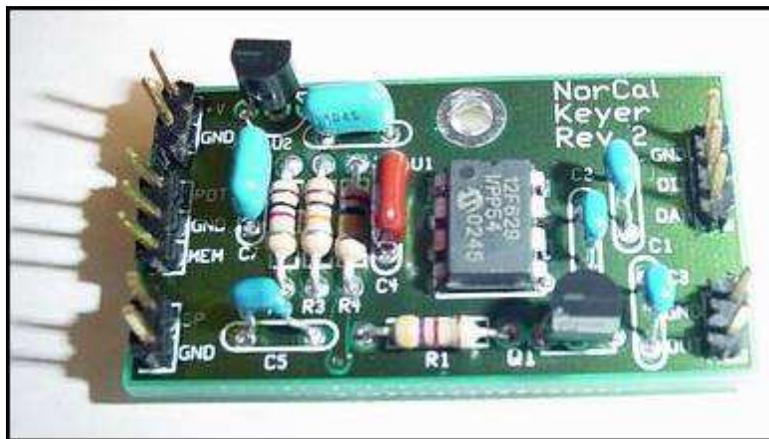
So You Want to be a QRP Builder? Updated 2006 Version

By Doug Hendricks, KI6DS
Copyright Doug Hendricks, 2006

Part 2

The next series of simple projects that I am going to recommend come from 3 QRP Clubs. NorCal, NorTex, and 4SQRP. All of them are inexpensive, and all of them are useful tools in your ham shack. The 3 kits are the NorCal Keyer, The NorTex Accuprobe, and the 4SQRP Tenna Dipper. I suggest that you build them in that order. Each kit comes with a board and all board mounted parts. You have to provide the enclosure and connectors.

NorCal Keyer



The NorCal Keyer is a remarkable value for the money. The price of the kit is \$16.50. NorCal has sold thousands of these kits for the past 3 or 4 years, and they continue to be an excellent value. As you can see, this kit has a few more parts than the VE3DNL, but not a lot more. It does not come with the pins that are shown in the photo. Those were added by the builder. They are sip pins, and can be found in the Mouser catalog.

The keyer is a very useful tool for the shack. Almost everyone who sends cw uses one, because it is so much easier to send good cw with it. You get a memory keyer, with 3 programmable 40-character memories, iambic A & B mode, straight key and bug mode, 2 beacon modes, and variable speed control by either a 100K pot or the paddles themselves. The kit comes with all board mounted parts and a high quality printed circuit board with plated through holes, silkscreened legends and solder mask. You will need to add a stereo jack of your choice and a 9V battery connector, if desired. The kit comes with a 5V regulator and will take an externally-applied 7-to-18 volt power source with the regulator wired in. You may also use a 3V watch battery if you bypass the regulator.

So You Want to be a QRP Builder? Updated 2006 Version

By Doug Hendricks, KI6DS
Copyright Doug Hendricks, 2006

The best part about recommending this kit is the marvelous writeup on how to build it that was done by Hall of Fame QRPer Jim Kortge, K8IQY. I asked Jim to write this article for the new builders out there, and he did a marvelous job. The article and ordering information for the NorCal Keyer Kit can be found here:

<http://www.norcalqrp.org/nckeyer.htm>

NorTex QRP Club Accuprobe



Joe Everhart, N2CX is the designer of this marvelous kit. We were talking one day about a kit that would be a good one for one of the regional QRP clubs to offer, and Joe mentioned this RF Probe design. What is unique about this design? It is the sensitivity that it has. Check out the specs below:

Specifications:

- Printed circuit board dimensions: 1.8X1.9 inches
- Power: 9 VDC at approx 1 ma using a standard 9-volt battery
- Input levels: LOW range - 50 mV rms to 5V rms (usable to 20 mV)

So You Want to be a QRP Builder? Updated 2006 Version

By Doug Hendricks, KI6DS
Copyright Doug Hendricks, 2006

HIGH range – 5 V rms to 35 V rms

- Frequency range: 100 kHz to 30 MHz (Upper end not tested but should extend to VHF)
- Outputs : DC-compensated to rms input
 - LOW range – 50 mV DC to 5 VDC (Uncalibrated readings to 20 mV)
 - HIGH range – 5 VDC to 35 VDC (1/10 RMS input)
- Output accuracy: approx. 10% of reading decreasing to 25% at 50mv

All that you will need to supply with this kit is the labor to build it, the solder, an Altoids or other suitable enclosure and a 9V battery. Building time is easily 1 evening. The manual is online and downloadable here:

