

Bacon Bits

Flying Pigs QRP Club International, W8PIG
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FPQRP [membership](#) is open to all licensed QRP operators who reside within 12,000 nautical miles of Cincinnati, Ohio.

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NETS:

DAY	TIME	FREQ	NCI
Sun	0100Z	7.137	KC8NYW
Mon	0100Z	7.044	WB8ICN
Thurs	0100Z	7.044	KE1LA

(All days/times listed are UTC)

CLUB FREQS.

1,814 kHz	3,564 kHz
7,044 kHz	10,110 kHz
14,062 kHz	18,100 kHz
21,064 kHz	24,910 kHz
28,064 kHz	

ALL FPqr frequencies are UP 4 kHz
 from the standard qrp frequencies
 except for 20 meters.

WN5Y's great re-use of CD ROMS – Reduction Drive!



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Ramblings

Happy New Year to all the Flying Pigs all over the world. It's 2003 already, we look forward to yet another Four Days in May, FYBO in February,, another fabulous Flying Pig Field Day, the exciting and ever popular Worked All Pigs contest for 2003, and much much more. Don't miss a thing this year, stay up to date on Flying Pigs events by reading the Bacon Bits and visiting the website often. The Flying Pigs QRP Club International has a fabulous website at <http://www.fpqrp.com> , don't over look this great QRP resource!

DE KB9BVN – Brian Murrey

Using a CD ROM as a Reduction Drive – WN5Y

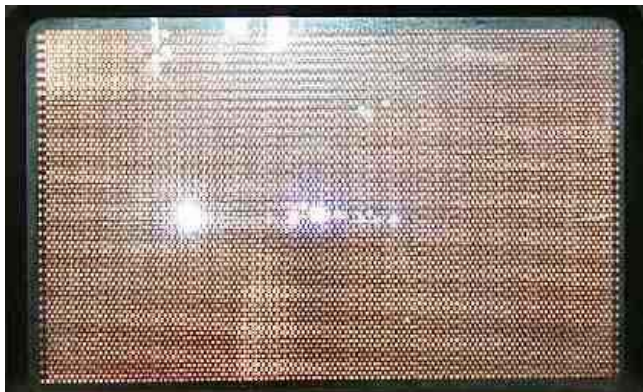
When it comes to building that VFO for a project, getting the circuit working is always so easy, after which comes the time to install it in a box. Then the really hard part, a reduction drive that does not have backlash, slips, or is impossible to mount because of three holes that have to be perfectly drilled with a torn paper template.

The solution to this problem may be halfway to your trashcan - a CDROM! The inspiration for this project came from an old Hammarlund HQ140X. The drive in that receiver was so simple and worked so well there had to be a way to duplicate it for homebrew projects.

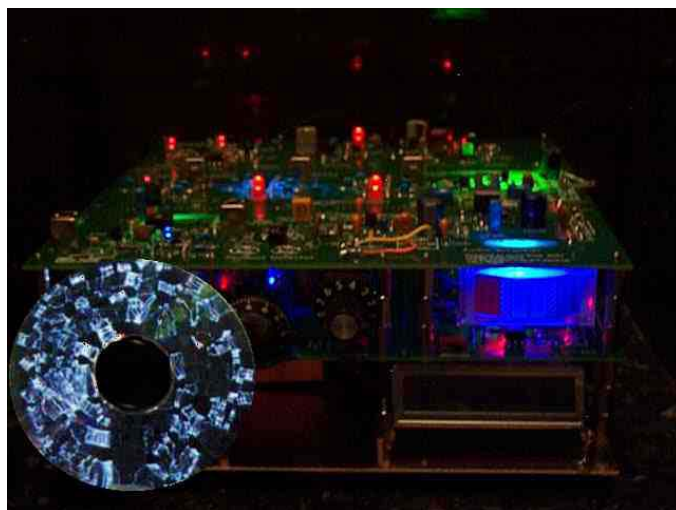
There are two aspects of getting a CDROM to work. First, it has to look nice. Secondly, mounting the CDROM to achieve smooth tuning with a minimum of effort.

The most difficult part of this operation is determining what CDROM to use. Your favorite CD, a junk one that is useless (but doesn't look good), a store bought CD-R, the ARRL RF Designer CDROM? And which side: the shiny side or the picture side? One could build a progression of CD dialed receivers identified uniquely by how many free hours AOL promised on each dial.

A "special effects" CD-ROM can be made with a Microwave oven. A Microwave oven makes a fractal pattern that yields very interesting results. Plus a lot of fun, especially trying to do it without getting caught. Check out "CD-ROM's in the Microwave" at <http://www.hamjudo.com/notes/cdrom.html> for more details.



For a really wild CDROM, a Tesla coil produces spectacular results. Check out this "must see" site at "CD Zapping", <http://www.netcomuk.co.uk/~ww1/cdzap.html>. After this operation, the VFO will suck in signals that will never be believed! [1]



When the right CDROM has been chosen, take the CDROM to the hardware store. The dimensions on rubber grommets are not standardized, so double-checking for correct size is necessary.

Parts list:

1. Three 3/8" rubber grommets. The size refers to the center hole dimension.
2. One 5/8" rubber grommet.
3. One junk box potentiometer
4. A small rectangular piece of PCB with a hole drilled to mount the pot (if the pot is not panel mounted).

Three rubber grommets are used to hold the CDROM onto the shaft of the tuning capacitor. A 5/8" rubber grommet is put inside the hole of the CDROM first. Make sure it is a tight fit. The hole of a CDROM is 9/16" diameter.

Two 3/8" rubber grommets are pressed inside the 5/8" grommet from each side. The 3/8" grommets will go in a little more than halfway, leaving the outside half showing on each side. Mount

all the rubber grommets on the CD-ROM. Then push the CD-ROM with the grommets over the capacitor shaft. This gives a very tight fit, and the two grommets in the middle provide a lot of stability for the CD-ROM.



If the capacitor shaft is notched at the end, purchase a 1/4" wooden dowel stick, and split a short piece in half, and use it to round out the end so the grommets will be centered on the shaft when installed.



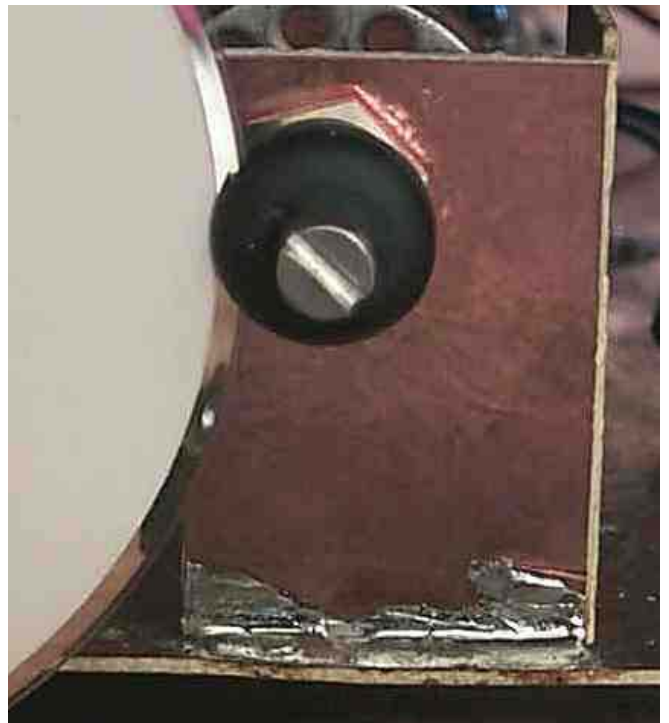
A junk box potentiometer is modified as a reduction drive. The back is taken off to remove the stop indentation. Watch out for cheap plastic pots. When the back is removed, the shaft will not

hold in place. Remove the back, hammer the stop indentation out of the way, then reinstall.

If the pot is mounted in a faceplate, drill a slotted hole for adjusting against the CD-ROM. Otherwise, use a small rectangular piece of PCB board with a hole drilled to mount the pot.



With the CD-ROM in place, the pot mounted on the PCB, a 3/8" rubber grommet mounted on the shaft of the pot, the whole thing is pushed up against the CD-ROM with fair pressure and the PCB is soldered to the ground plane. A whole lot of pressure will push the CD-ROM out of place, but just the right amount of pressure will turn the CD-ROM without slipping.



Use small tacks of solder until you have the right amount of pressure. After the PCB is tack soldered on the ground plane, put a knob on the CD-ROM and see how it works.



The edge of the CD-ROM can be roughed up with sandpaper to get a better grip on the rubber grommet.

References:

[1] The receiver shown is the Electroluminescent Receiver Kit at <http://www.pan-tex.net/usr/r/receivers>

[2] For more information and pictures check out <http://www.pan-tex.net/usr/r/receivers/elrvfotunedc.htm>

You TOO Can Afford HF! – KC8AON

For all you folks that think they cannot afford to get on HF, I say "OH YES YOU CAN !".

I admit that most HF transceivers can be very intimidating as far as price goes, taking into consideration that a low end rig will cost somewhere in the neighborhood of \$700, and another \$100 to \$200 for a power supply to power the thing. Then there are other things to consider like antennas, SWR meters, antenna tuners, etc that add to the price.

Yes there is the used market, but you always stand the chance of getting equipment with problems, and a lot of times you may end up with an obsolete rig with hard to find parts and service information. Well, the truth of the matter is, you can get on the air, on HF, for the same price or less than most 2 meter rigs and that includes HT's ! How? Well forget all the hype about needing at least 500 watts, an ultra modern all the bells and whistles DSP do everything digital Yaecomwood rig and super all band 40 db signal shooter antenna that takes a construction crane to install. The answer is simple, go QRP !

Most QRP rigs are CW only rigs, but there are SSB QRP rigs too. First, QRP means "low power", for CW it is considered 5 watts or less and for SSB it is 10 watts or less. What can be done with low power? A lot! I recently worked Ken Law, W7HNF in Chino Valley, Arizona on 40 meters with "2 watts !". That's approximately 1650 miles from where I live, and with 2 watts, that's 825 miles per watt ! Pretty impressive when you consider that the same contact with 100 watts is only 16.5 miles per watt, so - Less is more, in this case!

OK, you can get a QRP single band CW rig for less than \$100, Ten Tec has a neat kit rig that does 3 watts out for \$95, and yes

you have to build it but that's part of the fun. And there are outfits like Small Wonder Labs that offer QRP kits for as little as \$25 for a crystal controlled rig or \$55 for a vfo controlled rig.

For the Antenna, you can put up a simple wire dipole that will cost you next to nothing if you scrounge around and build that yourself, for the power supply, you can use any 12 volt dc supply that does at least 1.5 amps and you probably already have that since most of you have a 2 meter rig with a power supply to run it. If you don't have that, then a small, sealed lead/acid rechargeable battery will work just fine.

The bottom line is, if you can afford a standard 2 meter mobile rig, then you can afford to get on HF with a QRP rig, and making contacts with QRP is much more satisfying than blasting your signal through the ether with a kazillion watts and a rig that would put a dent in the budget of Bill Gates ! Oh, and by the way - don't let CW scare you - it's easy! After all, you only need is 5 words per minute - get in on the fun, you might just like it ! See ya next time, and hopefully on the air !

73 DE KC8AON – Richard S. McKee

UK License Class and Callsign Prefixes By Nigel Gunn - G8IFF/M0NHF/KC8NHF

The Amateur Radio license structure in Great Britain is currently undergoing a major shakeup. There are currently 5 classes of Amateur license dependant upon skill level and morse proficiency. The callsign prefix denotes license class and geographical location within the UK.

The lowest class is the Foundation License. This requires a very basic knowledge of electronic theory, license conditions, interference avoidance and operating practices. The ability to recognize morse code is required but no significant proficiency in sending or receiving. This gives access to all bands except 10 metres with a maximum power of 10 watts. The license is obtained by attending a weekend or evening training course. The callsign is in the form of M3XXX.

The next license class is Intermediate. This requires a more in depth knowledge plus the building of a radio receiver either from a kit or locally purchased components. The Intermediate license is available either as a Class A, with morse or a Class B without morse proficiency. Class A gives all bands with a maximum power of 50 watts and Class B gives all bands above 30MHz at 50 watts maximum. Callsigns are in the M5XXX or 2E0XXX for Class A and 2E1XXX for Class B. As with the Foundation, a training course has to be attended to get the license.

The top (and original) license class is the Full license, again available as Class A or B. The level of technical knowledge is broadly equivalent to the US Advanced class exam. The morse requirement is to send and receive at 5 WPM. The maximum power levels are 400 watts PEP or 150 watts carrier. You will hear callsigns with G2XX G3XX G4XX G5XX G8XX G0XXX G2XXX G3XXX G4XXX M0XXX for Class A and G1XXX G6XXX G7XXX G8XXX M1XXX for Class B.

The callsign prefix may include a second letter if the station is not located in England, e.g GW3 is in Wales, MM1 is in Scotland, 2U1 is in Guernsey, GJ8 is Jersey MD3 is Isle of Man and GI8 for Northern Ireland. For a club station at a public event these second letters would be X for England, C for Wales, S for Scotland, P for Guernsey, H for Jersey, T for Isle of Man and N for Northern Ireland. GB prefix calls are special event stations, GB3XX calls are repeaters, GB3XXX are beacons and GB7XXX are packet nodes and BBS stations. Repeater, Beacons and Packet BBS stations all require their own licenses. Nothing's simple in this country!

The UK morse test is more challenging than in the US. A 5 minute passage, in QSO format has to be received with no more than 6 errors and sent with no uncorrected errors whatsoever. Whilst morse tests and Foundation courses are administered by clubs, the exams required for the Intermediate and Full license are administered by a national examinations body twice yearly.

The WB0WAO CW Control Box

If you are anything like me, you probably have a bunch of rigs at your operating desk. One thing I always hated was plugging and unplugging cables from the keyer to the rigs. Since the back of my bench looks like a rats nest anyway, I wanted to create something that would allow me to plug in a rig to the keyer and not worry about having to plug and unplug whenever I wanted to change rigs or keying methods, i.e. keyer, straight key or keyboard. So, I decided to create a "CW Control Box" to solve this problem.

I am not taking credit for inventing something new, just describing how I developed and built this project. First, I came up with a list of requirements that I wanted...

1. Easy rig selection with one switch
2. Full control over the keyer functions
3. Ability to bypass the keyer for keyboard/straight key input
4. Allowances for future rigs

I already had the keyer that I was going to use - the K1EL K10. I have had this keyer for a couple of years and really love it. There is a later version available now, the K10+ and that is what Diz has used in the MultiPig+ that a lot of us are working on. You can use any type of keyer that you have - the basics of this project will work with anything.

Typically a keyer has an input for the paddles and power; and outputs for the keyline and (usually) some type of sidetone. There may be command, memory or speed adjustments hooked up to the keyer as well - but they are not involved with this project.

Here is how it works - the input from the paddles goes to the keyer which converts it to Morse. Then I took the output line to a SPDT switch. I connected the output line to one of the OUTSIDE switch lugs. Then I connected a wire from the other outside switch lug to the center of a phono connector on the front panel. This connector is the "auxillary input" for a straight key, bug, or keyboard interface. Now I connected a wire from the CENTER lug of the SPDT switch - this is the "new" keyline. This allows me to plug in a straight key (or

whatever) at the same time I have a paddle connected up to the keyer. By flipping that switch, I can select HOW I am going to key the rig.

That takes care of my #3 requirement, #2 was taken care of by mounting all of the keyer controls for my K10 on the front of the case. You will see the CMD/MEM buttons, the speed control pot and a switch to turn the piezo on/off. Now it was time to devise a method to select the rig I wanted to key. I used a 12 position (locked out to 11 positions) single deck rotary switch. It is a "break before make" type to ensure that the keylines for 2 radios are NEVER connected together - that may be bad! I took the wire from the center lug of the SPDT to the common lug of the rotary switch. Then I took wires from the lugs of the rotary switch to the back panel of the box and hooked them up to phono jacks. Of course all grounds are tied together.

