

January 2013 Edition - Vol 1 Issue 7

A publication of the Four State QRP Group and OzarkCon QRP Conference
www.4sgrp.com

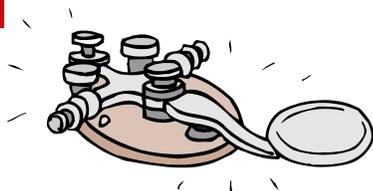
Ozark QRP BANNER



HAPPY NEW YEAR

2013

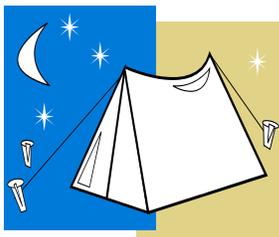
SKN



OzarkCon QRP Conference



**Field
Day**



**BIG
BRUTUS**



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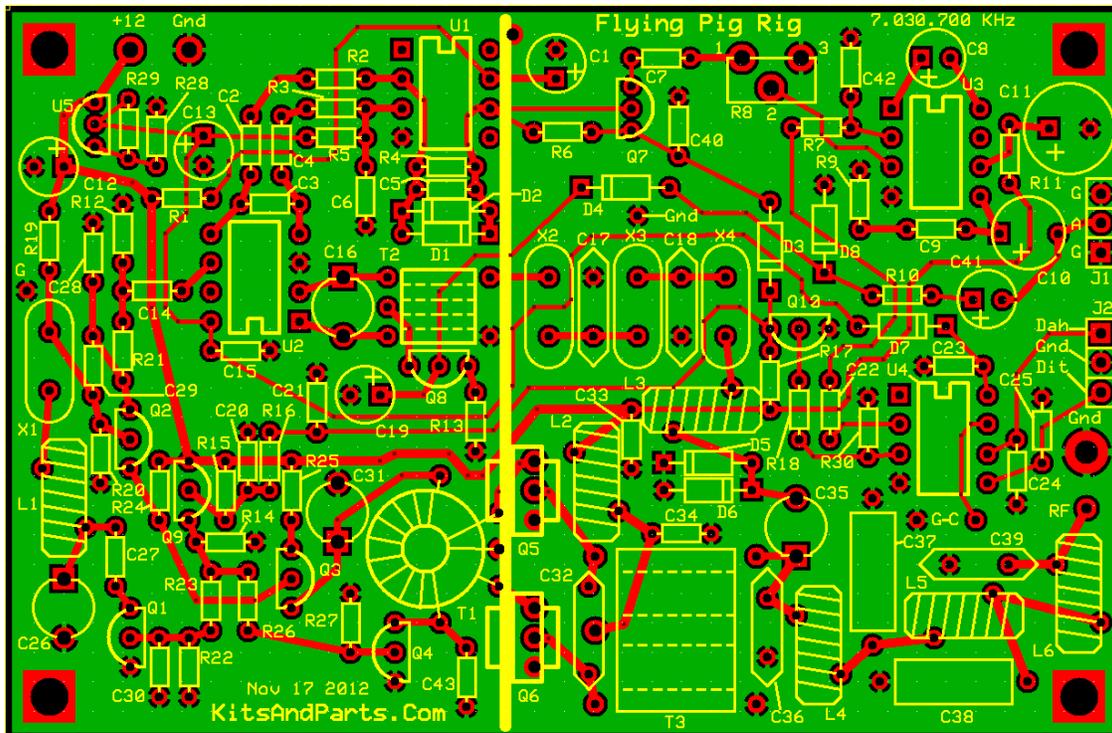
NEW: The Flying Pig Rig

