Bacon Bits

Flying Pigs QRP Club International, W8PIG
1900 Pittsfield St, Kettering, Ohio 45420
E-mail: w8pig@yahoo.com Web Page: http://www.fpqrp.com

FPQRP membership is open to all licensed QRP operators who reside within 12,000 nautical miles of Cincinnati, Ohio.

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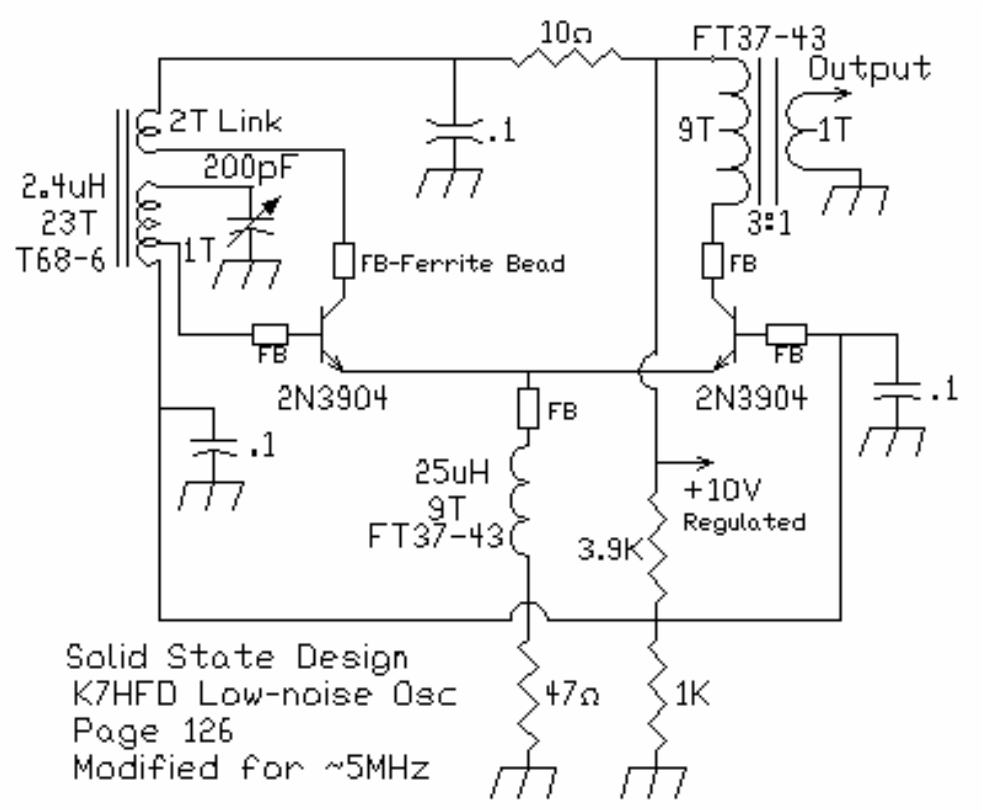
NETS:			
DAY	TIME	FREQ	NCI
Sun	0100Z	7.137	KC8NYW
Mon	0100Z	7.044	WB8ICN
Thurs	0100Z	7.044	KE1LA

(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 FPqrp frequencies are UP 4 kHz from the standard qrp frequencies except for 20 meters.

Thanks to David White, WN5Y we discuss VFO circuits this month!



In this issue:

Ramblings

Ok Gang, here's the latest issue of the Bacon Bits newsletter. The issue is a bit thin this month but I can only print what I get, but it's still a good issue.

I am resigning as the editor of the Bacon Bits right after I put the December 2003 issue to bed, sooner if someone will step up and give this job a go. If you are interested in being the new editor, please let me know. My email address is brian@iquest.net and I'd love to hear from you.

I am resigning because I am very busy doing a lot of other things in amateur radio right now. I am the Indiana Section Bulletin Manager, I am getting more active in the local amateur scene here in my home county, I am working on becoming a good MARS operator, and things are picking up at work requiring more of my free time.

I've had a lot of fun doing this, and so will you.

