

THE KEYNOTE

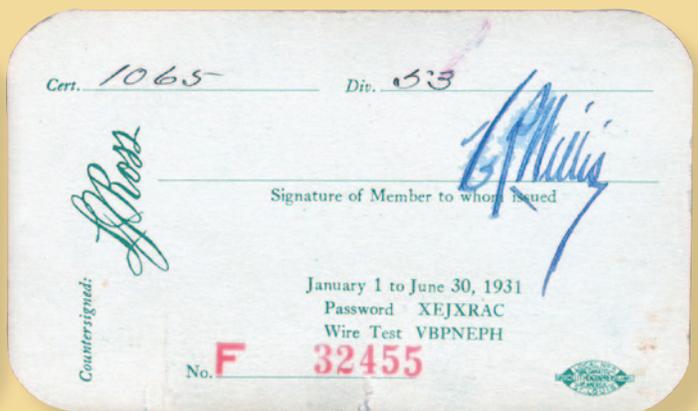
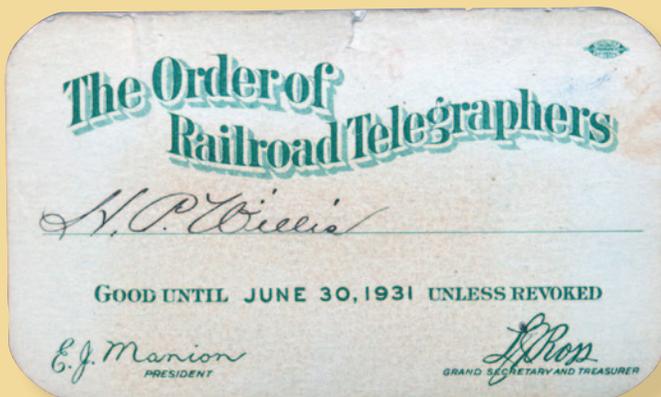
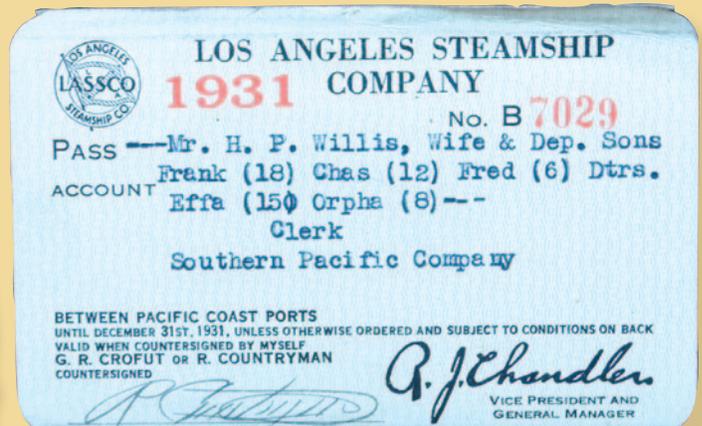
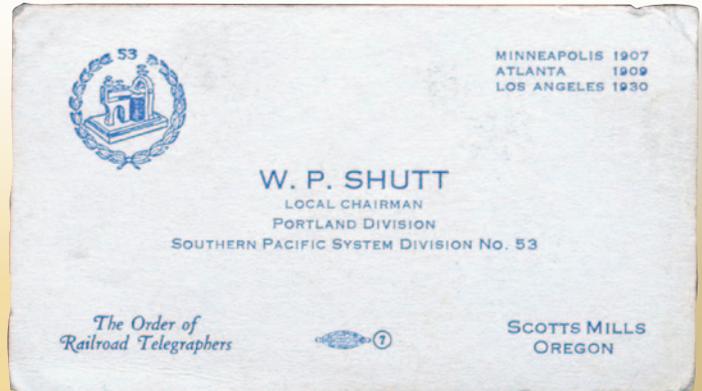
Newsletter of FISTS CW Club – The International Morse Preservation Society

Issue 2, 2013

K3PLS, Paul Saffo, found these items in a wallet he bought at an estate sale. A part of Morse history, even though it was American Morse and not International.

New Agent Arrives
 Willamina—H. P. Willis of Woodburn arrived here Tuesday to succeed V. E. Franker as Southern Pacific depot agent. Mr. and Mrs. Franker left Wednesday for Portland to await an assignment, which will probably be relief agent work for an indefinite period. Mr. and Mrs. S. E. Bryant will move into the house vacated by the Frankers in a few days.

GOING TO SPOKANE



"When You've Worked a FIST, You've Worked a Friend"



INFORMATION PAGE

When you have a question about FISTS, go to the source for the correct answer.

Posting a question on a chat room or email reflector may result in a lot of opinions, but your best bet is to ask a FISTS volunteer or look in the reference issue.

Please put the word 'FISTS' somewhere in the title of your email.

This will help the volunteer recognize that your email is important and not spam.

For questions about:

Awards and Certificates contact

Dennis Franklin, K6DF, fistsawards@gmail.com
4658 Capitan Drive, Fremont, CA 94536

The QSL Bureau contact

Stan Reas, K4UK, k4uk@rev.net
1020 Long Island Drive, Moneta, VA 24121-1952

Our club call KNØWCW contact

Karl Zuege, KB1DSB, hmc.ret.karl@myfairpoint.net:
2176 Drake Road, Bomoseen, VT 05732

The membership roster, call changes, name changes contact

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2628 Lilac Street, Longview, WA 98632-3525

To get an application or sample Keynote sent to a friend contact

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33778 Rebecca Road, Kingston, IL 60145

Web page changes, getting your personal or club webpage linked, etc contact

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Get Your Feet Wet Weekend /G3ZQS Memorial Straight Key Contest contact

Curtis Gidding KC9UNL, feetwetlogs@fists.org
109-B West Tomaras Avenue, Savoy, IL 61874

Ordering supplies: Irene Kott, WØ8E

44609 North Bunker Hill Dr, Clinton Twp MI 48038
or paypal to fists@tir.com.

Irene has no email capability. Some shirt sizes are sold out — check web page or email Nancy, WZ8C at nancy@tir.com.

All other questions, callsign/email/ postal address changes, (NO we do not get this info directly from the FCC!) renewal dates, membership questions and MOST IMPORTANTLY — articles for the Keynote, contact Nancy WZ8C, nancy@tir.com; PO Box 47, Hadley, MI 48440, phone 810-797-2033, fax 810-797-5808.

Please check your label for your renewal month/year — dues are \$15/year. and include award certificates, newsletter and use of the QSL bureau.

FISTS CW CLUB

The International Morse Preservation Society



“When You’ve Worked a FIST, You’ve Worked a Friend”

North American Memo • Issue 2, 2013

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Hi FISTS,

Thank you SO much for the outpouring of emails, cards, letters and phone calls about my recent hospitalization and the death of my brother. My family and I appreciate it and it really helps to know so many thoughts and prayers are being sent our way.

Things are settling down and I am feeling much better, but it will be a sort of “bare bones” Hamvention booth because unfortunately, unlike Gepetto in the fairy tale, I am the one who packs the boxes of supplies, applications, info pages, signage, shirts and supplies, and tons of everything! Well, I am feeling much better, but still have a 10-pound weight lifting restriction and my stamina isn't back to normal, so I will not be able to run around like I usually do. I will also have to take a lot of breaks, so if you can spare an hour or two, your help would be appreciated. I promise you will have a lot of fun and the time will fly by.

One more thing I'd like to ask is for some moral support: Pse try and attend my presentation at the Town Meeting forum on Saturday. I've been asked to speak about a DX/CW experience, and I decided to talk about how I met Geo, FISTS founder. It would be great to look into the audience and see a big fistful of FISTS, hi hi.

We have the Sprint coming up the 2nd weekend in May, the rules and entry form are in this issue. Hope you join in. I get a lot of mail asking where are the new FISTS are, so get brave guys and jump in. Sprint contacts are short and the most painless and easiest ones you'll find, try a couple, you'll make a lot of people happy and you will get a great sense of accomplishment.