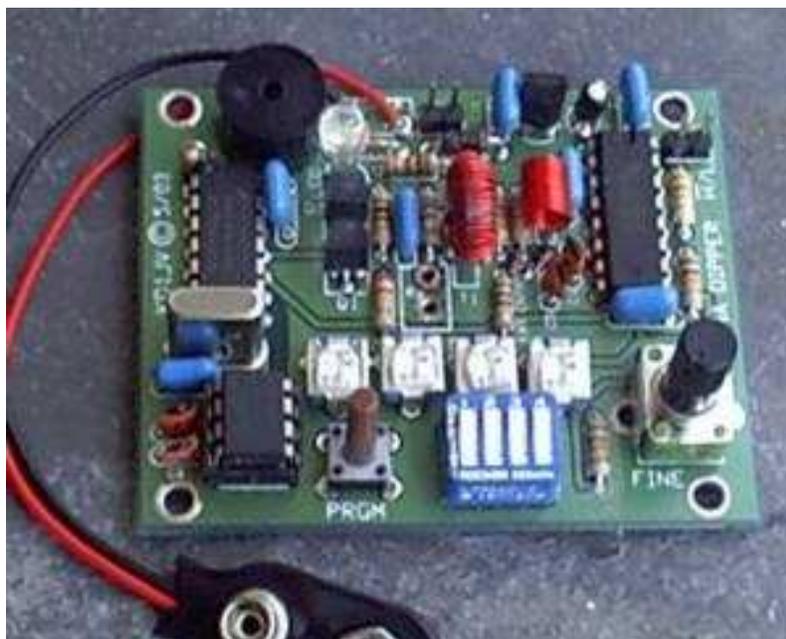
http://www.kk5na.com/kk5na_files/AccupManual.htm

You order the kit for \$17 US, \$21 DX from Joe Spencer of the NorTex QRP Club. Here is the url for the ordering information:

http://www.kk5na.com/kk5na_files/accuprobe.htm

So why an RF Probe? You need one to measure RMS voltage in your transmitter so you can measure power out. The Accuprobe works great with the NorCal SMT QRP Dummy Load that you built in part 1. Download the manual, and check out this great kit. Believe me it is a valuable piece of test equipment, and much, much more sensitive than the old .01uF, diode RF probes.

The Tenna Dipper



So You Want to be a QRP Builder? Updated 2006 Version

By Doug Hendricks, KI6DS
Copyright Doug Hendricks, 2006

4SQRP Tenna Dipper

I absolutely love this kit. The 4SQRP group has sold it for 3 years, and they use the proceeds to put on Ozarkcon, a fabulous QRP Forum in Joplin, Missouri featuring some of the finest speakers in all of QRP. What is a Tenna Dipper? It is a tool that gives you an indication with an LED of when your antenna tuner is looking at a 50 ohm load.. Designed by QRP Hall of Famer Steve Weber, KD1JV, this is one of the handiest devices that you can own if you are a ham. QRPers are well know for operating out in the field. They love to build little radios, then take them out to operate away from the home shack, and the home antennas. The Tenna Dipper will let you know that you have your antenna at 50 ohms so that you will have a good match for your transmitter.

Here is an excerpt from the manual that explains how to use this kit.

Using the "Tenna Dipper"

To prune or test an antenna:

- *Select the band you expect the antenna to be resonant in with the dip switches. Connect the antenna to the Rx input.*
- *Adjust the "fine tune" control until the LED goes out or gets very dim.*
- *Read the frequency with the counter.*

Note: since the output of the "TD" is fairly rich in harmonics, (third is the strongest) you might find a weak dip where you don't expect to see one.

To adjust an antenna tuner:

- *Set the frequency to where you want the match to occur.*
- *Connect the ATU to the Rx input.*
- *Adjust the ATU until the LED goes out.*
- *Remove the "Tenna Dipper" and connect your rig to the ATU.*

I remember the first time that I used mine. I was using a BLT tuner and a NorCal 40. I was using a NorCal Doublet antenna, and I was amazed at how quickly I was able to get the tuner adjusted. When I checked it with my MFJ Antenna Analyser, it was spot on. Gee, a poor man's antenna analyzer. This kit is only \$25, not more than \$200!! I then used the Tenna Dipper with a long wire and an L network. Bingo, adjustment was a snap!!

The kit is very easy to build. All of the board parts are there, and the 4SQRP group is a classy group to deal with. The manual is online at:

<http://4sgrp.com/kits/td/td.htm>

Ordering instructions are there too. \$25, what a deal!! That's it for Part 2. I hope that you are enjoying this series and find it useful. 72, Doug, KI6DS