73 de KB9BVN

Stable BJT VFOs – WN5Y

In emails with Todd, VE7BPO, webmaster of the QRP Homebuilders site, we discovered that we were both building an all transistor receiver. The underlying reason was to have a design that would be buildable by hams in the most remote regions of the world. In remote regions of the world almost all the parts for ham radio projects come from discarded radio and TV sets. [1] This usually means building with only BJT transistors.

The first problem with building this receiver was a stable VFO. With most rigs using frequency synthesizers, DSS, or frequency stabilizer schemes, the demand for a very stable VFO is almost mandatory or the receiver will not be useable. So the first challenge of the project was finding an exceptionally stable VFO using bipolar transistors. Since the overall feeling about BJT VFOs was that they were not stable designs, we had our work cut out for us.

Every BJT circuit from the early 50s to the present was searched out, and VFOs that claimed the best in stability were built. The designs tested included "The Flashlight Sidebander" [2], "A General Purpose VFO" [3], "Meet the Remarkable but Little-Known Vackar VFO" [4], "Three Fine Mice - MOuSeFET CW Transmitter" [5], and a VFO from the ARRL Solid State Design book, the low-noise dual 2N3904 oscillator designed by K7HFD [6].

The VFOs that had outstanding stability proved to be "A General Purpose VFO", modified by Todd, the Vackar VFO, and the low-noise dual 2N3904 VFO by K7HFD.

Common Base Colpitts

From the very beginning of Todd's work on a stable VFO, he liked this design, which was presented in the 1970 to 1976 ARRL Handbooks as "A General Purpose VFO". His research indicated that this VFO was used in many of the early transistorized rigs and was very stable. A unique feature of this VFO is that the tank circuit is tied between the emitter and collector. The base is resistor biased with a .01 capacitor to ground.

Most of the early transistor VFOs used a large C to L tank circuit to swamp out the large capacitance in the BJT junctions. The problem was a very large phase noise output. The phase noise output was directly related to the amount of C used in the tank circuit. So a trade off was immediately apparent between trying to get enough C in the tank circuit to achieve stability versus keeping phase noise at a reasonable level.

The VFO from "A General-Purpose VFO" was not very stable and had a very high C to L ratio. Todd's modified version was built and was a considerable improvement over the original circuit.

Todd's work on this VFO revealed that the emitter resistor value, voltage divider bias, and capacitor type all affected stability. His VFO eventually achieved stability of plus/minus 10 hertz after warm up time.

Todd considered this VFO to be the most stable VFO that was ever built on the VE7BPO workbench. Check out his "Cascode 7" receiver at his website: http://www.qrp.pops.net/cascoder1.htm [7].

Vackar VFO

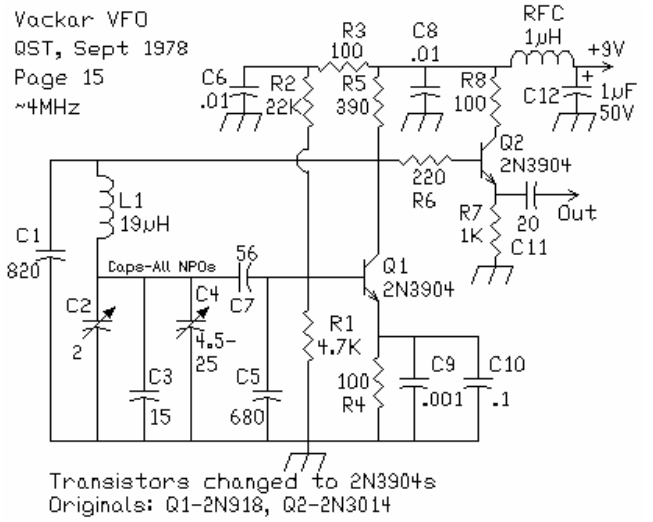
The Vackar's stability was noted in Jim Fisk's classic article in the 1968 issue of Ham Radio. He stated, "In the Vackar, the transistor is … connected across a relatively low impedance and is very loosely coupled to the tuned circuit." And, "…it has the greatest inherent stability of any known oscillator configuration except for a design with independent external load feedback." [8]

The author built the version shown in the article "Meet the Remarkable but Little-Known Vackar VFO", a BJT version used in a heterodyned 40 meter transmitter. [9] The VFO was very stable. Left running overnight with a temperature variation of almost 20 degrees, the Vackar did not drift over 50 hertz.