I'm all caught up on the mail/paypals thru the 1st week of April, if you have sent in an order before that time and didn't receive it, or there is a problem with it, please let me know. If you've sent a renewal, your updated date is on your mailing label. If it isn't reflected there, again, let me know so I can fix it. If your date shows that it is renewal time, please renew. Renewal notices are expensive and time consuming, it is a big help and helps keep costs down if you renew without waiting for a notice. Renewals are \$15 to FISTS, PO Box 47, Hadley MI 48440 or via Paypal to fists@tir.com. Thanks! Now, on with your Keynote and in the FISTS tradition, “stay sober”...73 88 33 Nancy WZ8C



WELCOME TO THE NEW FISTS

Member Number	Callsign	First	ST	Member Number	Callsign	First	ST
MEMBER NUMBER	CALLSIGN	FIRST	ST	16122	K6DAT	JON	TX
16055	WG9I	TOM	WI	16123	KB2HUK	JOHN	NY
16056	NN4K	VADEN	GA	16124	VA7JWS	JOHN	BC
16057	W2OKA	JIM	GA	16125	AK4SQ	DAN	VA
16058	WA1UQO	ARMAND	VA	16126	W2RIK	RIK	NJ
16059	KK5GL	BRUCE	TX	16127	N7NTQ	DAVE	WA
16060	KD4RVH	JIM	FL	16128	N5FAN	LARRY	TX
16061	WA3PRR	RAY	PA	16129	N9XV	KEVIN	IL
16062	VE3DTI	JOSE	ON	16130	KF5OEF	MITCH	TX
16063	W0GUY	BILL	KS	16131	N8MRS	MIKE	OH
16064	WZ0L	LARRY	NE	16132	K8KZB	JEFF	MI
16065	WS5D	JACK	NM	16133	WA8MY	AMY	MI
16066	KJ6AMF	RAY	CA	16134	K0PTK	RON	NE
16067	W3UEC	STEVE	PA	16135	N4ATX	DARREN	SC
16068	N7UN	GUY	NJ	16136	KD3CA	DON	PA
16069	KK4KXX	JOHN	TN	16137	WS3T	MARK	PA
16070	AK4AO	DOUG	VA	16138	K7DUT	DUTCH	NV
16071	K4RHD	MORGAN	VA	16139	KD2BAN	PETER	NY
16072	KG4Q	LARRY	FL	16140	KF5TKC	RICK	TX
16073	KB4RZG	STEVE	NC	16141	AC8LJ	ERIC	WV
16074	N5MAV	MATT	TX	16142	KB0ZLK	TIM	MO
16075	VA2VL	JEAN-FRANCOIS	QC	16143	WA6VZA	FRANK	CA
16076	K1PYU	LEN	CT	16144	NO CALL YET	CHARLES	TN
16077	AJ4VP	JAMES	CA	16145	K5FP	FRED	TX
16078	WK2S	ART	NJ	16146	W5MI	MIKE	LA
16079	N9BPY	LARRY	IL	16147	WK2T	JOHN	NY
16080	N0SPY	ERIC	MN	16148	KC2KKX	PETER	NY
16081	AB4KJ	MIKE	IL	16149	VA3BWF	JOSEPH	ON
16082	K5WL	WILLIAM	TX	16150	CLUB		
16083	VE5EL	ERIC	SK	16151	KB3FTE	REAGAN	PA
16084	K4BR	JOHN	GA	16152	N3RO	RICK	MN
16085	WB2MSC	MARC	NJ	16153	K2OO	ANDY	TX
16086	VE3DQN	DON	ON	16154	WN2BRU	VINCE	NY
16087	K4RHG	RON	FL	16155	KG6EYC	FRANK	CA
16088	AA7RX	ROXANNE	NE	16156	K4GHS	BEN	NC
16089	AG2AA	STEVEN	NY	16157	W2CWI	JOHN	CA
16090	KD8PGA	BILL	MI	16158	N8AFT	LANE	OH
16091	KA4BAT	JOHN	OH	16159	NO CALL	TREN	WA
16092	KJ3Q	AL	FL	16160	AE5XK	DANIEL	NM
16093	K3MJ	RICHARD	PA	16161	KB9VLR	ADAM	WI
16094	KD0NWN	ROBERT	KS	16162	N5HHH	DANIEL	AR
16095	KK4DNZ	CAROLYN	FL	16163	WA5DTK	BARRY	TX
16096	KC8TZU	RICHARD	OH	16164	K7JGS	JEFF	CA
16097	WB8EYE	JIM	MI	16165	KB3VWK	RAY	MD
16098	KF5OZH	RONALD	TX	16166	AA7IX	MARTY	WY
16099	KF7RBK	TED	WA	16167	KA3EVT	CHRIS	PA
16100	FUTURE CLUB			16168	KC4FIT	STEPHEN	TN
16101	VA6JB	JOHN	AB	16169	KJ4IKN	BEN	KY
16102	N7IGI	BOB	UT	16170	N1MB	MIKE	TN
16103	W9CTW	CRAIG	IL	16171	KD1OT	GOOLS	CT
16104	KK4CNF	DAVID	VA	16172	KE4SND	JOSE	GA
16105	WD2F	JOSEPH	NY	16173	K5DOR	PHIL	TX
16106	KC2IFH	ALEX	NJ	16174	KG0AJ	JIM	CO
16107	K1SKC	JOHN	OK	16175	W7KCN	JOHN	WA
16108	AD9Z	DAVE	IL	16176	N7DRW	HORACE	WA
16109	K6HP	ED	CA	16177	FG8NY	JEAN	
16110	K4CMK	CHRIST	VA	16178	AA7YQ	KEVIN	MT
16111	KO2I	JACK	NY	16179	AB6WL	EARLE	CA
16112	N8WE	GLEN	OH	16180	KK4AOF	LLOYD	TN
16113	KM5SG	HENRY	TX	16181	KZ8R	DON	NC
16114	WB7EUX	TOM	OR	16182	W2SBC	BOB	NH
16115	N6WBL	JASON	CA	16183	N5XH	JIM	CO
16116	KJ6CFB	JOHN	CA	16184	W3ADE	JOHN	PA
16117	VE7BGJ	WALTER	BC	16185	N4YNR	JIM	NY
16118	A12D	JOHN	NJ	16186	W7HGW	TON	MO
16119	WV6B	DON	CA	16187	KB1NZP	PETE	ME
16120	AA9L	RICH	WI	16188	WR5T	TONY	TX
16121	KB3DX	JEFFREY	DC	16189	KF5JEH	GARY	TX

FISTS AWARDS

By Dennis, K6DF

This sun spot cycle has left HF radio amateurs with a lot to be desired. The lack-luster solar activity has not made the bands as useful and active as cycles of the past. With that said . . . we've had a few good band openings, which in turn has picked up the FISTS Awards activity.



Erkki OH7QR with his Awards Plaque.

No "qualifying" logs were received for the FISTS 25th Anniversary Prefix Version 3 award and as a result no plaques were issued for the Version 3 Award. Instead . . . we issued 25th Anniversary Plaques to the top ten logs submitted for both of the Version 1 and 2 Awards. These plaques were issued for Outstanding Operating Achievement during the FISTS 25th Anniversary year 2012. The following operators received these plaques and deserve special mention here.

FISTS 25th Anniversary Outstanding Operating Achievement Plaques were issued to G4MLW, Dr. Ian Jones, his logs for Versions 1 & 2 were received on 2/28/12, an outstanding accomplishment just

two months into the year!

- GØOTT, Darren McDonald
- KØLUW, Russ Halbert
- OK1KW, Milan Pavel
- WBØPYF, Ray Myers
- K4UK, Stan Reas
- G4LHI, Peter Rosamond
- KA5VZG, Alan Schriver
- AE7US Rocky, Cookus
- OH7QR, Erkki Simila

Congratulations to All !

You can view the award plaques on the FISTS USA web site at: <http://www.fists.org/awards.html#two5thAnn>

You may use the following e-mail address, (awards@fists.org) for sending in your award logs. Excel, Word, Open Office, and Text files are the only file types accepted.

Please read the e-mail log rules on the FISTS web site for details.

Send in complete logs for awards. That means all of the following information; Call, Date of QSO, Band, FISTS Nr., Point/s claimed for each QSO. Incomplete logs will delay receiving your award.

Check the FISTS Web Page for additional information regarding current FISTS awards and how to apply for them: <http://www.fists.org/awards.html>

If you have any questions about the awards that are not answered on the FISTS awards web page, feel free to e-mail your questions to me at awards@fists.org

Keep banging the brass . . . I will C U on the bands . . .73, Dennis K6DF



FISTS AWARDS ISSUED — Nov 19, 2012 To Mar 24, 2013

Century Award	WA6OEF MØBUY	Millionaire Award	WA6OEF	5 Million Award	OK1KW
		NANFA Award	W5VYN		WA6OEF
Silver Award	DL4FDM WA6OEF	Veteran Award	W5VYN		ABØBM VK4TJ
Gold Award	K8MW	Perpetual Prefix Award	DL4FDM	6 & 7 Million Award	OK1KW W5VYN
Diamond	K8MW W5VYN	2 Million Award	WA6OEF		
		3 & 4 Million Award	WA6OEF	8 & 9 Million Award	W5VYN
Platinum 250 Award	K8MW		KC2LSD		

QRP WITH K3WWP — COLUMN #97

by John Shannon, K3WWP

It's always nice when hard work goes rewarded. These comments from Tom KC9RXI in a letter I received recently serve to make my efforts worthwhile in writing these columns, "John, I have read your column in the Keynote news letter for the past 2 years. You have taught me a lot about operating on the air. Thank you. The work and effort you put into your column is greatly appreciated. 73, Tom KC9RXI."