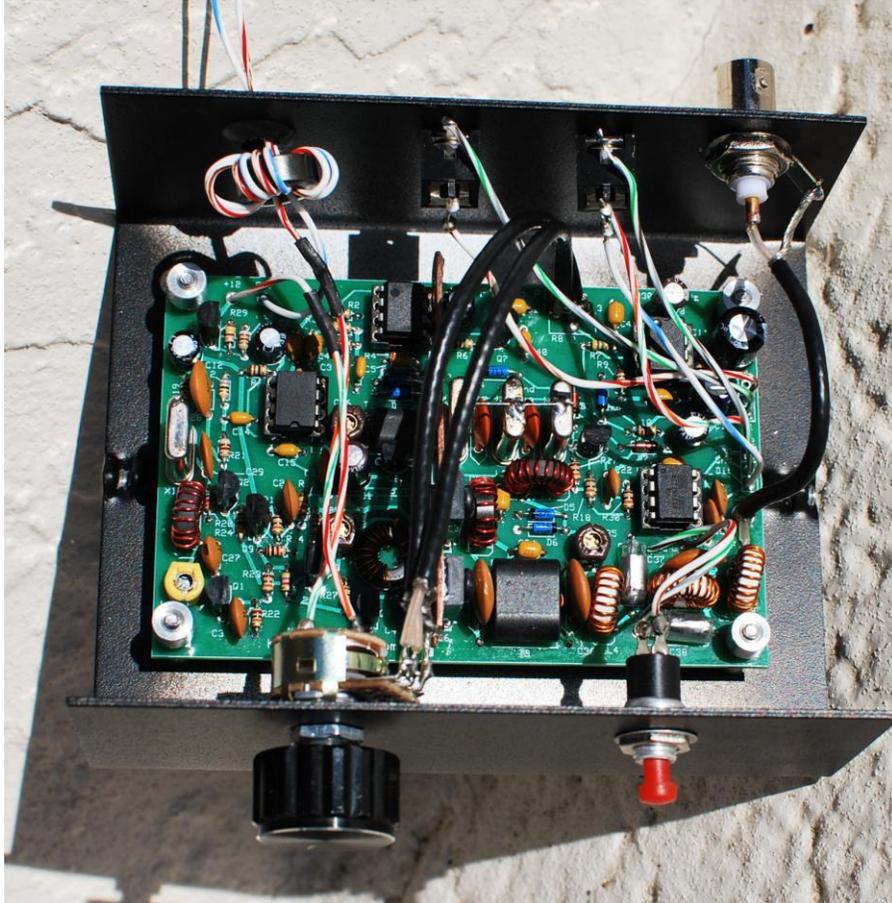
5 Watt CW Transceiver on 40 Meters for \$40



Full 5 Watts output (7,030.7 KHz) using 13.6 VDC
Full QSK, one Sideband only, Single Conversion Design
Includes built in keyer IC

The size of the PCB is only 2.5" (63,5 mm) by 3.8" (96,5 mm)

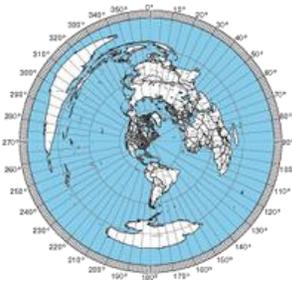




<http://kitsandparts.com/fpra-7030.7.php>

editor's note.....the master Piggy, Diz- W8DIZ has this clever design out for your Winter building fun. Many of the 4SQRPers are also members of the Flying Pigs QRP Club and Diz has been a great supporter of 4SQRP kits. 7.030.7 may be a happening!

Four State QRP Group
Where QRP and homebrew is alive and well!



FREE Azimuthal Map

<http://ns6t.net/azimuth/azimuth.html>



The 2012 “Banner” INDEX edition, is a keeper to find your favorite articles! The INDEX should be available for reading several days after this edition is posted!



via "Larry's List" <LarrysList@k0jpr.net>

Infra-Red Remote controls are very common for TVs, VCRs, DVRs, toys, etc. How do you trouble-shoot one that's not working? First of all you need to know if the remote is putting out Infra-Red information. You can't see it but your digital camera probably can. My Sony and Olympus cameras do and many others are sensitive to IR. Just watch the viewfinder while looking at the front end of the remote then push any button on the remote. You should see a rather bright lavender flash or series of flashes.

NO..... there's not an APP for that because the iPhone does NOT respond to the IR so the iPad probably won't but my HP netbook webcam does just fine.

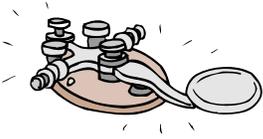
The iPhone DOES respond to BlueTooth so maybe there is an APP to test the more sophisticated BlueTooth remotes. 73, Ken Shubert, KOKS



via "Larry's List" <LarrysList@k0jpr.net>

Want to see the winter storm, go to <<http://hint.fm/wind/>>

73, Dennis Crawford, N0UYN



CW and Our Brains By Phil Anderson, WØXI

Periodically I find myself returning to ponder the nature/complexities of Morse Code. Of course there are many opinions within our community about the many aspects of the code. This latest visit was triggered by software I ran across while exploring the WWW: the Amazing Slow Downer. The author noted that one feature of the program is to slow down some frames of music while preserving the pitch of each note to assist a musician wanting to more clearly hear a fast riff (string of notes). I'm guessing you see where this is going. Gosh I wondered, "How could we apply this to aspects of the code!"