Phase noise is not one of the Vackar's high points, but the receivers the author has built with this VFO; the phase noise level has never been a problem. In most cases, the remarkable stability of this VFO makes it a good compromise for any homebrew receiver.

One caution in building the Vackar must be noted. Use a wire wound or homebrew RF Choke (7 to 15 turns on an FT50-43) on the B+ line; a molded choke will smoke and blow the transistor if the tank circuit is accidentally shorted to ground.

The FET version is even more stable and was used in the author's Electroluminescent Receiver Kit running at 14MHz. It proved to be the most stable discrete VFO the author tested for the kit. [10]



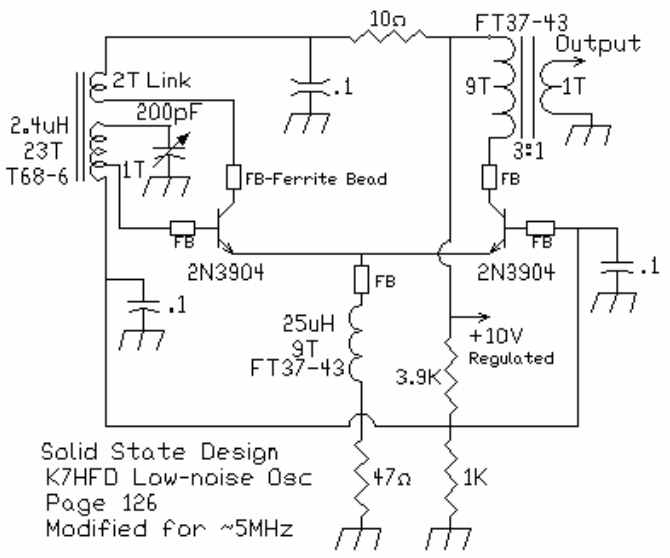
Low-noise Dual 2N3904 by K7HFD

This circuit was the biggest surprise of all. In the text describing the circuit in the 2002 ARRL Handbook, the heating of the transistors from the high output levels was noted as a detriment to the VFO's stability. However, in the author's prototype the VFO was very stable after a ten minute warm up.

The high output of the circuit means a buffer amplifier is not needed and the low-noise feature of the VFO yields a very good receiver with little effort. The VFO is also a very easy build. The parts count is very low. And it is just unbelievable that such a good VFO can be built with a couple of very common 2N3904s.

The circuit does not key very well when used in CW transmitter circuits. A heterodyne circuit with a keyed crystal oscillator would be best for use in a transmitter.

For receiver designs this VFO has got to rank among the best. After a 10 minute warm up, stability was within 50 hertz for the first couple of hours. I have chosen this VFO for my transistor receiver, but I am just in the beginning stages, way behind Todd, who already has his receiver on the Internet.



Conclusion

Don't believe anyone who says that BJT VFOs are not stable. The statement is just not true. Todd's common base Colpitts VFO came in first for stability, the Vackar second, and the dual 2N3904 came in third. But this is cutting some very fine lines,

for all three will make a very respectable VFO for a modern receiver.

The easiest to build was the common base Colpitts, then the dual 2N3904. The Vackar has the highest parts count, but its stability has been famous for decades. If you are suffering from the no job blues, dig transistors out of an old radio or TV and enjoy a stable VFO.