And thank you Tom for taking the time and effort to put your comments down on paper and mail them to me. The reward comes from knowing my efforts help someone. I also get a lot of comments in on the air contacts from hams who read and appreciate the columns.

Just exactly what is QRP? I liken it to Kleenex. Huh?? Kleenex is a word that has pretty much changed meaning over the years. Originally it was a brand name for facial tissues, but it has evolved into a generic name for facial tissues. When you're visiting someone and need to sneeze, you don't ask for a

facial tissue, you ask for a kleenex.

Likewise QRP is one of a series of Q signals designed to shorten telegraph communications and make them more efficient. For example QTH? means roughly "What is your location?" and QTH Kittanning, PA in response means "My location is Kittanning, PA." That's a big savings in letters sent and received. QRP? meant originally (and technically still does) "Shall I reduce power?" and QRP meant "Reduce power."

Nowadays QRP has evolved into a noun meaning operating with 5 watts or less output power. You

might say something like, "Rig KX3 at QRP 4W to a dipole." In common usage and by current definition QRP means an operation with 5 watts or less. I hear some folks say erroneously, "I'm running QRP at 8 watts, 10 watts, etc." Not on CW they're not. It's 5 watts or less, period. Any awards, certificates, achievements that are earned with QRP must be done using 5 watts or less output power.

Now what happens with that 5 watts after it leaves your transmitter (or amplifier) technically doesn't matter. You can send it to a large beam on a tall tower with 13 DB

gain, and you have approximately 100 watts of effective radiated power. That (unfortunately, in my opinion — no nasty letters, please) is still considered QRP. Personally I try my best to keep my ERP down around 5 watts as well by running simple wire antennas with as little gain as possible. Of course a dipole does have a little gain in some directions, but not all that much. We're not going to get into a technical discussion here about the gain of various types of antennas.

Our NAQCC does recognize that QRP with high gain antennas does give one an advantage over simple wire antennas. We have a separate GAIN category in our monthly sprints. We also specify in many of our awards, challenges, and other activities that contacts must be made using simple wire antennas. We also list in our sprint results a brief note about the antenna type and height for each participant to allow more meaningful comparison of scores. Even with simple wire antennas, there's a (big) difference between a random wire in the attic and a fan dipole at 60 feet, even though in both cases the antenna is receiving 5 watts of RF from the transmitter.

Which brings us to this segue. Many folks believe that QRP needs to be done with some kind of tiny little rig with no more than a tuning knob, volume control, and a couple buttons on it. Well, that's well and good if they feel that way, but there is absolutely nowhere in the current

definition of QRP as to what type of rig is used, as long as its output is set to 5 watts or less. I think this is one reason why I hear all the time about folks having trouble making contacts with QRP. Let's face it, those little rigs are complicated to use, and for older folks or folks with big hands, even more so. I liken using some of them to setting a digital watch where you have to push this button three times while holding in these other two buttons at the same time (while standing on one leg?)

If you want to succeed with QRP, you can use a little tiny rig with a lot of patience and practice, or you can get a big mainstream rig with virtually a separate control for every commonly used function. It should be a rig that covers all the HF bands plus maybe 6 and 2 meters as well. Rigs like that make operating so simple, you will automatically be a success with QRP. I've used a TS-570D, TS-480SAT, K2, and now a KX3 as my main QRP rig since 1999, and my success rate has climbed higher with each change in rig, and is a few times greater than when I used my old homebrew QRP setup, although even then while the transmitter was homebrew, I always used a good commercial receiver like a Drake SPR-4, Icom IC-71, etc. I think those are the right model numbers — I am getting older and the memory is fading along with that. HI.

Let's talk a bit about my latest rig, the KX3. It is an absolute marvel,

and in conjunction with an amplifier for those who use QRO (high) power, it's increasingly being used (along with it's big brother, the K3) by many of the top operators in the world for serious contesting, DXpeditions, etc. where top notch equipment is a must.

Of course it has all bands from 160 through 6 meters. All of the common things found in the current top rigs like dual VFOs, automatic antenna tuner, full break-in, computer interface, and on and on. I'd like to mention a couple of really great features that help to make it a stand out rig for me (and probably others as well). I've always been good at zero-beating by tuning in a signal so the tone matches the side tone of a rig, but it's even easier to zero beat with the KX3 which has a visual zero beat indicator where you line up two marks on the display and you're perfectly zero-beat. It will even fine tune the zero beat automatically with the push of a button once you get close. This is something a lot of folks could use as a good portion of my CQs are answered off frequency by a few Hz up to as much as a full kHz once in a while. This needlessly occupies two frequencies on an already shrinking CW territory on the bands.

This is getting long, so finally one more paragraph. I love the dual receive capability of the KX3 where you can hear VFO A in your left ear and VFO B in the right. It has many uses, but working DX



that has a wide pileup is perhaps at the top of the list. Recently I found TX5K quite strong with an accompanying pileup of equally strong stations spread out over 4 or so KHz. Now guessing where to call in that pileup is JUST a guess, but not with the KX3. I set it up for split operation as usual, then switched on dual receive. I listened to TX5K in my left ear, while tuning the pile with VFO B in my right ear. After a bit I figured the pattern how TX5K was working the pile-up, and set VFO B a tad higher than the last station he worked and sent my call when that QSO was done. With my 5 watts and a dipole vs. the KW/beam stations, I only had to wait through perhaps a dozen QSOs till TX5K came back with K3WWP 599. I could never have done that without the KX3 unless I just happened to be very lucky to have guessed where to call.

The bottom line: To succeed with QRP, get a good rig and you'll find it so easy, you'll never have need to use QRO again. Visit my web site at <http://home.windstream.net/johnshan/> for much more QRP info or email me at jsk3wwp@windstream.net if you have any specific questions. Also check out the NAQCC website for more QRP/CW info, and if you're not a member, I invite you to come aboard. Our goals are pretty much the same as those of FISTS, except ALL our activities are done using QRP. The URL is <http://naqcc.info/73-30->



FISTS AND VINTAGE RADIO

By Roger W. Kuchera, KITG, FISTS #10462

I have been fortunate to be a FISTS member for a bit over 10 years now, that fact plus nearly 5K FISTS QSOs makes being a member that much more enjoyable. A particular aspect of my FISTS QSOs is the occasional use of my vintage station.

My shack has two stations in it; one being a modern ICOM 7700, the second is a homebrew setup consisting of a self-built transmitter and any one of several restored receivers. The present receiver is a RME-69 (circa 1936). The transmitter design stems from a series of QST articles from 1934. Discussing circuits and tube line-ups, etc. has become a lost art. FISTS members are a patient bunch and most will let me ramble on about the fine points of my vintage gear.

There is a particular sense of accomplishment when you hand make anything and put it to good use. This holds for just about anything. I've often sat back and listened to one of the many receivers that I restored and wondered; when was the last time it was used? Where is the original owner and did he enjoy it as much as I am?

The transmitter evolved over many years. It took a long time to gather original style parts. It is about 85% original. A word of warning is due here, most folks

have become used to the low voltages used in solid state gear but such is not the case with tube style gear. These things can be LETHAL and as such should be afforded complete respect. In a nutshell the transmitter has 3 tubes (power supplies don't count). The oscillator stage can be run as a crystal oscillator or electron-coupled oscillator (basically a VFO). The next stage is the buffer/doubler; it lightens the load on the oscillator or allows you to double the frequency of the oscillator. Last is the power amplifier or output stage which connects to the antenna. I won't dwell on a more technical description. Unless you're interested, it can be intensely boring.

There a number of different receivers I can use from a 2-tube homebrew regenerative (aka Blooper - 1934) up to a modern (1936) superhet. One of my favorites was made by National in the early 1930s, the venerable SW-3. At the present time a RME-69 is in use. The RME receiver took me a bit over 2 years to refurbish



Roger, K1TG, at the operating position in his shack.

and involved replacing a large number of resistors and capacitors. Many of which were seriously out of tolerance.