One of the aspects of the code that seems unnatural to me is that the CW conversation is slower than conversations of natural speech. While ladies talk faster than men and southerners slower than those above the Mason-Dickson line there's not that wide a rate variation, unless you consider the auctioneer. [I stopped here and decided to check my "facts." I searched the web and found this at

<http://itre.cis.upenn.edu/~myl/language/log/archives/005018.html>. The average "south" WPM speech rate is 173.9 WPM while that for the "north" is 173.3 WPM. Ha!] But nobody talks at a conversation rate of 20 WPM! So here, I suspect is the problem for many of us: we learned to talk at human speech rates and so it's not easy to *converse* at 20 WPM, at least to comprehend what has been said or sent. We certainly hear the individual dots and dashes but we often do not comprehend the thoughts, expect perhaps for RST, QTH, NAME RST and various Q-sigs. *The reason for this could in part be due to the fact that we have a limited portion of our brain power/memory devoted to speech storage.* Hence, we have a short term deficit in speech memory for slower messages. For example, the first half of what is sent is pushed out of our memory before the second half has arrived (so that we can encode and store the "message"). However, I'm sure we all do better when we hear a familiar Q signal, e.g. QTH, and therefore listen carefully for the few two words: e.g. city and state.

One more thought: It would be interesting to copy the fast talkers on CW with the above program, you know, those guys down on 14,000 to 14,025 kHz. We could then slow them down to 20 WPM and check the quality of their code there. However, as with human speech, even if their code is discovered to be more sloppy when reduced, they may convey the message just fine as with 175 WPM speech, wherein nobody is checking dit and inter-word spacing, hi.

So what's the solution? Perhaps there isn't one; just practice, practice, practice. But, I think it might be useful to record a number of spoken conversations (using the above program or) and play them back many times, drilling a bit each day. Perhaps we'd learn to encode each part of a complete thought/sentence – like the example above, or like breaking up a phone number xxx-yyy-zzz, in order to retain it for a bit to combine with the remainder of a thought. 72, WØXI.

Resources: There are many fine CW Software Programs available. Here are a few of my favorites: NuMorse Pro: It's full featured, including character, word, sentence and QSO practice and a Koch trainer. *A unique feature is adjustable inter-word spacing for text files.* If you are reading this on the 4SQRP website, there may be attached a zip'd file that contains a number of notepad generated text files NuMorse can read. NuMorse and ebooktoCW, among other programs, can generate CW audio files from text. JustLearnMorseCode: It's also full featured and includes the Koch method. The G4FON Koch Method CW Trainer is also a fine program. RufzXP is well know and concentrates on call sign copy, supporting high speeds.



Free Morse Code fonts.....

<http://www.fontspace.com/category/morse%20code>



The Original QRP Operator, the Peanut Whistle

25th Anniversary Celebration

On November 14th the members of the SLQS celebrated our 25th Anniversary. The event was held at Syberg's Restaurant in Maryland Heights. Thirteen members attended the event. To help celebrate our anniversary the club provided a few special gifts for the members. Each received a new cap and name badge with 25th Anniversary on them. See photos below. The badges were designed and printed by AAØVE. The caps were copied off of our original caps with the addition of the 25th Anniversary and are from Gold Medal Ideas. The special QRP Operators were provided by the XYL of Chuck, K6 QKL. These are the original Mr. Peanut Whistles. How appropriate as you know our newsletter is named The Peanut Whistle representing low power.

KCØPP presented Dave, NFØR a coffee mug with his name, call, the Peanut Whistle Logo and 25th Anniversary on the opposite side as a token of their friendship and for being the co-founder of the club.