References

[1] Check out the Summer 2003 QRP Quarterly, "QRP Hall of Fame", page 48. Arnie Coro, CO2KK, "Arnie is responsible for many Cubans and Latin Americans becoming hams and for building their own equipment, using commonly available parts, often salvaged from Russian TVs."
[2] "The Flashlight Sidebander", by R. P. Burr, W2KQP, QST, August 1972, page 27.
[3] The original article appeared in QST, "A General-Purpose VFO", by Doug DeMaw, W1CER, September 1968, page 40.
[4] "Meet the Remarkable but Little-Known Vackar VFO!", by Floyd E. Carter, K6BSU, QST, September 1978, page 15.
[5] "Three Fine Mice - MOuSeFET CW Transmitter", by Michael J. Masterson, KA2HZA, QST, December 1986, page 19.
[6] Also in the 2000 ARRL Handbook, "AC/RF Sources (Oscillators and Synthesizers)", Chapter 14, page 14.18.
[7] QRP Homebuilders Site, http://www.qrp.pops.net
[8] "Stable Transistor VFO's", by Jim Fisk, W1DTY, Ham Radio, June 1968, page 14.
[9] Same as reference [4], schematic on page 16.
[10] Electroluminescent Receiver Kit is on the Internet at the following address: http://www.pan-tex.net/usr/r/receivers

Recycled Enclosures – KC8AON

Most everyone that homebrews equipment has the problem of finding suitable inexpensive enclosures for their projects. I know a lot of folks use things like Altoids boxes, and other containers from the local super market and I am guilty of that myself. But in reality, I like my homebrew equipment to look like radio equipment ! And I'm not trying to belittle anyone that builds their projects in candy boxes, I'm just stating my personal preference.

If you have priced commercially available enclosures lately, you have already found out how expensive they can be. What I do for enclosures is to look around at hamfests, flea markets, and rummage sales for enclosures. For a transceiver project, I find there is nothing more suitable than an old broken down CB unit ! Most of the time you can get one that doesn't work for around a buck, and sometimes for free !

The CB will already have an antenna connector installed, plus a power connector and external speaker jack and PA jack on the back panel and several controls and switches on the front panel and maybe a meter and some LED's. You also get a good assortment of resistors, capacitors, diodes, transistors and other goodies to boot. The enclosure itself may need a bit of cleaning and maybe a coat of paint, but you can find spray paint for around a buck a can if you look in the right places.

CBs aren't the only things that have good reusable enclosure either ! Things like old non working test equipment, old external modems (I had a guy give me 4 of these at a local hamfest recently), metal file boxes, computer serial port switch boxes, old mobile cell phone amplifiers which are very rugged cast aluminum, and the list goes on and on. The main thing is to look around at what you can find and picture in your head how your latest project might look in what you have found. USE YOUR IMAGINATION !

If the enclosure has more holes in it that you need for your project, or the holes are in the wrong place, all is not lost ! What I do in this case is to use either some sheet aluminum or sheet plastic to make a new faceplate and just use it to cover the existing panels, then drill the new holes wherever you need them. If you want a really good looking colored front panel, use clear plastic sheet and spray paint the back side of it any color you desire, making a very good looking panel !

The bottom line is, your projects can have commercial quality enclosures without being overly expensive, all you have to do is learn to recycle ! Happy building to all, don't ya just love the smell of molten solder ?

72/73
Rick McKee, KC8AON

KE1LA – Still Misplaced

High Y'all

well this bees the new format.... what ah is gonna due is write some little bit avery day and at the end of the month we all gets to read it.. Ok.... now let me kneaux if this is ok with u or not...

Sat aug o2
Mah xly gots me a new baby guinea pig... they (them older ones, 5 of em) has their houses and lawn right next to me... fact is, they is right to mah right... They gots three big houses and 3 or so little uns to rest in... and a wood chip field to play in unless they decides to roam the house.... an't no fences heah... kinda like the bayous... iffin u brave enough to geaux up em, have at it... so far they done stayed on the carpet area and left the floors alone... which is good cause we gots some mouse traps on the floor in the kitchen... gotta disable them till we see what the new youngun is gonna do....

U kneaux ah tried to taught one of them guineas how to send code... yep... had wooden paddles back then.... and actually the guinie got fairly good up to bout 10 wpm... but the little critter ate up the paddles... one night on cw she told me her goal was to geaux pass the 20wpm code test in front of an examiner from the fcc and pass all the written tests they aver put out...

Ah gots to expaining to her that thair was neaux need for dat... fact is iffin u an't passed a recent exam u had it easy, yea, real easy... Ah has taken most of them tests and them old ones is easyier than them new phangled ones... however they all be unique, in they all be the hardest to date whan u take them.... its just after one gets a bit older and suposedly smarter them old tests seem so easy...dat seemed to make her relax meaux...

What about the code she asked... well ah said...code is a peculiar thing u kneaux... it an't hard for most, however it is time consuming for averyone... and folks with certain learning disabilities just an't able to swing it...learning disibalities can be terrible things u kneaux...

Howevers for sharp little guineas like her, it was just a matter of time and practice...and iffin she liked the cw she would be copying in the teens in a relative short time....now this made her happy cause she liked the code...then she asked me to got her a Guinie keyboard and computer so she could keep up with them folk what wouldn't slow down for her... so now we is looking for a program what converts the CW to guinea language...

Ah also explained to her about the history of cw... how important it was to be able to copy code and how new technology can send and receive meaux faster and accurately than the cw... however it was still fun and really liked by lots of hams.... course now we is talking about hobby stuffs and not commercial, make money stuffs... so cw kinda lost its popularity in many circles 'cept the ham circle whare cw bees almost a religion to many....

Than ah explained to her how she may hafta read books for many years before she can be a ham as lots of older hams, realizing how easy their tests was, now what they got 20 to 40 years experience in it and maybe an ee daygree or two... they wants the young hams to come on board with the same amount of experience what they got now.... and it an't necessary... learn ur regulations, and how things generally operate and u is in good shape, ur interest will get u the knowledge u need to kneaux for any particular method of operation... and iffin u an't gots the time to do that now, waits till u retire... and gots time.... take up fishing in the meantime or something else what be of interest and is not being unnecessarily put outta reach of the evryday guinea, for ego reasons...

Gots to geaux now... be back later.... joel

Tuesday, Aug, 05
High again y'all
yea Martha, ah ban flying mah computer plane sum meaux... an't crashed any meaux either 'cept for the times ah forgots to put the landing gear down... they should be auromatic anyhow... :-) Ah set up fog and overcast conditions last nite and told the xyl ah was so proud cause ah was flying in a fog.. She come ovah and look at the computer , smiled , and said... so what's knew... u ban flying in a fog all u life... :-) Oh yea, dat's what ah wanted to told u today... last nite while ah was flying (in a fog) from houston texas to dallas fortworth and waco ah was also playing cw with the k2... worked a LZ2EV... Len....

out thair somewhare... while ah was pounding out my info ah looked ovah and my plane done a perfect .. Double back, tripple loop... with a 180* roll at the top of the last loop...

Dang if that wasn't pretty... watching them meeters geaux round like they ban drinking.... anyhow the trip turned out to be mah best yet .... come in on instruments and the runway was right thair in front of me each time.... almost dead center too... +- 0 foots per minute landings...ah musta ban sniffin sum burned xformer smoke.... ah felt so good...
Oh, the back done got itself better... ah can lay down now and got comfortable in 'bout 5 minutes ... not all the time, but most.... Last nite the xyl winked, that wink at me and ah gots up to geaux see... u kneaux... but with that back, by the time ah gots up, ah forgot, what for, so ah went play radio... had burnt toast for breakfeast this morning, she don't do that often...guess ah musta done or not done.... sumthin...last nite...

This morning, the WX bees overcast and light rain, so ah bees waiting for the 40 meter sleau scan net to come on... yea man, ah does good on sstv most of the time... if conditions be at least half way good...u kneaux... dat what a big hunk of wire be for... kinda like facing down wind in a gale.... helps keep u dry while the job gets done....

Reminds me of the time on Bayou Self... deep in south louisiana... ah was in mah big pirogue... the 14 footer... and ah made some dagger boards outta a couple oars ah found...and had mah amateur kite (one which holds the long wire ant up) flying and the k2 goin and just sailing in the breeze...having a cold one or two... and doing cw with mah toes... now don't ah geaux and falls asleep.... when ah woke,up ah done spilled mah half full can of cola (and u thought..) And got the frights.... ah was not in bayou-self anymeaux... ah was in weeks bay, skimming cross three foot waves, about eleven teen hundred miles per hour, pulled by mah kite... St. Pierre.... I tell u man...

Ah got so scared ah done filled the boat with meaux water..... and dat wind was taking me straight to southwest pass... what goes into the gulf of mexico.... oh megga poop man...

Then ah saw it... land, marshland... actually, marsh island ... which meant ah was now scooten cross vermillion bay, right past them oil platforms what ah used to use for mah antenna holder upper... till the lightnin came... anyhow... marsh island meant ah was saved... soft goey marsh what difficult to walk and stay alive on.... however in the pirogue ah gonna be high and dry till someone come rescue me...
Sheaux enough... up the muddy shore and right next to this big log in the marsh grass is whare ah landed... safe and sound.... 'cept for that bigh gator what looked like a log sittin next to me... man he dang near big as mah pirogue.. May ah guess he wasn't hungary, cause he just looked at me and yawned and went back to sleep....Ah grabbed my key and call out sos and sma
(sma bees for the cajun sos...) And soons enough one of them coast guard hellicopters come by and pick me up.... pirogue and all... nice folk them coast guard people... almost talked them into saving mah pet gator... :-)

ok, ah saw u some meaux later...
It be later now... just checked into the new england ssb qrp net on 7.285 actually 7.288 tonite... my twin lead was all wet and laying on the wood porch, however ah managed to got the k2 loaded to 5 watts or so and checked in....was nice for ncs to say hi y'all back...sounded like Chuck, Ron, Jim, Ed, and me was checked in... man qrn was murder... Glad to see the ssb net still going strong...

With mah back feeling better, ah was thinking about an eighty meter MOXON... two elements on eithty... done that once with wire.... 66ft across and 33ft hanging on each end... worked good at bout 45ft off the ground. That put the ends clearing the ground.... thinking I might drop the ends of the MOXON and see what happens... could be a great idea... let me look up the formula and got the measurements for myself to look at.. Bees backs in a moment...ah is back... sry ah took so long...

Hmmmm looks like it sure would look funny... think ah ban drinking too much "gator aid" hee hee.... on to other thoughts... ah just drawed a funny picture of what that antenna might look like..

Heck... if the rain aver stops ah just might try the thing.... gots just enough room for the spacing...
Oh well... listening to the static on eighty meters..

White noise, easy listening...ah be tired now... saw u sum meaux later...

Today be Fridays, Aug, 8

got exciting today... wrote a serious post on "the L" and avery bodies what come back at me don't realize they be agreeing with me... funny thing... folks is... ah kneau cause ah is one...

Man what 'bout this BPL thing... wild huh... can u imagine the World Wide intefference that is gonna be caused by all them wires acting like qrp rigs on all dem frequencies... think about it... hams done proved u can jump the ponds with just a few milliwatts... and this thing, bpl is gonna use the best frequencies to do the jumping 24 hours a day... Ed done a good thing for the amateur community doccumenting this thing...

Oh bout this late field day thing... it was fun... made leventeen hundred contacts... none of em counted... found a few folk who thought it really was field day, however they was few and far between... lets just say we brought a smile to lots of hams...
Man this back... feels better... then feels worse... couldn't have picked a better time to join the volunteer fire dept... just climbing into a fire truck is an adventure... and iffin u push the right buttons the engine runs and the lights flash... and the hoses shoot water... I probably will be ready to geau to mah first fire this fall or winter.... gonna be cold... think ah might pull the mirror up to the couch and talk with doc joel some.... gotta be a rational explanation heah.... fire truck mobile..
Gotta get some sleep now... u be good...

Friday Aug 10...03
Well high y'all
gonna get rough heah, as ah is in a blue, blue mood... standing on the banks of bayou-self... and staring out into bay-who... with its three foot waves rolling across the bay before the 20+ mph wind...overcast skies and rain coming across the bay...the rain will be here is another 45 minutes or less... then ah'll be standing in the rain... feeding the mosquitoes...and watching the water race back into the bay... totally un-concerned about the drenching it just gave me...ah is blue... tonite...