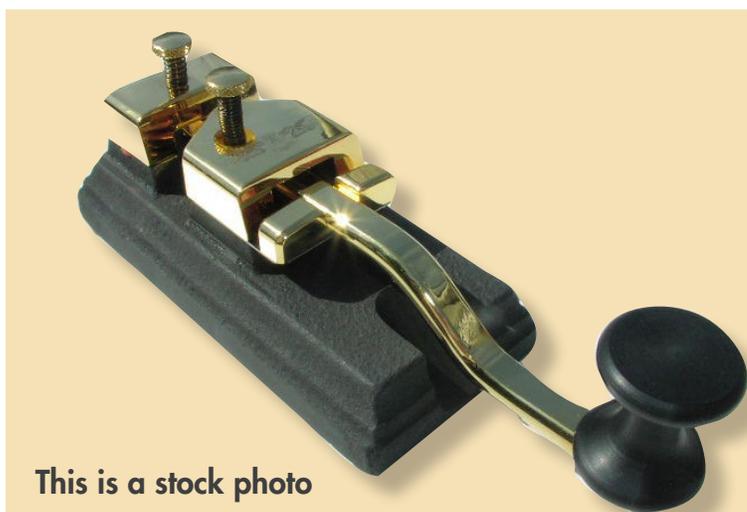
We have become complacent in operating our single-control, solid-state equipment these days. In

and of itself this isn't a bad thing. That's progress. Vintage radio is not for everyone. If you use vintage gear, you will get an appreciation for easy band changes and tune-ups. Such was not the case "back in the day." Typically, there

are crystals, coils and other such to tweak when changing bands. Then there is re-tuning each stage in the transmitter and receiver. At times I feel being related to an octopus would make it easier. My transmitter has 4 controls and 5 meters to watch. Generally speaking, once tuned to a particular band things get easier to handle.

Working fellow FISTS members while using this setup adds a whole new dimension to the enjoyment of a ragchew. I generally just describe my rig (when using the vintage setup) as: RIG HR HOMEBREW RIG 50 WATTS. This spares the receiving operator the long description of it. If you would like the whole story, just ask and be prepared.

If you want to exchange QSLs, just say so. I send a formal and homemade photo QSL direct or photo card via the FISTS bureau.



This is a stock photo of the type of key Dick is selling. The actual key has his callsign on the front of it.

FOR SALE

Begali high performance straight key. It is a precision key and very beautiful. Being gold plated on a black metal base. The key has my call sign engraved on the front. It operates very smoothly. Reviews of it can be seen on *eHam.net*. Also a further description at *www.i2rtf.com*. Reason for selling, I have acquired another precision straight key and don't need both.

The price is \$200.00. If you are interested contact me at: *rheming1@sbcglobal.net*
73, Dick, N5XRD

MY EXPERIENCE WITH KEYS AND KEYERS

By Bill Shanney, W6QR



**Bill Shanney,
W6QR**

When I first started out in ham radio in 1960 we didn't have all the choices we have today. I had a J38 straight key and a Vibroplex Blue racer bug. Fast forward to more recent times; I have had a fascination with keys and keyers ever since I got active in ham radio again in 1988. I started with a Bencher Paddle and MFJ keyer; these were great for slow speed CW. As I increased my speed I found the flex in the Bencher key was hurting my progress; I have a heavy fist. I then found a Jones Key that was heavy and stiff. This key helped me send faster but the lack of build precision and long lever arms were limiters. I bought a G4ZPY VHS paddle and that was a big improvement. The key was very precisely machined but very small and light; I had to bolt it to my operating bench. It had a short lever arm with a nice light feel and I increased my speed without much effort. The ZPY was difficult to adjust and did not stay in adjustment well due to the coarse threads on the adjustment screws.



The G4ZPY Paddle Key.

I continued my search for the ideal paddles. The March magnetic paddle was next; to this day I like using magnetic paddles better than mechanical spring return models. The March key was also too light

for my heavy fist and required attachment to the bench, but the performance was very good. I was attracted to the sheer beauty of Schurr Profi paddles; they have a heavy base and even though they are spring loaded I found them a pleasure to use. I also bought a smaller Schurr model (Wabblers) for portable operation. Schurr (now Scheunemann) paddles have very fine threaded adjustment screws that are easy to use and hold their adjustment very well. Much of the adjustment issues using other keys were due to my heavy fist.

Along the way I had fun with

a W9WBL single lever vertical paddle and several other keys. I didn't operate much for several years while we were doing some remodeling that included my upstairs den shack. Once my



The March Magnetic Paddle.

den was done and new operating bench in place I bought a N5QVF Magnetic paddle; this key is still one of my favorites. I eventually found Begali keys 😊 I started with a Signature model; these magnetic paddles have a very nice feel to them. Then Begali released their Sculpture model that uses a 1:1 lever ratio and very light but stiff moving parts. It is the only mechanical key I like better than most magnetic models. Begali keys have a very heavy base so my heavy fist does not move them.

In my younger years I was able to send ~25 wpm for long periods. As I got older and operated less frequently I found myself at a plateau of ~22 wpm for consistent well timed CW; I'm quite picky. I overheard a CW OP with a fine fist saying that he uses a single lever (i.e.: mono) paddle key for higher speeds. I don't send iambic, so a single lever paddle is fine for me. I now use a Begali Sculpture Mono paddle; it has magnetic tension adjustments and is the best key I have owned. My sending speed went back to 25 wpm very quickly and I can even send at 30 wpm now.

There are many differences in key designs that affect comfort and sending speed:

- Leverage ratio
- Spring vs. magnetic return
- Paddle weight
- Finger piece spacing



The Begali Sculpture Mono.

- Finger piece height off the table
- Thread pitch on adjustment screws
- Dual vs. single lever

All of these should be considered when making a choice. Budget is also important; a good clean used key can save you a lot of money. Serious CW OPs take good care of their keys. Make friends with a CW OP who has a key collection and ask to try some different designs before you buy.

I have never been happy with the keyers built into transceivers. They do not offer the range of features and adjustability I have come to like. Each keyer has it's own feel due to circuit timing and other design details. For the past 20 years I have used CMOS keyers by Logikey; I presently use a K-5. I also have and like the K1EL USB WinKeyer. I've used the other brands in the list except for the Begali which is too complex for my liking (it even does contest logging 😊) I have ham

friends who send fine CW with other keyers; like keys it is a matter of personal taste.

This is just a quick summary of my personal experience with CW. I have many other fine keys and keyers in my collection. Many of them simply don't fit my style of sending, but they may fit yours. Everyone has different physical abilities and sending styles so your experience may be very different. Even if you aren't interested in high speed, it is more enjoyable to use a paddle that is comfortable for you. There are many fine keys and keyers available today that enhance CW operation and station performance; I encourage you to explore the possibilities.

The following is a partial list of manufacturers to get you started:

Keys:

- Begali
- Bencher
- K8RA
- Kent
- March
- Morse Express (Importer)
- N3ZN
- NØSA
- Scheunemann (Shurr)
- Vibroplex
- VIZ key

Keyers:

- Begali CW Machine
- Ham Gadgets MK-1
- K1EL
- Logikey K5
- MFJ

WHEN ALL ELSE FAILS... USE A

Last April, I took a military trip to Antigua Air Station on the island of Antigua, one of the Leeward Islands in the West Indies. The air travel was courtesy of the USAF Reserves out of Pittsburgh IAP. I knew I would be there for a few weeks and was expecting to be busy with the work and in my off time, I would be working on a college certificate course. I debated whether to gather my radio equipment for a shot at being DX for a while. I checked the licensing requirements and learned to operate as an amateur radio operator in the country of Antigua and Barbuda; I would have to purchase a license. However, no test was required because there is a reciprocal agreement with the United States. After looking at the limited free time I would have, trying to decide on an antenna system and not knowing if I could operate from my temporary quarters, etc. I bagged the idea of being a portable DXpedition.

After I settled in my quarters, I learned that we would have a limited work schedule. Well, that meant I could have more study time and maybe see some sights and get in the warm waters of the Caribbean! I asked the radar site manager about places to visit while on the island. Yes, I also asked if there were any HF radio equipment located at the Air Station. I was informed that I should speak with the communications manager, who I happened to be working with anyway on our project. I let him know that I was a US licensed radio amateur and would like to get on the HF bands if they had a station. I know from my experiences in such places like Wake Island, that some USAF locations still have HF MARS stations. It turned out that they had some Pacer Bounce (Harris) equipment left over just sitting in the former communications building. It

was there to be used as a backup to satellite communications in the event of a hurricane. It was not being used other than an occasional radio check with Cape Canaveral.

The manager said that I could just go and use it! I let him know that I would certainly do so, but would have to purchase a license to use the amateur frequencies from there. I thought getting the license would be difficult because things tend to move slowly in the island cultures and I would be dealing with a government agency. I also needed to covert US dollars to EC dollars to pay for the license. Normally, you fill out a form and send it with copies of your FCC license and passport in advance. I was pleasantly surprised by the service of the Ministry of Telecommunications, Broadcasting, and Science. The office was very close by and I

was treated like an important guest by Mr. William Henry, the assistant communications officer. In less than an hour, I had my callsign V29CB. It was the last choice on the list, but my first ever vanity call!