SLQS 25th Anniversary Cap and Badge



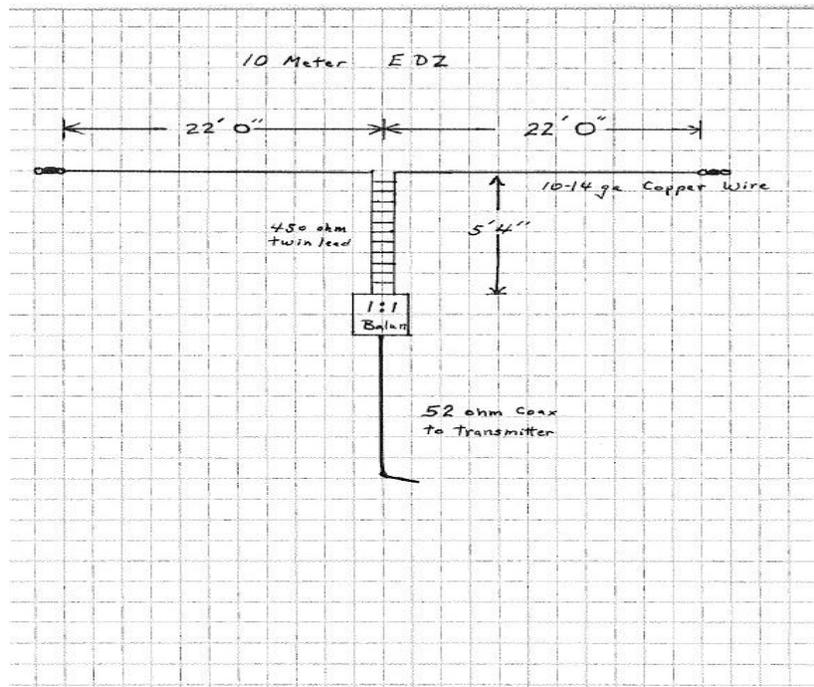


editor's note.....very special thanks to Keith – KCØPP for the article and pixs!



Build It !!!

10 meter EDZ..... by Dick – K2HT



10 METER EXTENDED DOUBLE ZEPP ANTENNA

The ARRL 10 Meter Contest was approaching and a decision was made to build a 10 Meter EDZ antenna and get some gain over a dipole. After searching several articles and websites we decided to use formula $1240/F$ mhz for horizontal elements and $153/F$ mhz for the 450 ohm matching section. The antenna was cut for 28.181 Mhz so it would cover the most active CW and SSB portions of the band. Each of the 2 horizontal elements were cut 22' 0", 450 ohm twin lead matching section was cut 5' 4", 1:1 current balun was attached to the bottom of the twin lead, then 52 ohm coax to transmitter.

The EDZ antenna has strong lobes broadside so the thought was to mount it vertically and have a "donut" radiation pattern with some gain. The antenna was raised to 45' vertically about 1' from tower. Murphy struck and the antenna would not tune and SWR was unacceptable. Best guess is that the antenna was too close to the tower causing interaction. To turn lemons into lemonade the antenna was mounted at an angle from tower. One end at 40' and other end at 20' running north/south which might give a slightly better coverage in a southerly direction as a "slooper". In this position the antenna loaded with ease. Some pruning was required to get the desired SWR. 6" was trimmed from each horizontal element and 4" trimmed from the 450 ohm twin lead.

The following SWR results were measured:

27.8	1.1
27.9	1.0
28.0-28.3	1.0
28.4-28.5	1.1
28.6	1.2
28.7	1.3
28.8	1.4
28.9	1.5
29.0	1.6

Using this EDZ during the 2012 ARRL 10 Meter Contest the antenna was tested with good results, some of the southern stations worked were ZS1ER, XQ1KR, PJ2T, TI5/N2BA, P40CX, and LU6UO and others.

W0SZV was assisting me in final adjustments of the EDZ and was playing around with the antenna analyzer and discovered the antenna had a SWR of 1.2 on the 30 meter band.

Our best guess is that it acts like a dipole on 30 meters (little unplanned bonus).

I am not an electrical/electronic engineer and nothing in this article is original by the writer just a gathering of other amateurs writings, work, and putting it to good use. Special thanks to the W0CSR Gang (Community Service Radio Club) for their help and support. KD0ZZ for building custom center insulator, KC0ZIU for running up and down my driveway more times than I can count measuring and cutting wire, W0SZV in data

results testing, and K5EST for holding back his laughter on many of my projects that did not work but always encouraging more antenna projects.

Future plans are an unscientific study/comparison of various 10 meter antennas.

72/73 and enjoy our great hobby-Amateur Radio
Dick K2HT



Plan to attend OzarkCon on - April 5-6, 2013

OzarkCon at a Glance -

- Large [Dinner Banquet](#) the first evening with after Dinner Speaker
- [Kit Building](#) Session
- Dummy Load QSO Party with Prize - work [KØN](#)
- Open [Music](#) Session (pick'n & grin'n, Bluegrass, Country, Western) both nights
- Vendor Tables - Kits, Parts and more...
- Swapfest Tables
- QRP flea market & vendor fair open all day Saturday
- [Wackey Key](#) Contest with Awards
- [Homebrew](#) Contest with Awards by Category
- Day long presentations on leading edge activities or technologies
- Drawings for Door Prizes, Door Prizes and more Door Prizes
- Private Breakfast Saturday morning
- Branson [Attractions](#) and [Restaurants](#)

4SQRP SS-40

40M High Performance Superhet Receiver

Designed by Jim Kortge, K8IQY



SS stands for "Stable and Sensitive". It exhibits the signature IQY extremely quiet amplifier chain. Disconnect the antenna and the receiver's noise floor is almost undetectable. A matched crystal IF filter provides a steep sided 500 cycle bandpass and outstanding opposite sideband rejection. Covering the 40M QRP "watering holes", a Super VXO provides 25-30 kHz of smooth stable tuning, and no perceptible drift even from a cold start.. While easy to build, this is not a trivial kit. There are 150 parts, and when completed the resulting high quality receiver is a pleasure to use.

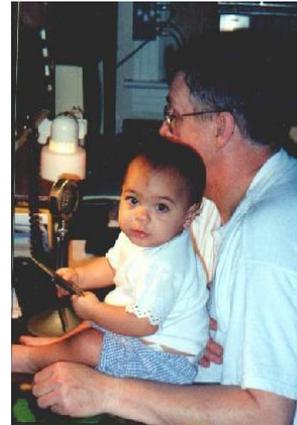
Intended as a companion receiver for the NS-40 transmitter, a Magic Box TR system between the SS-40 and NS-40 allows effortless transceiving, and RIT results since the receiver is independently tuned.

Ordering Information: ... The cost of this kit is \$60 for US orders and \$65 for DX orders. Shipping cost is included in the price.

<http://www.4sqrp.com/SS40.php>

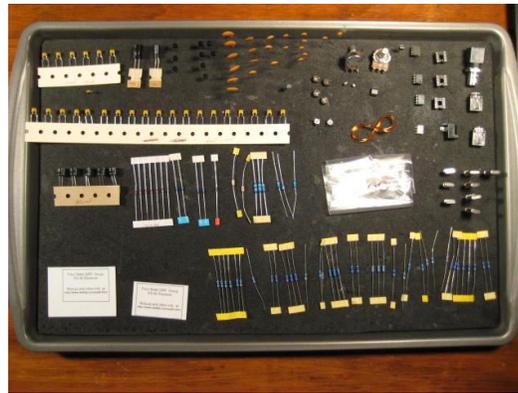
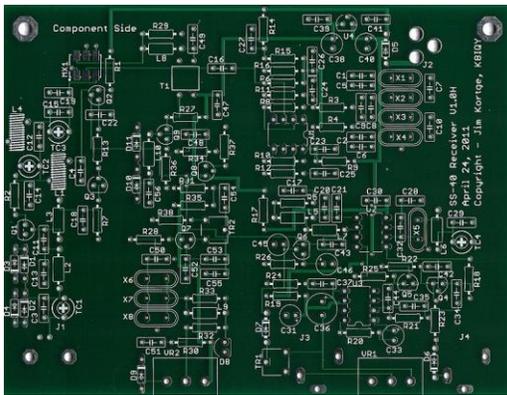


Build It !!!



the SS-40 ... by R.C. – KC5WA

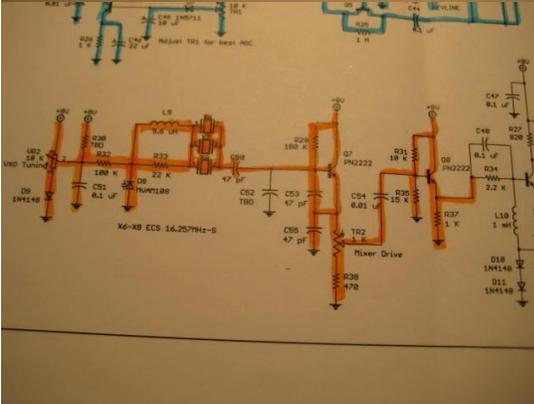
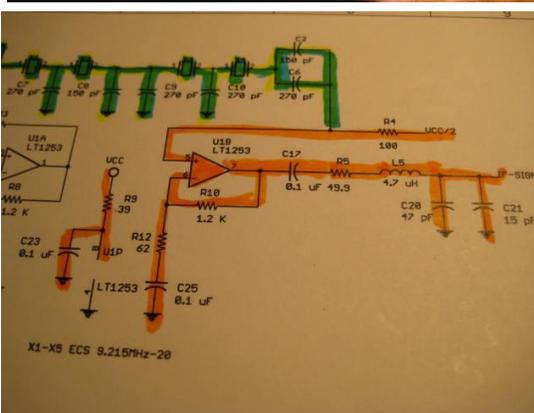
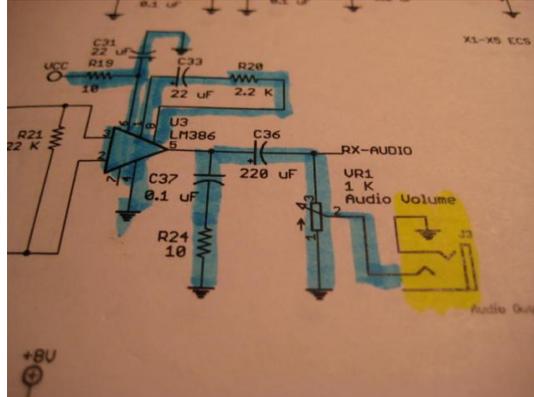
An easy pictorial documented build!

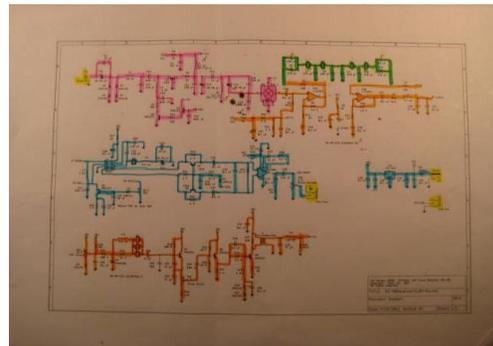
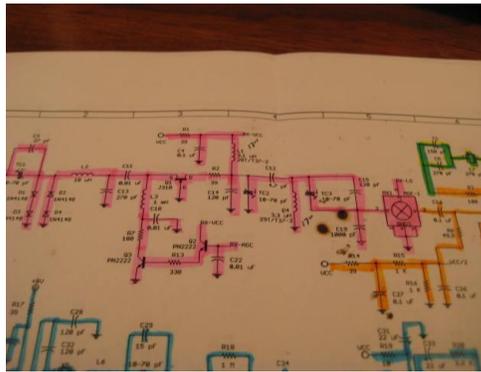
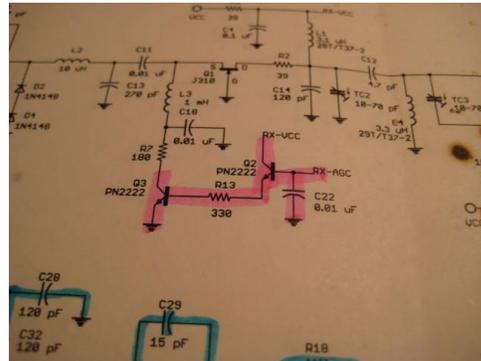
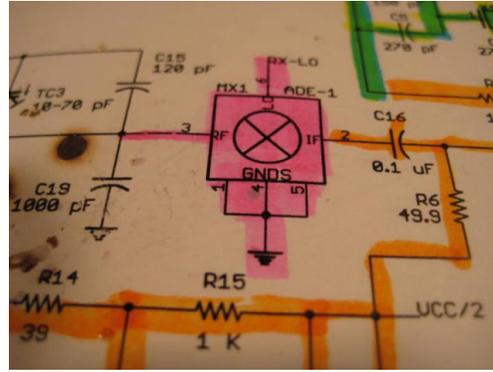


An anti-static mat and wrist strap. I prefer to use a cookie tray with the mat because it keeps parts from falling to the floor. The absolute first thing to do is inventory the kits components. Then you can order a missing part if necessary. Inventory of parts complete. Nothing missing.



VXO Tuning Pot VR2 This component is mounted on the top of the PCB first, as it requires some extra steps since it is not designed for PCB mounting. Select two mounting pins. Remove the shorter section above the collar. Insert these two pins into the outer holes of the PCB





Tune across a weak signal and stop when it is loudest. That places the signal in the middle of the crystal pass band. Then adjust TC4 in the direction that makes the resulting audio tone optimal for your hearing. Many CW operators like the audio tone to be in the range of 600-800 Kz. but it can be adjusted above and below those frequencies.

.....72.....de KC5WA



CW is FUN! By.....Wayne S. Dillon – KC0PMH

“The problem today is that fewer hams use CW because they haven’t learned to enjoy it or don’t want to spend the effort to gain useful speeds.”

The above is a quote from “The Art & Skill of radio-Telegraphy 3rd Edition by William G Pierpont (N0HFF).

I feel this to be an accurate and well-reasoned observation and it’s a shame. There is a certain beauty to the sending and receiving of well-formed and accurate Morse code. What follows is my perception, my distillation if you will of “best practice” and my experience with it, enjoy. I’ll admit that I put off learning the code for some 6 years after I got my Amateur License B (I was born and raised in the UK where there were 2 (there are now 3, Foundation,/Intermediate/Full) classes of license. The “A” class made available all the privileges on all the bands and required a pass in Morse code at 12 words per minute, and the “B” class made available all privileges and modes, except CW, on VHF – 2M at that time, and up, no code exam required). I passed my Radio Amateurs Exam (City and Guilds 765) in 1981 but procrastinated about getting the Morse test passed and behind me. It wasn’t until two good friends shamed me into it that I finally knuckled down and got enough code to pass at 12wpm. I vowed that once passed I would never but *NEVR* use a Morse key again, in fact I would ceremoniously bury it [the key] in the concrete base of the tower I was planning to erect. It never happened, partly because I never got the tower but mostly because I began to enjoy the code.

Yeah, really, I actually began to take pleasure in improving the accuracy of my code, both in character formation and in sending timing. It became important to me to give the operator at the receiving end the best possible chance of copying correctly what I was (am) sending. I enjoyed it so much that I was eventually to become a registered Morse Examiner for the RSGB, one of a team that administered the code tests across London. You’ve probably guessed it already but let me just state it for the record, I love the code and *all* the stuff that goes with it, that’s right, I’m a code junkie.

Now the good news. Most licensing authorities, world-wide, have dropped the requirement for a pass in Morse code, at any speed, as a requirement for obtaining an Amateur radio license. Now the bad news:

Most licensing authorities, world-wide, have dropped the requirement for a pass in Morse code, at any speed, as a requirement for obtaining an Amateur radio license. I will always believe that learning the code and passing a code test would always be of great benefit as part of the process of being granted an Amateur Radio license. Learning the code is now an option, a process that’s just for fun, adding another useful skill to your already burgeoning tool bag of Ham Radio skills. This difference between “have to” and “want to” is good news though, wanting to do something generally shortens the learning period from tyro to operator by about a month or so. So go on and give it a go, I double dog dare ya. If you are reading this with no intention of actually learning the code I urge you to download and read (several times, you won’t pick up all the good stuff it contains on a first pass), William G. Peirpont’s book as mentioned above, it’s free and a thumping good read. Another excellent read is “Morse Code, The Essential Language”, available second-hand on sites like Amazon. If, on the other hand, you are contemplating learning the code you would do well to find yourself an Elmer. Either in person or on-air (I found that an on-air Elmer is actually better) and work at it. Several organizations offer an

Elmering service to Morse code beginners, the SKCC and the NAQCC spring immediately to mind and of course there is the 4SQRG Group Wednesday evening comfortable nets. Comfortable?, yes because the NCS will absolutely come down to a speed, you are comfortable with. There is nothing worse than struggling to copy at a speed that you are in no position (yet!) to copy. A really good Elmer will work you at your comfortable speed and gradually up the ante. Not a huge jump of say 5 to 12 words per minute but from 5 to maybe just around 7 words per for a few minutes, stretching the abilities of the pupil and then bringing him or her back to their comfort zone to build confidence at the end of the session. If you really can't find an Elmer then there are many good Morse tutorial programs available for computers of all persuasions.

The learning and subsequent mastery of any skill is only accomplished by practice. Practice, practice and more practice. With Morse code, the process is pretty clearly defined. First, you must learn the letters, numbers and "pro-signs" that make up the bulk of the characters you will use. The best way of learning these is by sound. Do not, again DO NOT, under any circumstances, learn the characters by sight. Learning by sight, e.g. looking at flash cards with the dots and dashes printed next to the corresponding code character will only slow you down and cause you more problems than it at first appears to solve, as the song goes, "I know, I was that man". Hear the sound; write down the corresponding letter, number or character. This is why an Elmer is so important, they can send the character in code and then SPEAK the character, e.g. send dah di di dah and then say "X". Your aim is to get to a stage that when you hear the sound you *automatically* write down the corresponding character. You are now *thinking in code*. I am frequently asked if there is a best sequence in which the characters should be tackled, my own answer is, any order you like. Others will offer differing advice according to their own experiences.

Fundamentally, there is no right or wrong way to do it. Just be sure that when you hear Di Dah you write and "A" and so on. Practice sessions, initially, should be no more than 15 to 20 minutes say 2 to 4 times a day. Much more is absorbed by practicing "little and often" than by sitting down to marathon sessions. You'll get enough of those [marathon sessions] if you start contesting but that's another topic for another time.

Do not concern yourself with speed; you must concentrate on accuracy. Speed will come with time and practice; accuracy however, must be your principle goal. Do not start sending until you are copying consistently at about 3-5 words per minute. At 3-5 wpm you have begun to gain an understanding of how the properly formed characters sound and their *unique rhythm*. Sending before you really appreciate how the character is supposed to sound leads to stilted code, poorly formed characters and words with erratic spacing, all habits which once acquired are the very devil to lose. There will be a few hiccoughs along the way; this is normal and so some extent to be expected. For instance, I had trouble (sometimes still do if I'm tired) with "L" and "F". "L" is di dah di dit and "F" is di di dah dit. My Elmer cured me of this mis-association by variations on the following passage: "This fly fishery allows fly fisherman to fish for flying fish." Now if that don't cure you... I have had other "reversals" from time to time but reversing "F" and "L" was by far my biggest stumbling block. Identifying stumbling blocks early on is very beneficial, your Elmer will be able to devise routines, like the one above, to help you overcome them. Are you a musician? Well if you are your learning time will again be reduced because you understand rhythm. There is a rhythm to every code character and recognizing the rhythm is one of the keys (no pun intended) to copying and sending good sounding code. Remember, we're doing this for fun, not because we have to but because we want to.

What kind of instrument? Fair question and I have to say that when you get a Morse key you really do get what you pay for. There's some real crap out there, cheap plastic bases with semi flexible beams (the beam is the moving part the knob sits on and is moved up and down to form the characters), give 'em a wide berth. You need something solid and reasonably heavy that is going to stay put while

you're sending. Check out Morse express: around \$50.00 will get you into the game with a key that will continue

on with you until you're ready for something different (paddle, cootie key or Bug). I have no connection to Morse Express except to say that Marshall is a good guy to deal with. There are others, Viz-Key have a super little straight key called a Camel-Back based on a design that's over 100 years old, there's also American Morse equipment. Keep an eye on in the swap meet area on the QRZ.com webpage, there's often bargains to be had there as well. The list is by no means exhaustive. You will also need a code practice oscillator of some kind. It may be as simple as a piezo-electric buzzer and battery all the way upto a custom built unit in it's own box (these also double as continuity checkers so it's a "multifunction" tool), the choice is yours so knock yourself out.

While we're on the subject of "Code Practice Oscillators" you really might just as well build your own. There are literally hundreds of circuits out there, all good and some are better than others and it'll only set you back pocket change to "roll your own". Do I have a preference? No not really but providing for a headphone jack will likely contribute much to domestic harmony.

Get on the air and exercise your skill, often, and remember to concentrate on accuracy. When you make a mistake acknowledge it with the error "prosign", a series of 8 dits. This is telling the operator at the other end that the previous word was erroneous and what follows is the correction. It is assumed that the error is only as far back as the previous word break, if you made an error before that you should have acknowledged it previously. There is no shame to admitting to and acknowledging an error, we all make them and it's just good operating practice to acknowledge the error, repeat with the correct word and go on. Sending the error prosign at a slower speed that you were generally sending is also considered to be good practice.

Lastly, I look forward very much to working new code operators, it's a treat, it really is, to be the tyro operators first QSO. Let me restate, I do not care how slow you want to operate, how many *acknowledged* errors you make or the fact that you may well have a case of the nerves, we all did the first time on the air, it's O.K. it's natural to be a little hesitant and it's O.K. to keep the first few QSO's short. You're on the air and you're working CW, that's what counts. So go on, learn, practice and above all – enjoy!

Here are a few websites to get you started, there are more, many more:

<http://www.qsl.net/n9bor/n0hff.htm>

<http://www.mtechnologies.com/wordpress/?p=26>

<http://www.mtechnologies.com/cootie.htm>

<http://www.americanmorse.com/>

<http://vizkey.com/>

<http://qrz.com/>

<http://www.justlearnmorsecode.com/>

73 es God Bless de Wayne – KC0PMH

4SQR.COM

Little Radios

Big Fun!



Share the knowledge and help promote QRP by sending your Articles msWord or compatible, help hints, radio mods, antennas, portable operations, mobile installations, pedestrian mobile, radio reviews, and any non-commercial QRP interest? You do not have to have a complete article, just give me an idea, pictures, etc, and you get published! Email the “Banner” at ozarkqrbanner@gmail.com

Ozark QRP BANNER is a monthly publication of the Four State QRP Group and OzarkCon. www.4sgrp.com

Editor: Walter Dufrain - K5EST

- Deadline for publications copy is the end of each month -

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