Reminds me of the time ah made a surf board outta a big aligator tail... took a lot of work but ah had a good 8 foot tail what was wide in the back and came to a point in the front, actually the point of his tail...anyhow, we had a strong wind blowing from the south... so the water was rising and the waves were big three footers , a good 10 foot across and moving towards a place what is called Cypremort-point what be about 15 miles north of "the pass" what goes into the gulf of mexico...

ah gots my friend Alphonse to tote me out to the pass on his way to geaux shrimping in the gulf...I gots on mah gator surf board and got on top of one wave... and rode it across vermillion bay to the point... like riding a qrp signal wave from the xmitter to the receiver... what a trip... kinda sad too... took a coupla hours, then the wave dashed against the muddy shore...and it was gone... my friend of 2hrs what brought me great pleasure and adventure was no meaux...

U aver feel like u being dashed onto the shore? Feels different than being out in the middle of the bay, free, alive, sumthin to look foreward too...and then comes the shoreline and u seem to move faster and faster to a certain demise...only to crawl back into the bay, like a snake across the mud...The cresting and bursting against the shore in futule anguish, now... nothing more than drops of water, dripping form the bank... back into the bay...

And a noble wave it was, different form all the rest, because it was "my wave" I got to kneaux it well... and it did all that a wave is supposed to do, in that situation...obviously well studied in the art of waving over a bay... I miss "my wave" and remember how it boldly crested into the shore... holding nothing back... and giving up its - self — in the process... Truly a most noble wave it was...

KE1LA JOEL
IN MAINE
FREEZIN

WAP Contest Update

Currently we have 46 Flying Pigs that have posted their ongoing results to the website. (http://www.fpqrp.com)

As of 09/03/2003
Rank, QSO #, Callsign
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1 94 K3ESE	2 56 K4FB
3 56 N0JRN	4 55 AF4PS
5 52 W8DIZ	6 50 KG4FSN
7 34 AC5JH	8 33 KB9BVN
9 31 WB8ABE	10 29 N7MFB
11 28 AJ4AY	12 25 KC8AON
13 23 W0EB	14 20 K9DI
15 20 KW4JS	16 19 NN1F
17 19 WN4M	18 17 W9FCC
19 16 K8FP	20 16 WB0WAO
21 16 WB8YYY	22 14 KG0TW
23 14 N8IE	24 13 KI8JM
25 13 W7ILW	26 12 KC4URI
27 11 K8ZT	28 10 VE3VG
29 9 KB5ELV	30 8 W0CH
31 8 W0JRM	32 6 KQ9L
33 6 VE3CRM	34 6 VE3FAL
35 6 WU9F	36 5 K6MMC
37 5 K8PZ	38 5 KJ0C
39 5 W8KEB	40 4 KG4LDY
41 4 WB6JBM	42 4 WR5O
43 3 AG4NY	44 3 KC5GXL
45 3 W9HL	46 1 WV9N

Remember piggies, we have fabulous prizes on the line!

September QRP Contests – TNX to Ken N2CQ

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N2CQ QRP CONTEST CALENDAR
September 6-29, 2003

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IARU Region 1 Fieldday (SSB) ... QRP Category
Sep 06 - 1300z to Sep 07 - 1300z
Rules: http://www.sk3bg.se/contest/iarur1fd.htm

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AGCW Straight Key Party (CW - 40 Meters) ... QRP Category
Sep 06 - 1300z to 1600z
Rules: http://www.agcw.de/

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NA Sprint (CW)... QRP Category
Sep 07 - 0000z to 0400z
Rules: http://www.ncjweb.com/sprintrules.php

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Worked All Europe DX Contest (SSB) <100W Low Power Category
Sep 13 - 0000z to Sep 14 - 2400z
http://www.darc.de/referate/dx/fedcw.htm

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Swiss HTC QRP Sprint (CW) *** QRP Contest ***
Sep 13 - 1300z to 1900z
Rules: http://www.htc.ch/

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Louisiana QSO Party (Ph/CW) ... QRP Category
Sep 13 - 1400z to Sep 14 - 0200z &
Sep 14 - 1400z to sep 14 - 2000z
Rules: http://www.tchams.org/users/contest/laqp/laqprules.html

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ARRL September VHF QSO Party (All) Low Power Category
Sep 13 - 1800z to Sep 14 - 0300z
Rules: http://www.arrl.org/contests/rules/2003/sepvhf.html

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Second Class Operator Club Marathon (CW) *** QRP Contest ***
Sep 13 - 1800z to 2400z
Rules: http://www.qsl.net/soc/

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NA Sprint (SSB)... QRP Category
Sep 14 - 0000z to 0400z
Rules: Rules: http://www.ncjweb.com/sprintrules.php

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Tennessee QSO Party "/QRP entries so listed"
Sep 14 - 1800z to Sep 15 - 0100z
Rules: http://www.k4ro.net/tcg.html

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Scandinavian Activity Contest (CW) ... QRP Category
Sep 20 - 1200z to Sep 21 - 1200z
http://www.sk3bg.se/contest/text/sacnsc.txt

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Collegiate QSO Party (All) ... QRP Category
Sep 20 - 1200z to Sep 21 - 0400z
Rules: http://www.qth.com/collegiate/qsopartyrules.htm

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South Carolina QSO Party (ALL) ... QRP Category
Sep 20 - 1300z to Sep 21 - 2100z
Rules:
http://www.geocities.com/CapeCanaveral/2695/SCQSOWeb.htm

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QRP Afield (All) *** QRP Contest ***
Sep 20 - 1500z to Sep 21 - 0300z (Enter your best 6 hours)
Rules: http://www.qsl.net/wq1rp/

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Washington State Salmon Run (CW/SSB) ... QRP Category
Sep 20 - 1600z to Sep 21 - 0700z
Sep 21 - 1600z to Sep 21 - 2400z
Rules: http://www.wwdxc.org/

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Fall QRP Homebrewer Sprint (CW/PSK31) ***QRP CONTEST***
Sep 22 - 0000z to 0400z (Sunday evening in US/Canada)
Rules: http://www.njqrp.org/data/qrphomebrewersprint.html

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CQWW RTTY DX Contest ... <150w Category
Sep 27 - 0000z to Sep 28 - 2400z
Rules: http://www.cq-amateur-radio.com/awards.html

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Tesla Cup ... QRP Category
Sep 27 - 0000z to 2400z (SSB)
Sep 28 - 0000z to 2400z (CW)
Rules: http://members.aol.com/k3bu/TeslaRC.htm

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Scandinavian Activity Contest (SSB) ... QRP Category
Sep 27 - 1200z to Sep 28 - 1200z
Rules: http://www.sk3bg.se/contest/text/sacnsc.txt

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Texas QSO Party (All) ... QRP Category
Sep 27 - 1400z to Sep 28 - 0200z
Sep 28 - 1400z to Sep 28 - 2000z
Rules: http://www.txqp.org/

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Alabama QSO Party (CW/SSB) ... QRP Category
Sept 27 - 1800z to 2400z
Rules: http://web.dbtech.net/~dxcc/rules1.htm

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Arkansas QSO Party (CW/SSB/PSK31) ... QRP Category
Sep 28 - 0002z to 0600z &
Sep 28 - 1400z to Sep 29 - 0100z
Rules: http://www.arrl.org/contests/months/sep.html

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Thanks to SM3CER, WA7BNM, N0AX(ARRL), WB3AAL and others for assistance in compiling this calendar.

Please foreward the contest info you sponsor to N2CQ@ARRL.NET and we will post it and give it more publicity. Anyone may use this "N2CQ QRP Contest Calendar" for your website, newsletter, e-mail list or other media as you choose.

(Include a credit to the source of this material of course.)
72 de
Ken Newman - N2CQ
N2CQ@ARRL.NET
http://www.amqrp.org/contesting/contesting.html
http://www.n3epa.org/Pages/Contest/contest.htm

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