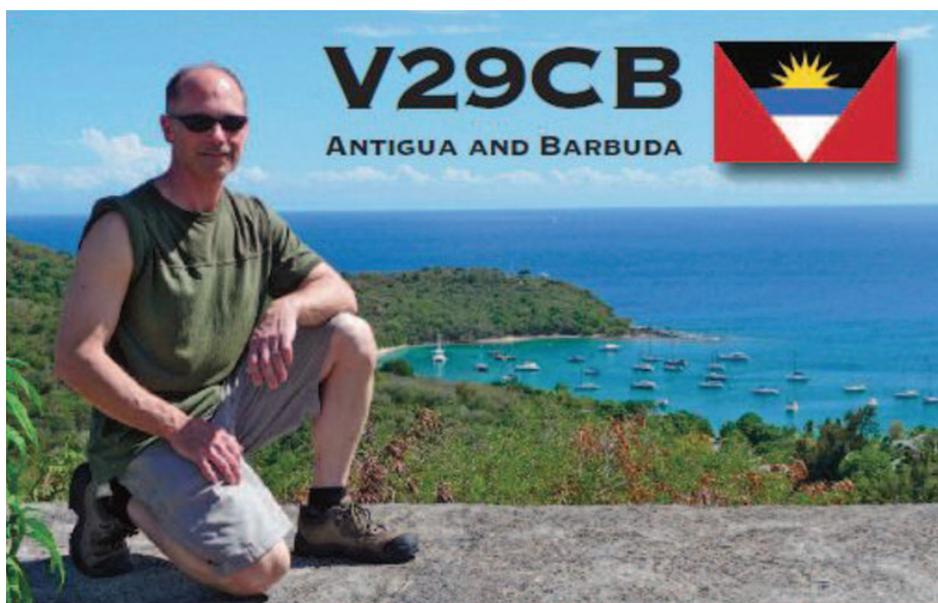
I was excited about using the station and the next evening set up to operate from the communications room. The equipment I had access to was a Harris RF-350K also known as an AN/URC-119 (Pacer Bounce) system. I would be operating from one of two remote controls using the Harris RF-382. The Pacer Bounce provides simplex HF radio communications capabilities in the 1.6 to 29.999 MHz frequency range. It provides 100 Watts normally, but I also was able to use the 500 Watts of transmitted power because they also had the Harris RF-355 Linear Power Amplifier. For an antenna, I used the Harris

STRAIGHT KEY!

RF-382 auto-tuner attached to a 43' fiberglass vertical. How could I not make QSOs?!

Well as luck would have it, the equipment has not really been maintained very well for many years, mainly because it was thought it would not be ever needed. I initially tried SSB since I did not pack my key, keyer, or computer and they did have a microphone. I finally make two contacts and the distant stations indicated I had issues with my transmitted audio. The transmit audio was distorted and they could hardly understand me. This explained why no one answered my calls. I used to maintain this exact radio equipment, so after some checking I concluded there were some alignments that really needed to happen to correct the problem. It was not the microphone and what made it worse was that the remote audio was carried over a 300 baud modem. That further distorted the transmit audio as well as the receive audio. There were 2 other spare transceivers, but one had a fault indicated during the self-test and the other had no audio at all.

I met with the communications manager and reported on my findings. He had a busy schedule so we decided that I would not have time and he may not have had all the equipment to do the alignments. So, I asked him a question I thought the



V29CB, QSL.

answer would be: “No, I don’t have one of those things.” So, I asked him anyway, “You don’t by chance still have the straight key that came with those radio systems?” I know from experience they usually get packed back in the box, shoved in a drawer, or tossed out! He said, “I sure do.” Okay, when all else fails use two wires, or better yet a straight key!

He produced the stock Nye Viking key; it even had the ¼ phone plug with cord! After mounting it on a board and tuning it up, I was ready. I would have to deal with less than desirable audio over the modem, but that is what the filter in my head is for, right? Sure enough, after getting on the air and working a few unsuspecting FISTS and SKCC members, someone would

post my presence on the DX clusters. I enjoyed answering lonely CQs and having a chat, but then the pile-up would follow. Nothing like working a pile-up with poor audio and a straight key! In about four evenings, I managed to make about 200 contacts with 34 states and 30 countries. During the runs, I was working about one contact a minute. Of course that was mainly due to the long listening period I needed to pull out a single call-sign. I stayed mainly on the WARC bands since a lot of DX is worked during contests on the other bands.

So, if you travel in the future to a DX land, I have a few lessons learned.

1. Look up and visit the amateur radio clubs in the area where you are going. I have had a great time meet-



ing amateurs and making friends in places like Iceland and Belgium. Some amateurs have invited me to their stations to be a guest op! We truly are a world-wide fraternity. This is one of the purposes of the amateur service, correct?

2. One is when in doubt, pack some gear. QRP is a great way to start if you have large rigs.

3. Be ready to explain things when going through security. Have all the documents. Bring your license and the manual/schematics for the equipment. I have found it best to take my HT or radios inside my carry-on luggage. Others I know have done fine with their gear as checked baggage. I want to be there to explain things if needed. You may want to have a copy of the sales receipt for the equipment too so you can prove you are not exporting or importing the radio.

4. Follow the TSA restrictions, especially for batteries! I normally purchase the batteries when I am there.

5. Plan on not having an antenna support available or being able to operate from inside your place of stay.

6. Last but not least, if you find that you don't want to risk taking the gear and antennas, at least take a copy of your license and for heaven's sake BRING A STRAIGHT KEY with a selection of plugs! If it were not for the straight key, I would not have had a great time being V29CB!



TASTE OF HAM

George Copland

The Magnolia Oil Co. had two major divisions. The Magnolia Petroleum Co. and the Magnolia Pipe Line Co. My father was in the later.

The Petroleum Division was responsible for production of the crude oil and the Pipe Line Division was responsible for the collection of the crude oil at the well head and transferring it to the main line pipeline that ran to a refinery. In Oklahoma's case the line ran to Texas. Early on the oil was collected in storage tanks and transported by horse-drawn wagons and field tank trucks. It was a laborious job and took a lot of time. Pipe lines were introduced in the oil fields which ran from small storage tanks at the well head and to intermediate pump stations that connected to the main pipe line. My father's job was the overseeing of the pipe lines and measurement of how much oil was transferred. He ordered the pipe, which was generally two inch nominal diameter, and oversaw the crew of men that laid the lines. A pipeline crew was around twelve able-bodied men. Most often the lines were buried underground. The measurement of how much oil was being collected was done by hand. The crude oil that was collected at the well head was stored in trapezoidal cone wooden tanks about twenty feet in diameter and fifteen feet high. Some had roofs and others did not. If the production

warranted large steel tanks were used. These tanks had steel roofs and a manhole in the top for gauging purposes. While measuring a wooden tank was a clean operation, sampling a metal tank was a messy operation. In either case a calibrated steel tape was used. The crude was generally measured on a weekly basis. A steel tape with a plumb bob was run to the bottom of the tank and the oil level was recorded. Some times a sample was required of the crude to see how much salt water was being produced with the crude. The crude sample was collected in a container called a thief. The thief was an open bottom container about three inches in diameter with a door on the bottom which could be closed from above by a wire line. The retrieval of the tape and thief was a messy job. Shredded cotton material used for cleanup was called waste. Just imagine doing this when the weather was cold or rainy. The fumes from the light ends of the crude were very hazardous. Nevertheless, this was the way it was done.

The reduction of the sample was done on location to measure the specific gravity and salt water content. A sample of the crude was placed in two tapered glass vials about one

inch in diameter . The specific gravity was measured with a hydrometer and the salt water content was measured by using a centrifuge. Two small calibrated vials were put in the rotating holder and spun in the centrifuge. I enjoyed this part because father let me turn the crank on the centrifuge. The oil and the salt water would separate since salt water was heavier and sank to the bottom in the vial due to centrifugal action. The measurement of salt water content was read directly. Samples were rarely taken back to the office. It was a time consuming operation. All this equipment was carried in the trunk of my father's company car.