That is it! Nothing fancy or high tech, but it works FB and makes it easy to select which rig to key and how I am going to key it. I have had this device for about a year and I have already decided that I will rebuild it and make a few more "improvements" to it. I will change the paddle jack to front mounting so I can easily hook up different paddles (when I made it, I only had a Vibrokeyer paddle), mount the keyer CMD/MEM switches on top of the case and possibly mount the K20 keyboard interface into it as well. Here are a couple of pictures of the front and back of the unit for your edification.

Front of Unit



Rear of Unit



72 es oo Dennis WB0WAO

JAN QRP Contests – Thanks to Ken N2CQ

40 METER FOXHUNTS

Fox Hunt - Thursdays - 9pm EST, 8PM CST, 7PM MST and 6PM PST.

Info: <http://www.cqc.org/fox>

Truffle Hunt - Thursdays - 30 min before Fox Hunt

Info: http://fpqrp.com/pig_hunt.html

AGB NYSB - "New Year SnowBall" Contest (80M SSB/CW/Dig)

Jan 1 - 0000z to 0100z

Rules: <http://www.qsl.net/eu1eu/agnysb.htm>

AGCW Happy New Year Contest (CW)

Jan 1 - 0900z to 1200z

Rules: <http://www.agcw.de/>

Rock-Mite Flea Fight (CW)

Jan 4 - 0000z to 0200z (40M)

1500z to 1700z (20M)

Rules: <http://www.wfu.edu/~hoglund/Roc.htm>

AGCW-DL QRP Winter Contest (CW) ... QRP Contest!

Jan 4 - 1500z to Jan 5 - 1500z

Rules: <http://www.agcw.de/>

Adventure Radio Society - Spartan Sprint (CW)

Jan 7 - 0200z to 0400z (Monday Evening US/Canada)

Rules:

http://www.natworld.com/ars/pages/spartan_sprints/ss_rules.html

North American QSO Party (CW) (QRP Entries Noted)

Jan 11 - 1800z to Jan 12 - 0600z

Rules: <http://www.ncjweb.com/naqprules.php>

070 Club PSK Contest ... QRP Category

Jan 18 - 0000z to 2400z

Rules: <http://www.podxs.com/html/pskfest.html>

Michigan QRP Club Contest (CW) ... QRP Contest!

Jan 18 - 1200z to Jan 19 - 2359z

Rules: <http://www.qsl.net/miqrclub>

LZ OPEN CONTEST (CW 80M/40M) ...QRP Category

Jan 18 - 1200z to 2000z

Rules: <http://www.qsl.net/lz1fw/lzopen/index.html>

North American QSO Party (SSB) (QRP Entries Noted)

Jan 18 - 1800z to Jan 19 - 0600z

Rules: <http://www.ncjweb.com/naqprules.php>

CQ WW 160-Meter DX Contest (CW) ... QRP Category

Jan 25 - 0000z to Jan 26 - 2400z

Rules: <http://www.cq-amateur-radio.com/infoc.html>

UBA DX Contest (Belgian) (SSB) ... QRP Category

Jan 25 - 1300z to Jan 26 1300z

Rules: <http://www.uba.be>

About the Flying Pigs QRP Club International

OUR MISSION:

1: Have Fun.

2: No rules.

3: Have a group of Friendly Hams who enjoy Amateur Radio, and sharing their skills with their fellow Hams.

CLUB EMAIL POLICY:

These are not rules, just common sense.

Club email is not moderated, as we are not a stuffy group. You can send off topic messages about most subjects, but please keep it clean and in good taste. We do like good-natured ribbing and joking with each other, but we will not tolerate flaming other members or spamming the group.

We will remove offenders who abuse our open policy.

CLUB WEB PAGE:

The club web page is our forum for sharing projects, and information about us. You are encouraged to submit your ideas and projects to be added to the web page.

PROBLEM REPORTING:

If you are having problems with email, the web page, or a fellow club member, please report this to either:

Diz, W8DIZ at w8diz@cinci.rr.com

Rick, WB6JBM at ripowell@mpna.com

Dan, N8IE at n8ie@who.rr.com

We welcome all to join the Flying Pigs QRP Club, and we hope you have fun! Ω