The data collected from the field was sent to the main office on a daily basis. This was done over telegraph lines that ran across Oklahoma and down to Dallas, Texas. The telegraph lines were owned and maintained by the oil company. A few of the lines were telephone lines and use as such was unacceptable by the telephone company. They felt they had exclusive rights on long distance telephone services. The lines ran down a section line five miles east of Comanche and Duncan and a telegraph office there served both. A fellow named Mr. Lucky lived east of Comanche and was the telegrapher. I don't remember a telephone office in Duncan. The telegrapher had the telegraph equipment in my fathers office. I was able to watch how he used the equipment. Two lines were brought to his desk. One from the north and the other from the south. The equipment consisted

of two sounders, a transmitting key and a Vibroflex transmitting instrument and a knife switch. To distinguish between the sounders an empty Prince Albert cigar can was mounted behind one of the sounders to make it sound differently. The Vibroflex key, sometimes called a "bug," was a horizontal dual function key. The paddle that was held between your fingers and when pressed to the left produced a single dash and when pushed to the right produced a string of dots. Continued usage by some telegraphers long term caused what was known as a "glass arm." There was also a double throw knife switch so one could select which direction one wanted the message to go. The code used by the telegrapher was the old style Morse code. This was the same code used by the railroads, weather and time services, Western Union message service, financial businesses such as banks and stock market tickers. This code was not the same used in radio communications. That code is called International Morse Code. They are not the same. The armature in the sounder produced a click on downward motion and a clack on the upward motion. A click or a clack was considered a dot. The length of time between a click and clack was interpreted as a space. A longer time between clicks and clacks was considered a space between the letters or numbers. I could never get the hang of it. Each telegrapher had a distinct rhythm of sending code. This was referred to as his "fist." Some telegraphers never

used a Vibroflex even though it was a much faster way of sending code. When we moved to Drumright the main office had a switch board and an operator for telephone use. The telegraph setup was still located in my fathers office. Generally it was used only a couple of hours a day.

Washington was the grade school I went to when first arriving in Drumright. The town was built on a hill and main street was on a very steep slope. The school building was only a couple of blocks from main street at the top of the hill. Down the hill a couple of blocks was the high school. Across the street and a block further down was the American Legion Hall. The Drumright High School band as well as the beginners band used these facilities for practice and rehearsal. I played the piano so I already knew how to read music. My father decided it was time for me to learn how to play an instrument so I chose a clarinet. After completing the school year at Washington I transferred to Edison school which was a lot closer to where we lived. The Magnolia Field camp was on the edge of town and was a lot closer for me to walk home after school. After school my mother would pick me up in the car and take me to the band room. Generally I walked home down through the residential area which started behind main street.

One day I noticed a fellow installing an antenna on a high pole. The antenna lead ran to a small room he had built on the side of his house. Inside I presumed he had some radio

equipment. One day on my way home I developed the courage to go up the long stairway to the radio room. Here I met Bill an amateur radio operator. He was very nice to me and showed me his station. Also he answered a lot of questions I had. I do not remember his call sign. He used a telegraph key and the International Morse code for transmitting messages. In those days one built his own equipment because very little was available on the market. The frequency he operated on was in the 80 meter band just above the radio broadcast band and the 40 meter band above that. Frequencies above that were not used yet because the equipment and technology had not been developed that far. The electrical components were assembled on a flat base which we now call breadboard style. Everything was in the open including the high voltage section of the transmitter. A four inch double throw knife switch was located on the wall just above the transmitter section. This was used to select between the receiver and transmitter. He built the transmitter and purchased the receiver. All I remember about the receiver was it had a large round disk on the front surrounded by a lot of knobs. The transmitter had a quartz crystal which drove the oscillator. A push pull circuit with a couple of tubes drove the final. He used a single 813 tube in the final. This produced about 100 watts on a good day.

The quartz crystal was ground to set the frequency he operated on. This was a purchased item. The

power supply for the system was located under the table. The high voltage section consisted of a high voltage transformer and a pair of 866 mercury vapor rectifier tubes in a full wave rectifier circuit. A choke, a couple of high voltage capacitors and a load resistor completed the circuit. The supply produced 500 volts direct current for the final in the transmitter. The filament in the 813 vacuum tube required 10 volts at 5 amps direct current. Wet cell batteries were used for this. Each wet cell produced 2.0 vdc so five batteries were required. These batteries were of open cell construction. Each large glass container contained about one gallon sulfuric acid. There were five of them. The anode and cathode plates were supported on the top of the glass containers and immersed in the acid. Wired in series the set up produced 10 vdc ripple free voltage required by the 813 tube. One did not want to introduce 60 cycle hum into the system. The 866's in the high voltage power supply glowed with a dim purplish glow. When power was being used the 866's lit up in a brilliant purple light in sync with the dots and dashes being sent out over the air. Very exciting. The carbon plate in the 813 glowed a bright yellow. The filaments of the 866's were supplied by a conventional transformer.

In the final a wire wound coil was connected to the plate of the 813. The coil was wound with bare copper wire on a cylindrical form about four inches in diameter and twelve inches

long. Across this coil was connected a multiplate adjustable capacitor. It was rated to take the high voltage of the final. An insulated knob was on one end of the shaft so it could be adjusted for the output frequency of the transmitter. It was hot with five hundred volts of the system. This was a hazardous area. All this was in the open on top of the table mounted on the breadboard. A coupling link coil went to the antenna lead in. This is the way the radio frequency energy was transferred to the antenna.

The goal of amateur radio in the early days was not how many other hams you could contact, rather it was how far your signal traveled and was received. QSL post cards were used to verify that you had contacted the other person. Whenever Bill was at his ham shack I would stop by for a visit. I was always welcome. One time I got interested in what was going on and time got away from me and I was late getting home for supper. Of course my parents were interested in why I was late. I explained that I had made friends with an Amateur Radio Operator by the name of Bill and the wonderful equipment he had in his ham shack. I guess I over did it. My father was interested in what I was talking about and wondered if he could go with me for a demonstration. Sounded like a good idea to me. I knew Bill would still be at his transmitter so I suggested we could go now. So off we went to Bill's. He was very patient with my father and answered his questions. My father was very curious about the battery set

IS CW USE REALLY GROWING?

Graphs and text by Elwood Downey, WBØEW

up under the table and the high voltage supply. He didn't miss the fact that the high voltage supply produced five hundred volts. Also he was also concerned the final was open bread-board construction on he table. Soon we left and went back home.

When we got home we sat down with mother and I waited for what father had to say. It was quite unexpected on my part. He explained to me that I was never to go over to see Bill at the ham radio location again. Not only that but I was never to set foot on Bill's property again. This was under the threat of "being skinned alive." I got the message loud and clear. I used to walk by the location but I never saw Bill again to explain what happened. A few months later the radio antenna was gone and a For Sale sign appeared in the front yard. The house was empty. I had had my "Taste of Ham." The memories of that time in my life have lasted all these years.

This story is written in a fashion to help one who is not familiar with the terminology used in the oil field and amateur radio operation. It does not represent what I learned in 1937 when I was eleven years of age. What I do remember were the numbers 813 and 866 of the vacuum tubes and the purplish glow of the 866's. I also remember an overview of the ham shack and the equipment on the desk. I can not recall what Bill looked like only that he was very patient with me and helped me understand what I was seeing.

— George Copland, Duncan, OK

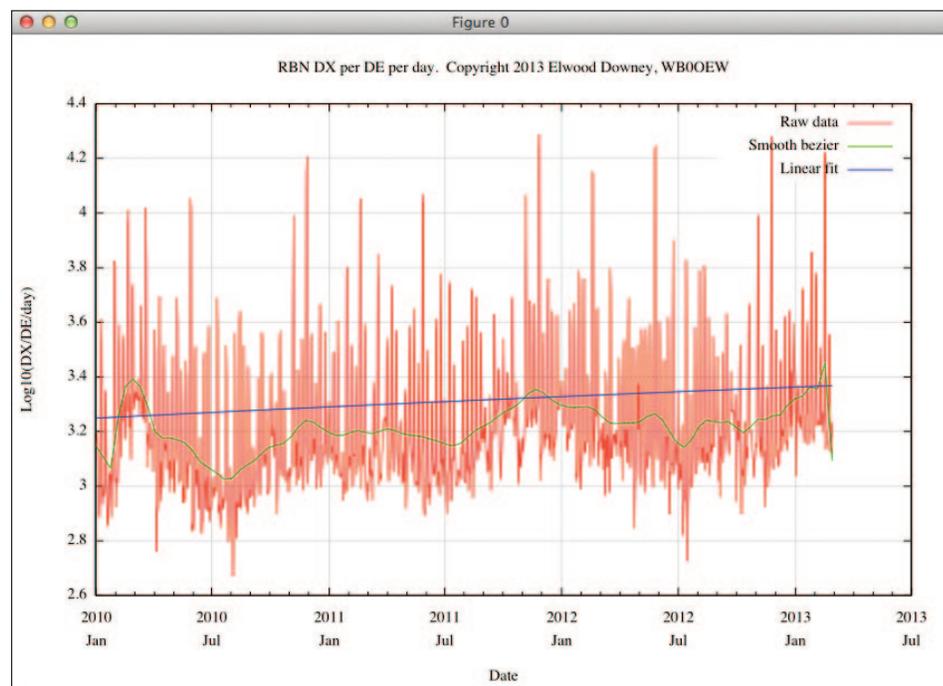


We hear lots of speculation about whether the use of CW on HF is up or down in the six years since it was no longer required for a ham radio license. One measure that is often cited to suggest an increase is the increasing number of logs submitted to the major contests. A recent post by KE9V suggests such measures are a delusion and usage is actually going down.

It occurred to me that one could get another objective measure of activity from the Reverse Beacon Network, or RBN. If you are not familiar with the RBN, it is a world wide network of automated receivers that log all the CW call signs they hear to a central database.

They generously make all their data available publicly on their web site.

I used their data back to January 2010 which gives us three full years with which to look for trends. They do have some data from 2009 but the quantity is much less as

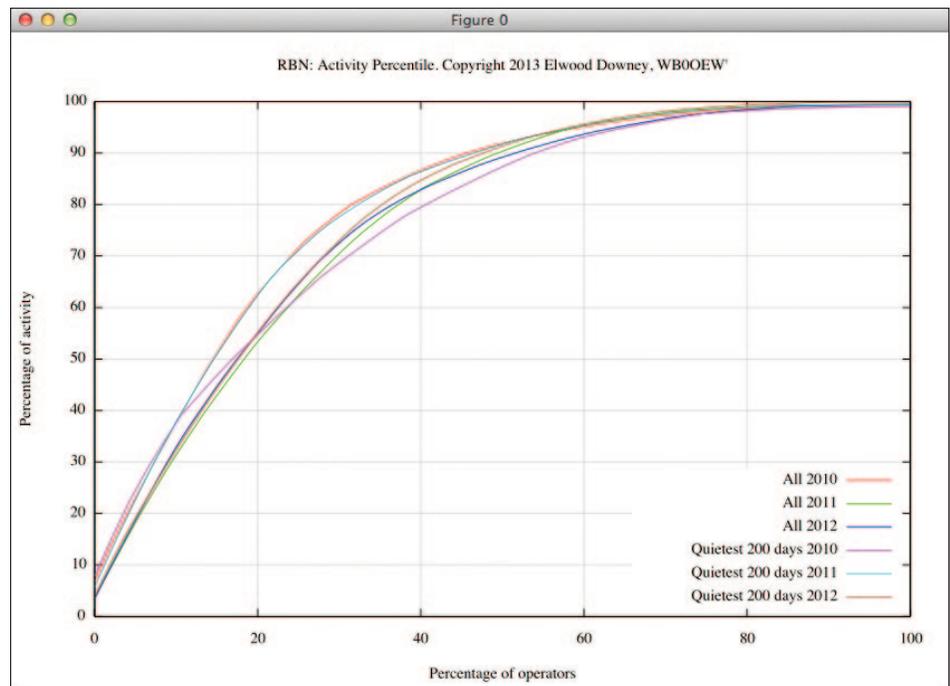


they were just getting started and I felt perhaps the quality may not be representative as well. I wrote some processing scripts in perl to tease out some information from this data then fed it into gnuplot to make some graphs. Below are the results and my interpretations.

Above is a plot of the total number of reports issued to the RBN each day, divided by the number of reporting stations. This normalization reduces the effect of a varying number of reporting stations over time. The red lines are the raw data, the green line is a running average (technically a Bezier fit) and the blue line is the best fit linear model.

Note the vertical axis is the common logarithm of the data values. In order to get the real number, one must raise 10 to the value on the vertical axis. For example, if the vertical scale value is 3, this means 1000 reports; if the scale is 4, it means 10,000 reports. This was done in order to compress the very large range in the raw values seen day-to-day, and to bring out the lower values for easier inspection.

The "RBX DX per DE" graph is effectively a measure of overall daily activity. One thing we can see in the data are several prominent spikes. Looking closely, we see that these repeat at the same date each year and in fact correspond to the big contests. This increases our confidence in the validity of the data. Another trend we see in



the green line is a seasonal increase in activity each early winter, and a modest dip in the summer. This agrees with my own on-air experience and further validates the data. But to get back to our main question, it is also clear that there is a definite increase in CW activity over the period of this data. The linear fit identifies an increase of about eight percent per year.

But this form of the data might be misleading. For example, we can not tell from this whether this activity is from real contacts, or just a few fervent operators. So we might look for a better cut through the data to give an even clearer indication.

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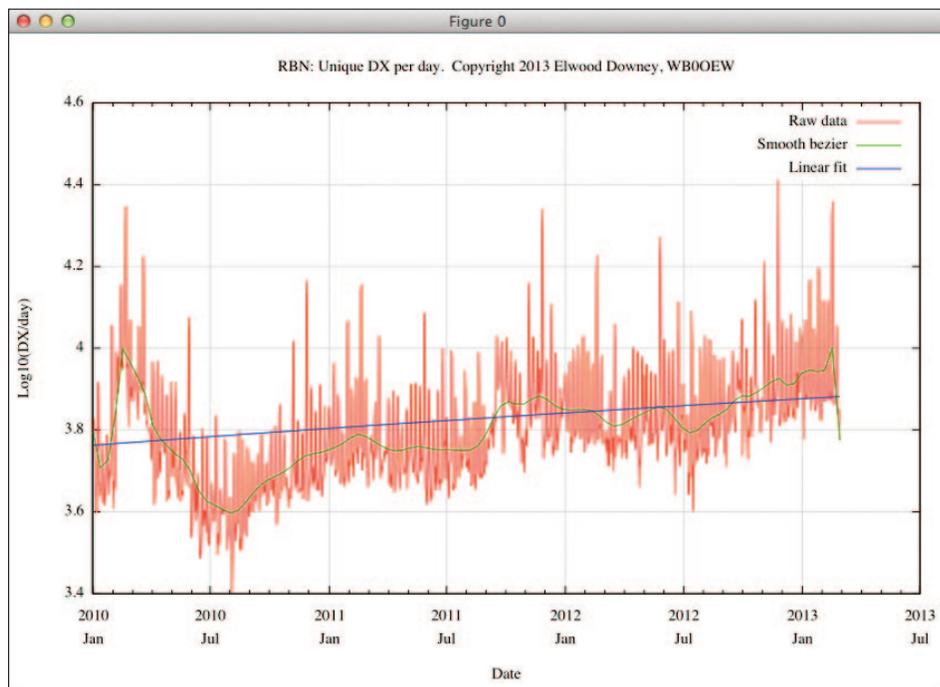
The "RBN: Unique DX per day" graph is effectively a measure of overall daily activity. One thing we can see in the data are several prominent spikes. Looking

“ My thanks to everyone at the RBN, all the reporting stations and, perhaps especially, to all those hams who are keeping the venerable CW alive over all these years.”

closely, we see that these repeat at the same date each year and in fact correspond to the big contests. This increases our confidence in the validity of the data. Another trend we see in the green line is a seasonal increase in activity each early winter, and a modest dip in the summer. This agrees with my own on-air experience and further validates the data. But to get back to our main question, it is also clear that there is a definite increase in CW activity over the period of this data. The linear fit identifies an increase of about eight percent per year.

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The plot of "Activity Percentile" shows percentages on each axis. The horizontal axis is the percentage of operators that created the percentage of activity shown on the vertical axis. The six plots show this relationship for the full years of 2010, 2011, and 2012, and for



the 200 days of each year with the least amount of activity. This second set was chosen to remove any possible bias caused by the big contest stations. Note that in a graph of this type, a straight line from the lower left to upper right corners would indicate equal participation by all operators. What we see here is that about half of all activity is due to about 15-20 percent of all operators, regardless of the level of activity and, notably, there is very little change in this pattern from one year to the next.

The RBN data could also be

mined to explore all sorts of other questions. One might look for regional trends, trends among specific bands, different times of day and so on. These are all interesting but our main story here seems pretty clear: CW use is on the rise, at least according to the data collected by the RBN.

My thanks to everyone at the RBN, all the reporting stations and, perhaps especially, to all those hams who are keeping the venerable CW alive over all these years.

— 73, Elwood Downey,

WB0EOW. March 9, 2013





THE NORTH AMERICAN CW WEEKEND

MAY 3-5, 2013

WASHINGTON, DC

CW Operators, Morse code aficionados, and their spouses are cordially invited to attend the North American CW Weekend to be held May 3-5, 2013, at the Fairview Park Marriott Hotel, 3111 Fairview Park Drive, Falls Church, Virginia. All amateur radio operators with an interest in code operation are invited, and we have had good participation from FOC, CWOPS, FISTS, PVRC, CVCC, NCDXA, and several other Morse code-oriented and contest groups in the past.

The Washington, DC area is a delightful place in the spring, and there are numerous attractions, museums, monuments, parks, and shopping opportunities within easy reach of the hotel. We will have an informal pizza dinner on Friday evening at a local pizza restaurant, and on Saturday morning, Jim N3JT and Nina will host a brunch at their home in McLean. We plan a hospitality suite with beer, wine, and other libations at the hotel on Friday and Saturday. The no-host dinner will be at the highly-acclaimed Da Domenico Restaurant in McLean on Saturday evening (www.dadomenico-va.com). On Sunday afternoon, Frank, W3LPL, has offered to open his world-class contest station for tours. While the weekend

is predominantly social, there are wonderful opportunities to connect with fellow hams, talk radio, socialize, and enjoy the DC area. Dress is casual, and the weather in Washington in May is usually quite mild. Coat and tie are optional for the Saturday dinner.

There is a modest registration of \$ 25.00 per person which is used to defray the costs of the hospitality suite. Registration can be paid by check to Don Lynch, W4ZYT, 1517 West Little Neck Road, Virginia Beach, VA 23452-4717. Don's e-mail is w4zyt.don@gmail.com.

Reservations at the Marriott can be made by calling the hotel directly [703-849-9400. We have obtained a special group rate of \$90.00 per night. Please specify

you are with the "North American Weekend Group" when making your arrangements. Guests can call 1-800-228-9290 and ask for the "North American room block" to make a reservation. For some who would like to make a reservation online through the hotel's web site — <http://www.marriott.com/hotels/travel/wasfp-fairview-park-marriott/>, the Group Code to type in the "Group Code" box is NAMNAMA. Directions to the Marriott are available on the web site. The hotel is readily accessible from the beltway, and there is easy access to area airports and public transportation.

Please join us in Washington for what promises to be a great ham radio weekend.



WINTER SPRINT 2013



QRO

Call	Name	State	Fists #	Class	Total Q's	Member Q	Non Member Q	Points	Mults	Score	80M Qs	40M Qs	20M Qs	15M Qs	10M Qs
N2ED	Ed	NJ	2454	QRO	84	69	15	375	34	12750	2	22	38	21	1
K8NVR	Ed	OH	7957	QRO	63	61	2	309	29	8961	1	22	37	3	0
KI0J	Al	CO	11905	QRO	29	26	3	136	17	2312	0			29	
N5DY	Jack	OK	11105	QRO	32	28	4	148	15	2220	0	0	29	3	0
W0UY	Tom	KS	8632	QRO	21	20	1	102	10	1020	0	6	15	0	0
N2BZD	Pat	NJ	7620	QRO	14	13	1	67	13	871	0	7	7	0	0
N3JJT	Scott	OH	15466	QRO	10	10	0	50	9	450	0	5	4	1	
K8VFR	Rose	MI	5602	QRO	11	11	0	55	5	275	0	11	0	0	0
K2JF	Phil	NY	11096	QRO	5	5	0	25	5	125	0	0	5	0	0
K4UK	Stan	VA	2934	QRO	4	4	0	20	4	80	0	1	3	0	0
NZ1D	Bill	FL	6315	QRO	4	4	0	20	4	80	0	0	4	0	0
KA5VZG	Alan	TN	15363	QRO	2	2	0	10	2	20	0	2	0	0	0

QRP

Call	Name	State	Fists #	Class	Total Q's	Member Q	Non Member Q	Points	Mults	Score	80M Qs	40M Qs	20M Qs	15M Qs	10M Qs
WG7Y	Bob	WY	11830	QRP		50	4	258	24	6192	0	0	48	6	0
WB0PYF	Ray	MO	7986	QRP	26	24	2	124	17	2108	0	14	8	4	0
K3HX	Tim	PA	5976	QRP	13	13	0	65	7	455	0	8	1	4	0
KA4BAT	John	OH	16091	QRP	9	9	0	45	6	270	0	9	0	0	0

CLUB

Call	Name	State	Fists #	Class	Total Q's	Member Q	Non Member Q	Points	Mults	Score	80M Qs	40M Qs	20M Qs	15M Qs	10M Qs
W4FFF	Rick	NC	9700	Club		75	5	385	34	13090	0	30	36	14	0
W4FCR	Stan	VA	7997	Club	1	1	0	5	1	5	0	0	1	0	0



SPRINT INFORMATION

The following are the Official Rules for the FISTS SPRINT.

OBJECTIVE:

To exchange specified information with as many FISTS members as possible using Morse Code only, and within the time frame stipulated.

PARTICIPANTS:

Any properly licensed amateur radio operator, FISTS member or non-member is invited to take part in the contest. At least one of the two stations in each QSO must be a FISTS member.

DATE AND TIME: (subject to change, see main index page)

The Winter SPRINT will run from 1700 UTC to 2100 UTC on Second Saturday in February.

The Spring SPRINT will run from 1700 UTC to 2100 UTC on Second Saturday in May.

The Summer SPRINT will run from 2000 EDT to 2400 EDT on Second Friday in July.

The Fall SPRINT will run from 1700 UTC to 2100 UTC on Second Saturday in October.

BANDS:

Operation is limited to the following amateur bands: 3.5, 7, 14, 21, and 28 MHz amateur bands.

Work stations only once per band.

ENTRY CLASSES:

There are three entry classes:

QRO: Over 5 watts -100 watts output power. 100 watts is the maximum output power allowed.

QRP: 5 watts output power or less.

Club: (regardless of power).

Entry class MUST be shown on logs

to be considered for entry in a particular class, or will be assumed QRO.

An entry must be ONE class only, no combination of classes is allowed.

EXCHANGE:

The following information must be exchanged by both stations to count as a valid contest QSO:

For FISTS members:

RST, U.S. state/Canadian province/DXCC country, first name, FISTS number.

For non-FISTS members:

RST, U.S. state/Canadian province/DXCC country, first name, Power output.

DX COUNTRY STATUS:

U.S. states and Canadian provinces are those states and provinces that are contiguous and found within the North American continent. DX are those entities listed in the current ARRL DXCC publication, other than the above.

MULTIPLIERS:

Each U.S. State and Canadian province counts as 1 multiplier. Count each only once, no matter how many times worked.

Each DXCC entity counts as 1 multiplier. Count each no matter how many times worked.

SCORING:

W.W.II R.A.F. Bath Tub Key Each QSO with a FISTS member: 5 points.

Each QSO with a non-FISTS member: 2 points.

Final score is total QSO points times multipliers.

CERTIFICATES:

U.S./VE:

Certificates will be awarded to the first, second, and third place finishers in each Entry Class.

LOG SUBMISSIONS:

All log entries must be received 30 days after the Sprint to be considered valid.

Sending the logs is what counts, and they will be spot checked for accuracy and correct scoring procedures.

Logs not sent to the proper address will not be considered for entry.

All logs MUST contain the following information to be considered for entry;

Your name and call sign. Club name if entry is for a club. Your FISTS number if a member. Entry class. Your claimed score. List of claimed multipliers.

The entry form is the best way to record this information.

ELECTRONIC LOGS:

We will accept E-logs in standard Cabrillo format, Text, or ASCII text files. If you're not sure about your format, please contact me before the contest entry deadline.

E-logs are sent to n2ed@fists.org ONLY.

PAPER LOGS:

Send log and forms to:

FISTS Sprint Log, c/o Ed Wlodarski N2ED, 3 Shore Rd., Andover, NJ 07821-2240



FISTS SPRINT ENTRY FORM

Entry Class: QRO _____ QRP _____ CLUB _____

SCORING: _____ QSO points X _____ multipliers = _____ final score

Club Name _____

Club Fists Number _____

Your Name _____ Call _____

Your Fists Number _____

Address (Street, City, State, Zip Code) _____

Email Address (optional) _____

MULTIPLIER CHECK-OFF LIST

1	2	3	4	5	6	7	8	9	0	VE	DX
CT	NY	DE	AL	AR	CA	AZ	MI	IL	CO	NB	NF/LB
MA	NJ	MD	FL	LA		ID	OH	IN	IA	NS	NT
ME		PA	GA	MS	MT		WV	WI	KS	PE	YK
NH			KY	NM		NV			MN	QC	BC
RI			NC	OK		OR			MO	ON	
VT			SC	TX		UT			NE	MB	
			TN			WA			ND	SK	
			VA			WY			SD	AB	

Please enclose paper logs ONLY, photos, comments, ideas, etc., with your entry and mail promptly to:

FISTS Sprint Logs

Ed Wlodarski N2ED

3 Shore Rd.

Andover, NJ 07821-2240

STATEMENT: "I HAVE OBSERVED ALL FISTS SPRINT COMPETITION RULES AS WELL AS ALL REGULATIONS FOR AMATEUR RADIO IN MY COUNTRY. MY REPORT IS CORRECT AND TRUE TO THE BEST OF MY KNOWLEDGE. I AGREE TO BE BOUND BY THE DECISIONS OF THE FISTS AWARDS COMMITTEE."

Date _____ Signature _____ Call _____

Comments: