

# 'Rag Chew'

*The official newsletter of the Straight Key Century Club*



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Volume 8 Issue 4

December, 2016

## **K3Y 2017 "How-to"**

K3Y, the SKCC annual straight key event, is upon us. January 2nd will mark the 11th Anniversary of the club's founding, which we will celebrate with lots of hand keyed CW on the bands. A fitting start to the New Year in ham radio!

But how to participate? The easy answer is simply to keep close to your rig throughout the month, listen for "...de K3Y..." and try to make contacts with as many K3Y stations as you can hear. More than 100 operators using the special event call sign will be on the air from ten US call areas, plus KH6, KL7 and KP4. Additionally there will be specially scheduled DX stations in many of the Canadian provinces and six WAC continental regions around the world.

In order to maximize your success in the hunt and track your progress, check the K3Y home page at [www.skccgroup.com/k3y](http://www.skccgroup.com/k3y) The Index column links are your guide to pretty much the entire operation: Op Scheduling, the US & DX Op Guides, Worldmap of K3Y Stations, Participant & Op Stats, and QSL Info. Following are a few tips for working K3Y...

Don't depend entirely on the operator schedules. Some will be scheduled at very short notice, or in some "rare" areas, not at all. So always make sure to listen around the bands and check out the K3UK Sked page for latest activity and spots.

Trying to work every K3Y Operator? Or every US state, Canadian province or DX entity in K3Y? How about all of the call regions (19 total!), or all the band slots? The Statistics link will track your progress through all these quests!

And please do consider becoming a K3Y Operator yourself. We can use all we can get, regardless of CW speed and station capability. Our operators are the ones who make the event GO! Contact the K3Y Coordinator for your call area if you are interested.

Finally, don't forget to request a K3Y 2017 QSL card and get your Sweep and/or Operator Certificates. Also, download a 2017 SKCC CW-oriented print calendar which features card images from this year's QSL design contest.

Hope to catch you in K3Y. Keep those K3Y Operators busy!

Drew Kowal - AF2Z  
K3Y Planning Group

## K0LUW Russ #1702S...SK

All the members in SKCC are important, but it just might be said some stand “a bit taller.” In my opinion Russ K0LUW, was one of those “a bit taller.” Russ was an excellent operator with many achievements in SKCC and outside of SKCC. He was responsible for many awards within SKCC as a certifier of logs from stations requesting acknowledgement of obtaining an award. Russ was involved in the checking and issuing of:

1. **Prefix Awards**

2. **Senator Awards**

3. **Centurion Endorsements - all x2 and beyond**      **K0LUW at the Dayton SKCC booth**

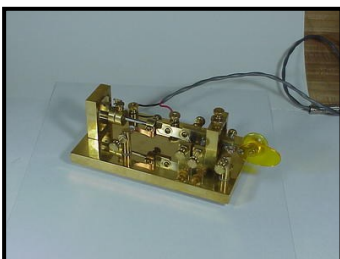
4. **Tribune Endorsements - all x2 and beyond**



**Russ at Dayton**

next year he got his General and was only 14. Later the Extra Class was achieved, that's the 20 wpm extra.

Russ liked to build and tinker and was very proud of the “home brew” bug featured on his QRZ page.



It will be difficult to think of SKCC without Russ but because of him we may all stand a bit taller in SKCC. 73 Russ...you are missed.

Thanks AC2C and W4KRN for the pictures.



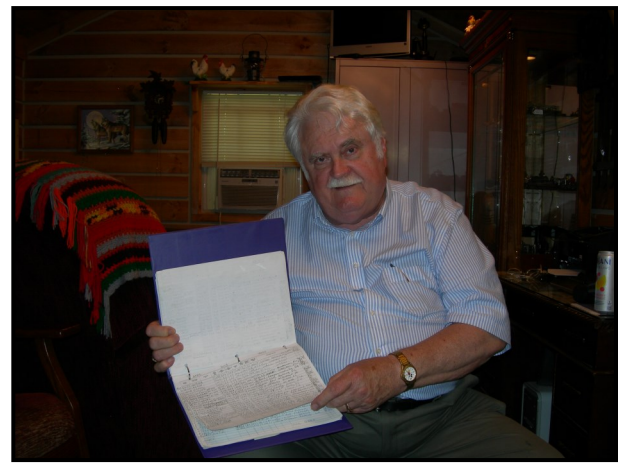
**Russ and friends.**



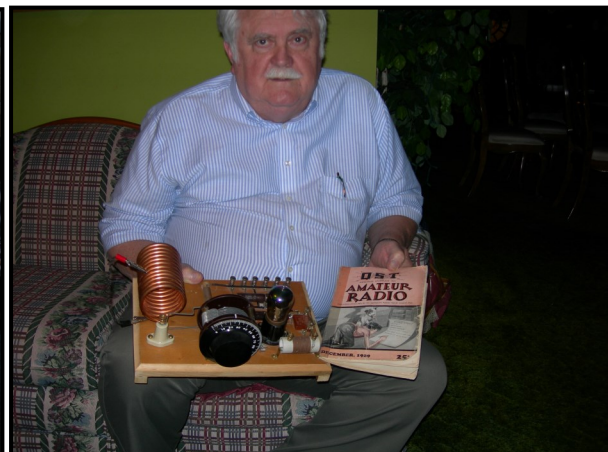
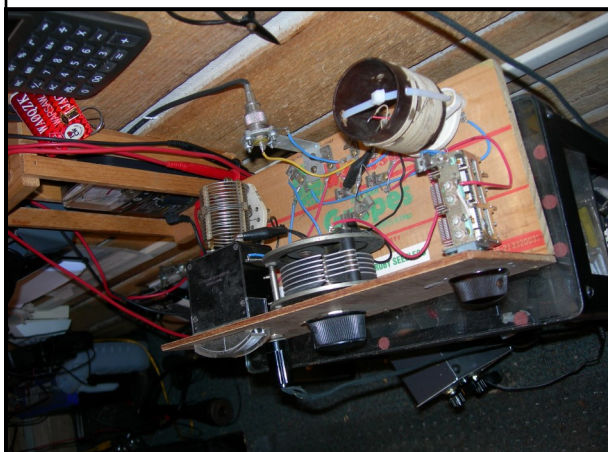
## Centurion the Hard Way, WA0QZK #1776C

By Roy Crosier AC9DN #1789T

Here are some pictures of Jack Worth, WA0QZK, and his shack and how he worked SKCC Centurion the hard way: all 40 meters, wire antenna, all with MFJ 9040 at 5 watts and no use of the sked page or computer in any way. The cabin that Jack has is a magical place with it's front porch looking out on a couple of acres of meadow land, surrounded by woods and just beyond is a tributary to the Tippecanoe River. While the cabin is designed to look and feel rustic, it does have heat and air conditioning for old local hams that often come to visit. If necessary however, the radios and lighting can be operated completely on the solar panel and boat battery. Jack is a minister and his wife has made a business out of preparing tax returns for ministers. She has published an annual book since 1973 entitled, "Worth's Income Tax Guide for Minister," available nationally.



On the right is the WA0QZK paper log with over 2500 contacts made with Jack's MFJ 9040 at 5 watts and a 40m wire antenna!



On the left is Jack's homebrew AM crystal receiver made entirely of components liberated from 1930s era electronics. On the right Jack made an exact copy of an 80 and 40 meter transmitter from the plans in the December 1929 QST magazine shown.





Here on the left are the controls for Jack's solar power operation while on the right is the MFJ 9040 operating position. The IC706 is occasionally used for VHF or HF SSB. The KX1 is Jack's newest member to his equipment.



Jack also has a very fine display of telegraph keys and has made proper use of a china cabinet!

Jack has a wonderful magical shack where friends are always welcome. His accomplishments with solar power, building transmitters and receivers attests to his skills and knowledge.

Working cw and enjoying SKCC Jack has proven his operating ability using QRP. It will be no surprise to see Jack accomplishing the "T" and on to his "S."



## K3MSB/3 – Dover DE. 25 October 2016

During October I once again had the privilege to be the SKCC ([Straight Key Century Club](#)) bonus station for their monthly two hour SKS ([Straight Key Sprint](#)) event. Knowing that Delaware was a rare state for SKCC members, I decided to do my second “DExpedition” to Delaware, the first one being in October 2010. I would be operating from the home of Richard KC3FNU in Dover DE (Kent County).



Richard and his wife Francine were VERY gracious hosts and made my evening stay extremely enjoyable.

I was more than a bit apprehensive about making the trip on Tuesday afternoon as a G3 Class Solar Storm was in progress! The K index was about 7 and the A was weighing in about 50 when I left for DE. Here's a shot of the solar data from [qrz.com](http://qrz.com) about an hour after the sprint was over:

Solar-Terrestrial			
26 Oct 2016	0520	GMT	
SFI	077	SN	017
A	060	K	5
XRY	A8.7	304A	110.4
Aur	2	Lat	66.5°
Bz	-2.1	SM	693.3
PF	0.1	EF	321.0
MUF	Bdr	9.06	@ 0445
EME	Deg	Fair	

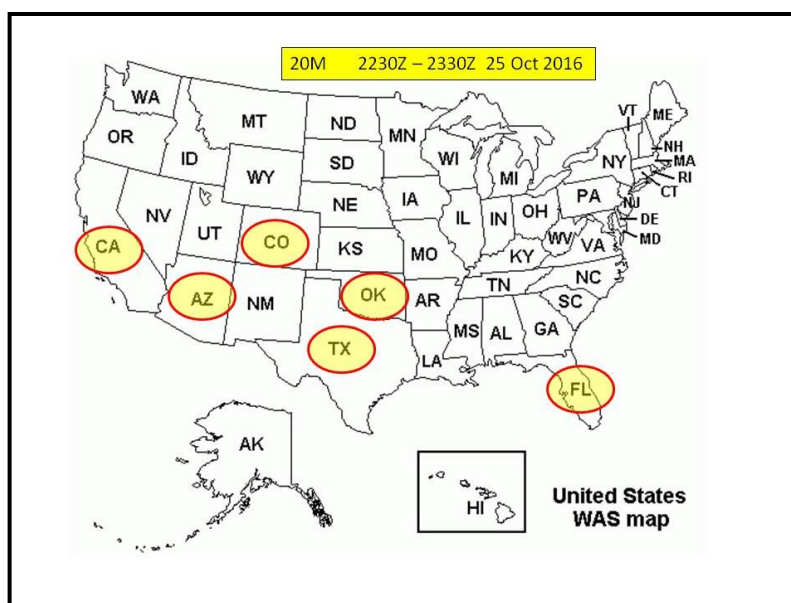
The winds were also a concern as high winds were in our area for several days before the sprint. Fortunately the Dover AFB TAFs for the preceding few days were showing a trend of diminishing winds after local sunset, so I figured the winds wouldn't be much of a problem (they weren't). I decided to make the trip and was glad that I did.

The antennas to be used were a quickly thrown together 20M Inverted-Vee up about 18 feet, and for 40M/80M an HF-2V vertical, ground mounted, with four 32 foot radials. I was running 100W from my IC-756 Pro III transceiver.



My logging “software” was my good old ARRL Logbook and a ballpoint pen! Simple, reliable.....doesn’t update when you least expect it. I arrived in Dover around 4:30 PM and Richard and I started to immediately put up the Inverted-Vee. The HF-2V was also assembled and laid alongside the Inverted-Vee such that the Vee could be taken down and the HF-2V put up with minimal effort. Minimal effort was important as changing antennas would occur after dark.

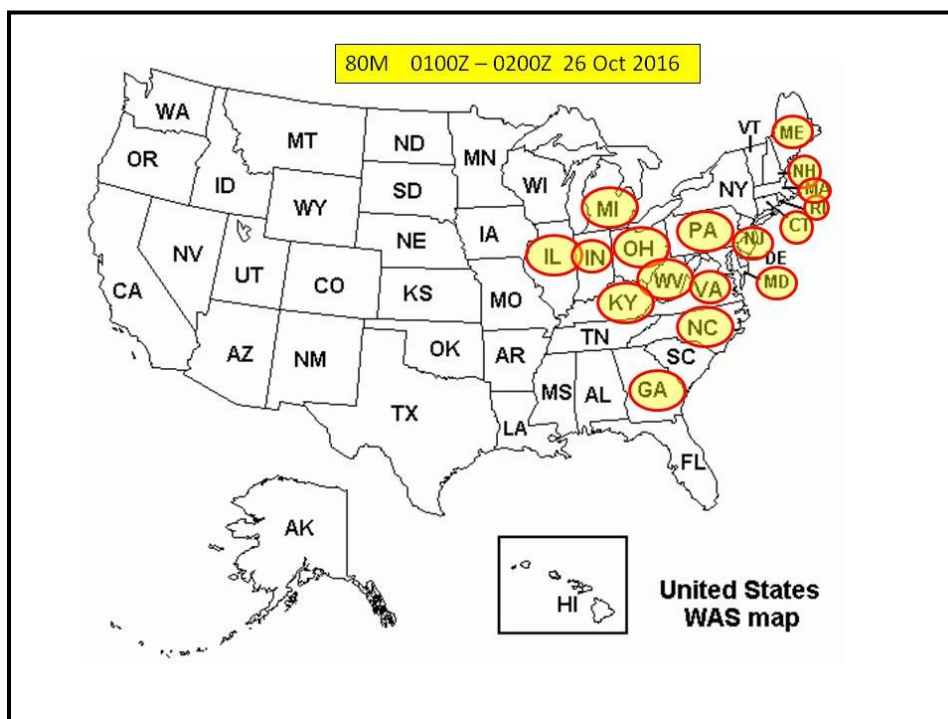
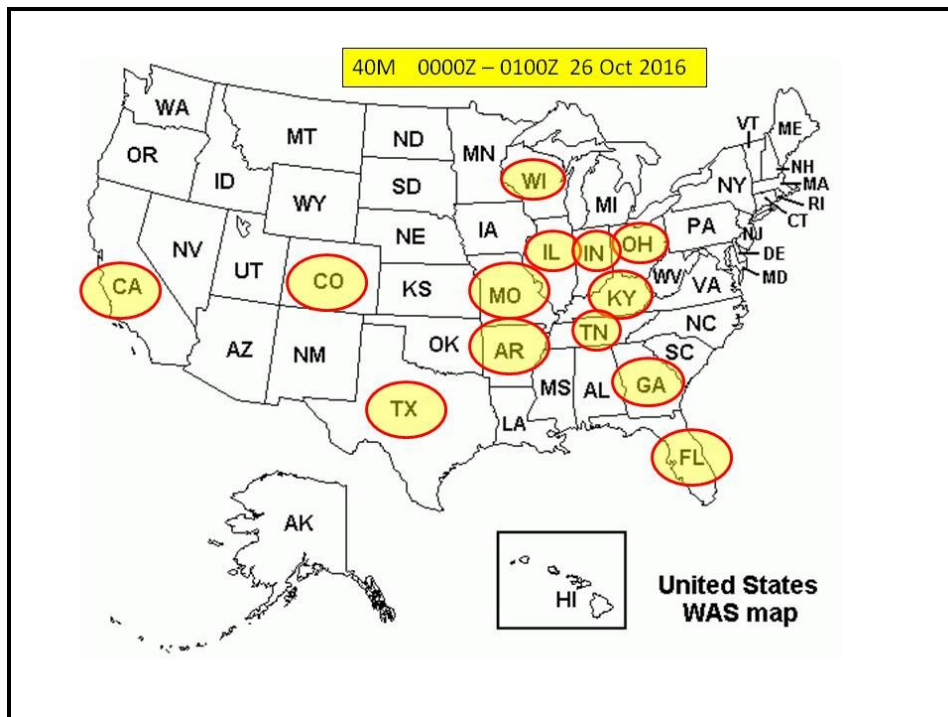
Due to the G3 Storm, I was concerned that 20M would close around my local sunset (6:15 PM - 2215Z), so I started pre SKS activity on 20M from 2230 to 2300 and was pleased that 20M was open to the west. Here’s a map of states worked:





After a break for super (provided by my hosts!), I tried 20M again around 2330 and found the band mostly dead. I had planned to start the SKS on 20M but decided to do only 40M and 80M, so Richard and I changed antennas.

I spent the first hour of the SKS on 40M and the last hour on 80M.



I was a bit surprised that I did not work anybody in New England while on 40M as I had good propagation to the west. After thinking about this for a few minutes, I realized I should not be surprised at all. If you take all those circles on the 40M map and rotate them around a vertical axis through the east coast of Delaware, they all fall in the Atlantic! At the start of the sprint 40M had already gone long and most of New England was too close!

I was delighted to find out that three stations completed their SKCC WAS during my "DExpedition" - that alone made the journey worthwhile! Richard and I packed up after the SKS was over, and I arrived back home around 1:30 AM. Fortunately, Wednesday was a vacation day.....

Once again, a **HUGE** thanks to Richard and Francine for being such wonderful hosts! Now, if only Richard would get an antenna up and get an SKCC number..... I'll have to work on that! Also, a big tip of the hat to the [Hilltop Transmitting Association W3ZGD](#), serving the Greater Metropolitan Red Lion PA area, for letting me use their HF-2V!

Last but not least, here's a picture of our cat "Luna" lounging on one of the beams across our living room. She has expressed a keen interest in the "bug" I used.....



© Mark Bell K3MSB 2016

*Editor.....Such mini DXpeditions are great fun! Several other members have gone on such expeditions and have really enjoyed the experience. Hopefully more will give this fun event a try!*



## **Do You Have a Prepared Ham Radio Elevator Pitch?**

**By Urb W1UL**

Do you have a ham radio elevator pitch ready to be delivered on a moments notice? You're walking toward your car in the company of someone you just met. You casually mention you're a ham radio operator. Your companion asked, "What is ham radio all about?" Enter the elevator pitch.

**An elevator pitch is a short summary used to quickly and simply define a process, product, service, organization, or event, and its value proposition. Wikipedia defines 'elevator pitch' as "...the idea that it should be possible to deliver the summary in the time span of an elevator ride or approximately thirty seconds to two minutes. The term itself comes from a scenario of an accidental meeting with someone important in the elevator. If the conversation inside the elevator in those few seconds is interesting and value adding, the conversation will either continue after the elevator ride or end in exchange of business cards or a scheduled meeting. A variety of people, project managers, salespeople, evangelists and policy-makers commonly rehearse and use elevator pitches to get their points across quickly."**

Why does ham radio exist? Your answer to this question might elicit, "hams frequently provide communications when all forms of commercial communications are unavailable, such as in natural or man-made disasters."

Getting to the crux of the ham radio mystique you continue, ham radio is many things to many people, which is a great starting line in your pitch.

Don't try to be all things to all people, stick with the aspects of ham radio you enjoy and have passion and expertise. If you're a DXer, tell the story of why you're a DXer, do not try and explain the allure of VHFing, contesting, or moon bounce.

### **W1UL's Elevator Pitch**

Ham radio primarily exist because hams frequently provide emergency communications when commercial forms of communications are unavailable, such as in natural or man-made disasters.

The great thing about ham radio is that it is many different things to many different people. My favorite ham radio activity is what we call DXing. DX was originally meant contacting distant stations. Now DXing is the pursuit of contacts with countries you haven't previously worked. I first became interested in DX when I was about 15 years old when I was asked by a marine in Guantanamo Bay Cuba to relay a message to his family in New York City. His wife had just presented them with a brand new granddaughter. This was my first contact outside the United States other than Canada. A few weeks later I woke up one night about 3 AM with a painful toothache, I turned on my equipment to see if anyone was on the air at this hour. At this point, I had never contacted a station west of the Mississippi River. Without touching any of the dials there was a station in Arizona calling CQ which meant he was seeking a contact with anyone. With trepidation, I called him and back he came. After our contact, I was tuning around and there was a station in Washington state. A contact with him was followed by a contact with California. I was so excited I totally forgot my toothache.

On that glorious night I learned that long distance communications, on the band I was using, was only possible when both ends of the communications path are in darkness, much like the AM broadcast band. Once I absorbed that propagation reality I started getting up a three AM

to get on the air. Within a short time, I had added six new states as well as Hawaii, Venezuela, New Zealand, and Australia. I was hooked and I've been a DXer ever since.

Over the ensuing decades, I have now contacted every country in the world except North Korea and they don't allow ham radio.

### Epilogue

When developing your elevator pitch be yourself, it will help you memorize your pitch. Then, practice practice, and practice. When you think you have it down pat, practice a little more. Remembering back to the definition of an elevator pitch, it should be deliverable in between 30 seconds and two minutes total time. Practice your pitch at various intervals. Learn what can be taken out and what must remain. The goal is to make it sound completely spontaneous and not rehearsed. It reminds of a sign that was hanging in a financial research department that I managed, "Sincerity is very important around here, once you learn how to fake it you have it made."

73 Urb W1UL [urb@w1ul.com](mailto:urb@w1ul.com) Please check out my VE test preparation website <http://ham-cram.com> The fastest path to a license or upgrade.

## Things That Go "POW!"

Imagine there are only three minutes left in your multi-multi SKS effort and 40m is packed with signals. 80 and 160m are churning out QSOs and suddenly...POW the Alpha on 40m dies...Alphas don't die?!? This one did and for no known reason both fuses blew! No smoke just POW! As a result the 100 QSO barrier stopped for us at 91 QSOs.

Next day new fuses were installed, antennas were checked, K2/100 transceiver checked. So who wants to turn the amp on (220 line) and check it out...sheez, chicken! Yes I am but with a very long stick the amp was turned on and worked perfectly! Hmm, Murphy?





## A “Spoo-key” For the October WES

By ON7DQ Luc SKCC#14984

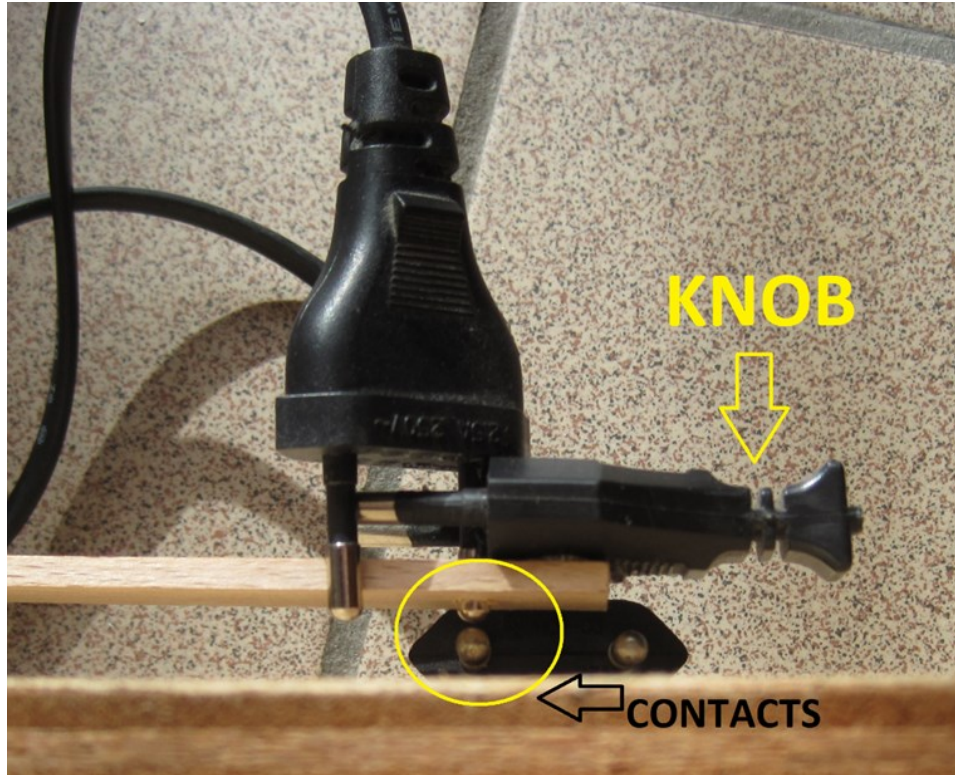
Oh what a busy week this was! On Thursday evening (Oct. 6) we just had the SKSE, and the weekend of Oct. 8-9 was coming up ... WES time again. But at the same time I had been hunting for a special award, celebrating the passing of **Miguel De Cervantes**, 400 years ago (see <http://cervantes.ure.es/>). When your call is O N 7 "Don Quijote" you HAVE to get that award, right? Oct. 9 was the last day to get the three missing contacts to get my “Platinum” award, I only got to that on the Sunday at 16:00 UTC. So my time in WES was rather limited, in the end I made only 6 QSOs, but ... 4 of them were US stations.

Now for the special theme this time ... *From the depths of the junk box, unspeakable keys!* So between all this Cervantes hunting, I went into the garage and grabbed some wood and screws. But what to use as contact points? I had a box full of old appliances in my garage, ready to bring to the container park (dumpster). I saw a couple of broken clock radios and a desk lamp. So I cut off three power cords and went back to the shack. After some



thinking ... drilling a couple of holes ... and using only three screws, I came to this result:

A view from the side shows how two of the pins of the power cord form the contacts, the power plug from the third power cord is the key's primitive “knob”. The lever is a wooden paint stirrer which seems to have just the right tension, so I didn't make an adjustment for that. However, the contact distance was way too big, so I added a fourth screw halfway the lever to reduce the spacing to a comfortable distance.



I then covered my DF key with an early "Halloween theme" ... scary stuff eh?



You could call it a "dust cover" but I suspect it *collects* more dust than it *protects* ... HI.



The key was used in all 6 QSOs, and worked quite well, though it feels rather “soft”.  
I have made some videos if anyone wants those, send me a mail at my QRZ.com address.



Here the proud builder/owner ... hope you like my “design!”

## “Band-aids” and Antenna Help

It has been a very rough year for propagation and with regards to antenna work, well if it wasn't too hot to work or climb then it was raining! What a summer/fall! Fortunately there are products out there that can help you with working that last state/country and to get that an-

tenna SWR down where every milliwatt is radiated.

Jeremy KD8VSQ #13072T found these products and “swears” they have worked wonders at his station. But before they are recommended to the general membership we'd like to hear from others who have had success or failure using these products. Anyone else having tried these two products?



## Nozomi AD7TN Returns to Japan as 7K4VQV

Nozomi AD7TN #10763, returned to Japan at the end of Setember, where he will be on the air as 7K4VQV, still operating QRP and enjoying SKCC. We had a farewell lunch while there was still time to get together with "Noz." He told us all about his great new job, his new house and how much space he will have for antennas. Here we are, left to right, Stan AC8W,



Ted K8AQM, Nozomi AD7TN and Wes AC8JF ( who gave Noz a mini telegraph key for his QRP work. We'll miss you, Nozomi san!

Noz attended several Dayton's, other hamfests and was a member of the K3Y/8 multi-multi for the past several years.

Noz has a great sense of humor, quick to laugh and was always prone to playing tricks especially at the multi-multi events.



## You're Never Too Old for CW

In past issues I have presented humorous stories written by Vic W7VSE. Although not an SKCC member, the stories needed to be told. Bob K5ZOL 3945S, was so impressed he wrote to Vic to tell him how much he enjoyed his stories. Below is the letter Bob received from Vic and Bob thought would be uplifting for everyone to know we have a 94 year old traffic net manager out there.

Sept 3, 2016

K5ZOL de W7VSE

Hi Bob. Rec'd your letter and it made my day. Thank you for taking the time and trouble to make an OM feel better.

I am 94 years old now, and my hamming has slowed down considerably. I used to chase DX and other awards, as you probably read, but now I only ham on Sunday nights as NCS of two sessions of RN7. This happens on 80 Meters CW, of course. I haven't called CQ or tried to have QSOs in many years. So, unless you QNI RN7 on a Sunday night, 3560 Khz at 730 or 930 PM, Pacific time, I don't think you will hear me on the air. HI!

I have a couple of other things I do to keep me active. I demonstrate the original Landline Morse Telegraph at Railroad Park, a miniature train park here in Medford. We are there from 11AM to 3PM on the 2<sup>nd</sup> and 4<sup>th</sup> Sundays of each month from April thru October. We send free telegrams for the public and we accept them for anywhere in the world that will allow free Hamgrams. It's a lot of fun.

Also, I've played the guitar and sang mostly country music since I was 13 years old (81 years) and I have recorded seven hour-long CDs of my music (almost 150 songs) over the years. I play these CDs for seven Adult Foster Homes here in the valley. It gives them, and me, something to look forward to. (Everyone needs something to look forward to.)

I also give these hour-long CDs away to anyone who wants them and is willing to donate one dollar for the cost of the materials to make and label them.

I would love to exchange emails with anyone. You have my mailing address OK, and I'll attach my email address.

Again, thanks for your kind words about my stories.

73,  
Vic Seeberger, W7VSE – Email: vw7vse@yahoo.com.

## **“Fun & Fellowship on the SUNRISE Net”**

**by Walter, KA4KXX**

All of you are cordially invited to join us any morning starting at 1300Z on 7123 kHz and check-in (QNI) to an exciting net that has been running continuously since 1991.

You will never meet a more polite bunch and we have a different Net Control Station (QNN) for each day of the week, Monday thru Sunday. We are informal rag-chewers but we start with RST, sky condition, current temperature, expected high temperature, and then go from there.

Most of the Net Controllers readily QRS and the typical speed of many of us geezers is about 12 WPM, so usually easy copy and we could use some fresh faces and fists, especially if you would like to try your hand as an occasional substitute net controller!

Especially impressive is our website at <http://qsl.net/srn/>, or just search for “Sunrise Net.” Check-ins are logged on the website every day, it is great fun to see how often you can QNI, and perfect attendance gets your name in **red** on the monthly list!

Although most of us are located in the Southeast, we have regulars in Oklahoma, Texas, Wisconsin, and Pennsylvania. So what are you waiting for? Come join the fun!

## **Flight Simulator and CW**

**VK2IAU John # 15943**

Of possible interest to SKCC members is our "OFFLINE" or "ONLINE" Flight Simulator group AV8MORSECODE, we only use Morse for communications TX & RX using CWCOM for the Morse (NO VOICE), nice to combine FS & CW and get best of both at same time, we use a FS Public Server (nice if a SKCC member has own server?), pilots can fly at their own level of realism, but of course standard practices need to be observed such as not joining online when parked on a runway (many servers respond by instantly removing that person from the server, not really appreciated if about to land and an aircraft suddenly appears on the runway in front of you).

For those a little wary of a first flight online we can sort that out on CWCOM and set them up with a nice prepared AP assisted (almost guaranteed success) flight for an "OFFLINE" take off and land familiarization of our base airport YSCH (COFFS HARBOUR, N.S.W. AUSTRALIA). Enjoyment before realism is the order of the day and plenty of help available for Q & A.

# CWCOM download <http://www.mrx.com.au/> ENSURE DOWNLOAD THE FREE VERSION

# IF HESITANT TO FLY ONLINE SEE ME ON CWCOM (VK2IAU John USUALLY THERE FROM 1800 UTC to 1100 UTC) OR LOOK FOR OTHER AV8MORSECODE PILOTS FOR SOME TEAMWORK AND ADVICE.

# FOR INFO ABOUT THE ABOVE PLEASE GO TO [www.cwcomusers-qsp-online.blogspot.com](http://www.cwcomusers-qsp-online.blogspot.com) POST "AV8MORSECODE"

72 / 73 to all from VK2IAU John # 15943



*Editor...as Paul Harvey would have said, "And now for the rest of the story..."*

## **Operating SKCC from GB3RS, Bletchley Park**

### **Keith W4AFB SKCC 7196S**

While reading the September issue of 'Rag Chew' I saw an article from Brian, KG8CO about his travels to the Friedrichshafen Hamfest and then on to England. While in England Brian visited the famous Bletchley Park where the "enigma code" was broken. Brian mentioned his surprise that the National Radio Center at Bletchley Park has an SKCC membership on display, SKCC #15555. Thank you Brian for mentioning that. I have been wanting to submit an article and photos ever since my visit in May telling about this. You have finally motivated me to get this done!

In May 2016 my wife and I spent some time in Europe and then England. While planning our trip I read about the National Radio Center at Bletchley Park. Any licensed ham can operate the station there when visiting. It occurred to me that it would really be a fun experience to present an SKCC membership to their station, GB3RS while there. Prior to our trip I joined the RSGB (Radio Society of Great Britain). Hams with an RSGB membership get free entry into Bletchley Park, and it was an excuse to join another radio club. HI HI. I signed their station, GB3RS, up for an SKCC membership. I thought they got an excellent SKCC number, 15555. I printed up a nice photo quality membership certificate and put it in a frame. Hopefully it would not get broken in my luggage.

Not only did I wish to present them with a membership, but I wanted to make some SKCC contacts from GB3RS. First I had to check and see if they would have a straight key or a bug at the station. I sent an email to the station that showed up on [QRZ.com](http://QRZ.com) as the admin for GB3RS. After a couple weeks I had not gotten any response, so I emailed Steve Thomas, M1ACB, who had just taken over as General Manager for the RSGB. I got an immediate response from Steve. He was very supportive of my visit. Steve said he had a prior commitment, but I would get an ample reception at GB3RS. Steve also confirmed that several keys would be available for use.

Now that all arrangements were made I started thinking about who I might be able to work mid-day from England. I emailed Bert, F6HKA and John, G0RDO to see if they would be available for a QSO on May 18th. I never heard from John, but Bert responded immediately. When I was ready for the QSO I would log onto the K3UK online page with my iPad and contact Bert.

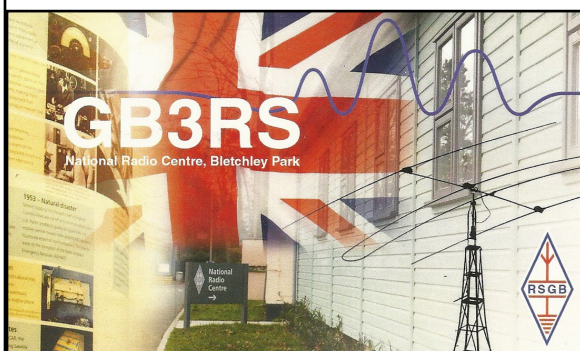
It was a rainy and cloudy day in England on May 18, 2016. The drive to Bletchley was relaxing through the Cotswold's where we were staying. When we arrived at Bletchley Park we had no problem finding the National Radio Center. When my wife Karen and I walked in, we were greeted by Graham Perry, G7OSR. Graham knew who we were right away. We were shown around the museum and taken to the GB3RS station. We were greeted and treated like dignitaries upon arrival! Andy Roberts, M0GYK and Trevor Hughes, G4WKJ were waiting for us.

I presented the membership certificate to Trevor acting on behalf of GB3RS. (attached photo) Trevor was the straight key aficionado. Trevor had brought in a few different keys. I ended up using the Junkers key, but there was also an RAF WWII Bathtub key, J38 and then two pieces of tin nailed to a block of wood!



Andy had brought in a GB3RS QSL from his home so that we could pose for a QSL exchange photo. (attached) Trevor was showing his sense of humor and being a 'ham' in the background.

We took many photos. I was informed that this visit would be included in the RSGB magazine, RadCom. The article appeared in the July 2016 edition of RadCom. (Attached) After we chatted



awhile, I got on 40m and made the first SKCC QSO from GB3RS in Bletchley Park with my friend Bert, F6HKA. (photo attached of qso)



Our visit was wonderful. We were treated like royalty. We continued on to Duxford and visited the IWM (Imperial War Museum) to wrap up the day. By the time we drove back to the Cotswold's the weather had cleared up. It was a beautiful sunset as we drove down the back roads in the Cotswold's.

Not a bad day of vacation. 73, CU all soon.... Keith W4AFB SKCC 7196S



Keith on the air as GB3RS in QSO with F6HKA



### Visit to NRC

Keith Marang, W4AFB, accompanied by his wife, visited the National Radio Centre in May. He presented the NRC with membership to the Straight Key Club and took the opportunity to meet the volunteers and operate the GB3RS station. Keith is seen here with Trevor Hughes, G4WKJ (right), one of the regular volunteers at the NRC.



### Talk About Firing up the Rig!

This unique photo comes from Stan W8ATE #13165. So do we "assume" the large rf field from this fabulous antenna system caused his brush pile to ignite? I've heard of "lighting up the bands," or "firing up the rig" but I always thought that was just an expression and not the real thing! It's a good thing Stan only runs a 100 watts! He has an Expert Amplifier on order and just think of the fire that would have caused!

Actually Stan had a rather larger than expected brush fire that lit-up his antennas that are 60+ feet above. That's a JK five bander yagi with 30m and 40m JK rotatable dipoles above the yagi.

A rather spectacular picture and well worth the story!



## Adding 17 and 12 Meters to a Hustler 6BTV

My friend Bill KD8TTM #11624, has a fairly new Hustler 6 BTV (10, 15, 20, 30, 40 80) and wanted to add 17 and 12 meters to the antenna. Bill checked out the mods shown at:

<http://www.hamuniverse.com/k17jr4btv1217mod.html>

and came up with a simple plan to add those two bands to his antenna. You can see the two



pvc cross bars Bill added (with hose clamps) to his Hustler. A 1/4 vertical wire was cut for the 17 and 12 meter bands and attached at the bottom feed point of the antenna, the wires were run through the pvc, one to each side, and then up to the top pvc cross bar. The ends of the vertical wires were attached to pieces of pvc used as end insulators and “para-cord” was attached from there up to the crossbar and back down to the bottom cross bar where they were secured. Bill has 20-20ft radials around his vertical. The antenna did have to be tuned a bit on the 10-80 part when Bill added the 30m trap he purchased from DX Engineering.

Now Bill has an antenna that covers 10-80m with an SWR of 1:1.5 on all the bands where he operates most. The antenna system can handle full legal power when Bill gets his amp but for now all works very well with his 100 watt Kenwood TS-450.

If you have a similar vertical you may want to consider Bill’s approach and add the additional bands. It’s most likely this type of modification can be added to most verticals.

Good luck and if you do a similar mod please let us known so it can be shared with others.





## **Your Next Challenge**

**by Kate Hutton, K6HTN 5405C**

A number of you who have achieved your Centurion award may have also received the following "bonus" ... a radiogram from my fellow "traffic handler" Dave Bilitch, KI6BHB SKCC 4086T.

CONGRATS ON YOUR SKCC CENTURION  
AWARD X FOR ANOTHER CHALLENGE  
TRY WORKING A CW TRAFFIC  
NET 73

What is this, you may be asking, where did it come from and how did it get to me? For quick answers, it came from Dave's QTH in Chino Hills, CA. It was relayed from there to a participating ham near you, via a system of nets and digital connections involving the National Traffic System (NTS) and Radio Relay International (RRI). Likely, the last ham to handle it, near you, called you up on the telephone or sent you a postcard.

The NTS, although now one of many programs of the ARRL, is in a way a living fossil of the League itself ... the American Radio Relay League. Relaying messages was originally the League's major function, the reason for its founding. Back when telegrams and long-distance telephone calls were expensive, or even when not everyone had a telephone, HF-capable hams were plentiful and well known in their local communities. Non-commercial messages, of a personal nature, were often relayed around the country at a speed that could beat the postal service, was free to the user, and helped keep the hams sharp with perfect message copy, in case they were needed to support a disaster relief operation. Handling traffic was the ham's way of "paying forward" for the use of the frequencies. RRI is an offshoot, an offshoot of administrative differences, and now handles most of the "long-haul" or inter-section traffic.

In the beginning, of course, all message traffic handling was on CW. Today, SSB and VHF FM nets are common, and there is also a digital component: an automated Pactor network known as the Digital Traffic Network, or DTN. CW is also still a large component. CW is considered especially valuable in disaster situations, because it is bandwidth efficient, power efficient, requires only simple equipment, and is relative tolerant of marginal band conditions. In the recent Cascadia Rising earthquake drill (magnitude 9.0 scenario, with tsunami), the traffic nets supported FEMA with CW and Pactor circuits. Both systems shone, but CW was less affected by band conditions and congestion than Pactor was.

We don't generally have much disaster traffic, and in these days of cell phones and the like, we don't have many messages from the general public, either. There is quite a bit of ham-to-ham routine traffic, however, of which the above SKCC Centurion message is an example.

However, although the CW mode itself has increased in popularity, contrary to what was believed a decade ago when the last remaining code requirement was dropped, traffic handling has not fared so well. This should not be so. Let me count the ways!

Traffic nets are unparalleled code practice! The net protocol is precise, efficient, and accuracy standards are high. Although many messages are common-text "bulk traffic," you are not stuck sending and receiving the same thing over and over again, as you would in a contesting situation. In short, the nets are interesting, varied, and they will hone your skills!

There is a sense of connection with "history." The radiogram format harkens back to the maritime radiogram format, as do many of the net protocols, and of course, prosigns and Q signs. That format in turn goes back to the landline telegraph.

There is camaraderie. If you get to the point of taking a regular assignment, say once a week, liaising between a particular set of nets, you will be greeting the same operators every week. Although there is little if any social chitchat on the nets, you get to know the other ops and their fists. You will encounter them in contests and say to yourself, "I know that fist!"

Traffic nets will inspire you to improve your antennas and the efficiency of your station. You will automatically, over time, improve your fist and your comprehension. Many traffic handlers do use keyers, but many of the aces use bugs as well, and a casual listener is hard put to tell the difference. Optimal traffic "copy speed" is about 20 WPM, but there are local "slow nets" to help you get there.

Lastly, if the services of the traffic networks are needed in a disaster, you (along with the rest of the team) will be there, trained, and ready at the key.

So let me join Dave KI6BHB in inviting you to seek out a CW traffic net, listen for a few sessions, then check in. Local and section nets can be found through the ARRL Net Directory search tool: <http://www.arrl.org/arrl-net-directory-search>. Alternatively, if you look closely at a list of your ARRL Section staff, you will encounter someone with the title Section Traffic Manager or STM. That person is familiar with all the traffic nets available in your general vicinity.

There are many guides to CW traffic net protocol to be found on the internet. The one that I used to get started was <http://www.qsl.net/n5lf/cw-nts.html>. The complete manual and its appendix are available at <http://www.arrl.org/nts>. This is likely an overload for the beginner, however, with one exception: Appendix B, Chapter 1, the radiogram message format. You will need that.

We would be very pleased to have you join us. The slow nets are very inclusive. If your speed isn't up there yet, one of the ops may be able to work with you off frequency to get your message passed, or give you one to deliver. If you have questions, please feel free to email me: Kate Hutton [katehutton@gmail.com](mailto:katehutton@gmail.com).

QNI QTC ? K

## K9SKC Is Alive and Well!

Thanks to Kevin K4VD 605T the "official" club call K9SKC, has been renewed and ready for use. I'm not sure what the rules are for use but a quick note to Kevin will no doubt yield results.

In the past those who used the club call used their own SKCC number. From the web site if you "look-up" K9SKC there is no number for that call.

Hopefully in future SKCC events K9SKC will be come active.

Many thanks to Kevin for his efforts to re-secure the club call.

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UNITED STATES OF AMERICA  
FEDERAL COMMUNICATIONS COMMISSION  
AMATEUR RADIO LICENSE  
K9SKC

ATTN: KEVIN DER KINKEREN  
STRAIGHT KEY CLUB  
731 HARRIS DR  
POMONA, CA 91768

FCC Registration Number (FRN): 001750210

Operator Categories / Endorsements

Grant Date	Effective Date	Expiry Date	Expiry Date
11-15-2016	11-15-2016	11-15-2016	11-15-2016

File Number: 000750210

Operator Privileges: CLUB

Station Privileges: CLUB

THIS LICENSE IS NOT TRANSFERABLE

(Licensee's Signature) FCC 606 (Rev 9/07)

Call Sign: K9SKC

Grant Date: 11-15-2016

Expiry Date: 11-15-2016

Operator Privileges: CLUB

Station Privileges: CLUB

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## A Multi-Multi Adventure

*Editor.... To me one of the most enjoyable aspects of operating amateur radio is enjoying my hobby with friends while operating. At K8AQM, KS8KCC and other calls we operate “multi-multi” enjoying making QSOs and each other’s company. Matt AA1JD sent an email asking “how we did it” and what was needed. Matt and his friend Hugh NC1M were planning to do an SKS as multi-multi from Matt’s cottage on Lake Winnepesaukee in Meredith, NH. Here is Matt’s story.*



A view of the lake



Truly a “rough” operation!

“Ok we are making final preparations for the multi-multi SKS next week. Hugh NC1M 11058S, built and tested the 20M and 40M stubs. He ended up with something right around 30dB of isolation, and that should be sufficient for the 100W level.

We will both be headed up to the Meredith, NH cottage tomorrow and getting the antennas pulled up in the highest pine trees available and looking out over the northern shores of Lake Winnepesaukee looking toward the Southwest.

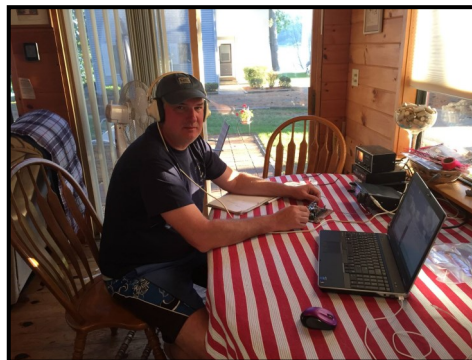
We are going to get in a few days of fall Salmon fishing in the lake over the weekend and before the SKS. For us this will be the best of two great hobbies fishing by day and ham radio in the evenings. You can plan to hear us on 20 & 40M over the next five evenings running the cottage stations putting them through their paces on the SKCC frequencies.

During the SKS I (Matt AA1JD, 11061S) am planning on running the 40M station using an ICOM IC-7000 and Hugh (NC1M 11058S) will be running 20M with an ICOM IC-775DSP. We will both be using AA1JD during the SKS.

We had a great time working our first multi-multi SKS. NC1M Hugh and I worked it from my NH cottage on the Northern shores of Lake Winnepesaukee. Hugh operated 20M and I worked 40M. Both stations were running 100Watts with “bandpass stubs” and dipole antennas.”

*..... The guys had a great time and made many QSOs, 58 to be exact, but more importantly they had a great time and made many great memories! You too should consider getting into multi-multi fun!*

*Lest we forget, they combined amateur radio and fishing. Check out their catch!*



Matt, AA1JD 11061S



Hugh, NC1M 11058S



***Those are rainbow trout and lake trout!  
Yup, multi-multi operation and fishing are a great combination!***

*Multi-multi operation is easy, using the SKCC Logger is simple, each station has its own log and later the log from one station is merged/imported to the other station's log. As to station intermod, you can cure it in many ways:*

- 1. Build a set of stubs as Matt and Hugh did. Lots of info available on "how to" and its cheap too!*
- 2. Buy a set of "bandpass filters."*
- 3. Keep the antennas as far away as possible. For some situations this might be all you need.*

*For operation as QRO, both stubs (placed on the amps) and bandpass filters (placed on the transceivers) as needed. Of course for any of these attempts, grounding of all equipment is necessary.*

***FYI.....Another "Delaware" operations is in the works for December. It too will be a multi-multi operation!***

***How about some multi-multi operations to those rare and needed western states?***



**Hugh NC1M and his trophy/dinner!**



**Matt AA1JD landed this rainbow beauty**



## **The COFFIN BUG – The Key of Many Names**

### **By K8MFO**

The late 1950s and early 1960s was a prime growth period for ham radio in the USA. A large part of that group came from 12 to 18 year olds who were intrigued by the magic of radio. The Novice license was an effective springboard for introducing youngsters to ham radio, with CW privileges on the 80, 40, and 15 meter bands. Because money was not plentiful, a good portion of the newcomers used very simple equipment, either WWII surplus gear, or perhaps a basic receiver and a homemade crystal controlled transmitter. Heathkit and some other manufacturers also offered reasonably priced kits. War surplus straight keys could often be found for a dollar or so and often came free from a local “Elmer”. Of course once CW skills advanced, the beginning ham looked for something to increase sending speed. While electronic keyers were already around, including a couple of commercially made ones, the BUG was the main instrument for sending faster CW. Since funds were limited, not everyone could afford to pay \$20 or more for a Vibroplex. An option that appealed to those of us was the “bug of many names”, most commonly referred to as the “Coffin Bug”. With a price tag of \$9.95 shipped to your door, this key found its niche in the market. I can remember the excitement when mine arrived in the mail around 1960. To my delight, I found it to be a very smooth operating instrument, as did many of my friends, including K8VRF, my closest local friend. One of the old timers, W8BJE, a WWII CW instructor, thought it was smooth too, and offered to trade his Lionel J-36 for my coffin bug. I gracefully declined to do that.

### **The coffin bug was sold under many different names, among them:**

**Lafayette MS-435, CALRAD TK-12, "Midland Semi-Automatic Key Model No 25 -104", Olson Radio, Skillman. Kenpro KK-50, JELECTRO, Swallow, Radio Shack, HI-MOUND BK-100, DENTSU-SEIKI. Eagle Products HK-102, Monarch – KY-102, TTC F1005, "Takatsuka Hi Mound" BK100, Korea High Speed BK-100 Key, and perhaps others. I believe that you can still find them being sold as the Hi-Mound BK-100, but the \$9.95 price has now risen to \$139.95**

**In about 1964 or so I joined the ranks of electronic keyer users with one of the W9TO models, and fell victim to the “old wife’s tale” that you would “lose your bug fist forever once you switched to a keyer”. It was almost 35 years later before I realized what foolishness that was, and I again started to enjoy various bugs, often switching between keyer and bug within a QSO. In fact I started a modest collection of bugs and developed various favorites such as Dow Key, Wilson (Canadian), and McElroy. Not until a few months ago did I think about the “coffin bug”, when a childhood friend, K8MXC, found one at a hamfest and had some questions about adjusting it. I dug mine out of a cabinet, spent a few minutes with the adjustment process, and was amazed to learn that my childhood evaluation of “smooth” was entirely accurate. This is one of the easiest to use bugs in my collection, and it has found a permanent place on my operating desk, 46 years after last using it. This is not a bug for a “meaty hand”, and is much better suited to a light touch. In fact I asked some of the users who had offered comments, both positive and negative. It was a unanimous (non-scientific) finding that those with a light touch**

liked the bug, and “heavy handers” probably did not. With the weighted base, it is quite stable on my operating desk. In my opinion, it is best suited for speeds up to about 30 WPM. Personally I really like the way that it handles. Of course, keys are a very personal thing, just like automobiles, radios, and women! That’s why there is such a wide variety available. In the USA alone there were over 60 makers of “bugs” over the years, a good portion in the early part of the 20<sup>th</sup> Century. My personal collecting interest is in some of those “off brands”, and luckily I have been able to find several.

When I put out a brief feeler on the FOC and Morsecode reflectors, asking for shared memories or information about “coffin bugs”, I was amazed to receive responses from 29 individuals. Here are the stories, shortened for this article, as told by the contributors.

**K5RC** - They also are the only ones (bugs), to date, to employ suction cups on the feet.

**VE7BS** - I forgot to mention that one thing I like about that bug is the shape of the pad. Extending upwards as it does it accommodates the fact that the bearing surface of the index finger is higher than that of the thumb.

**AC2K** - The thing I liked most about the bug was the ease of adjustment. Extremely easy for me to get the exact swing that I desired from it.

**G3RVM** - I produced some fairly decent CW with it probably at about 15 words per minute and when I got the hang of it the error rate was very low.

**AD8P** - It was a great key to use and until I built my first WB4VVF Accu-keyer it was in constant use.

**G4BJM** - I was given one of these by a local ham (G4BGM by sheer coincidence) back in the early 70s and it was my first bug.

**G3RWF** - I still have mine - a gift from my then fiancée, now wife of 42 years. It was what I used for many years. It worked well and probably still would if I spent a bit of time sorting it out.

**K6RB** - I still have it, and used it a few years ago as the primary key for one of my six (then) vintage stations.

**N9RV** - Those of us who are still working remember the Lafayette bug at W8UM, which was used in many a low band pileup to draw out the dashes at the end of the call.

**G3VTT** - I never got to use it properly and found the thing was too light and really needed the weight of a metal arm. It wandered all over the bench.

**KR3E** - It was the first key that I used after upgrading from my J-38 and the only one that I used between 1962 or '63 and 1973, when I moved from NYC to Maryland.



**K1AJ** - Unfortunately I sold my "coffin bug" years ago. I had one that I bought at Lafayette Radio for about \$12.95 or so. I know it was a lot of money on 1965. I used it until I got a Heathkit electronic keyer for Christmas from my parents.

**A65BD** - like you it was my first bug, would have been in 1974. I am not sure if I have the same one, or sold it and later picked up another, but I still have one. Many of my friends of that era also had them. I know some were later "butchered" to become a single lever el-bug paddle.

**AI2Q** - The attractive price spurred me to buy one 50 years ago, from Lafayette, which involved a long 15-cent bus ride and a ten block hike. **I never liked the way that key worked back then, but that was probably because I really didn't know how to adjust it or use it.**

**5B4AGN** - One came my way in about 1969. If I remember correctly, a local ham G3XDI had bought it but couldn't get comfortable with it. I was just a school kid without two pennies to rub together. Cliff very generously gave it to me. I used it on and off for about a year but always found it rather clunky.

**W7QC** - I had one of these when I bought an estate. I didn't know what it was so I sold it for \$20.00.

**F5VHC** - In 1965 I worked for International Marine Radio Co. and had to go into the agent's office in central Tokyo for some spare parts. While I was there I asked if by any chance they could supply me with a bug key. Well they knew what one was and said that they would bring me one if I could wait a while. Two hours later a guy with a bike came out of the elevator, a bit short of breath. He had a neatly wrapped parcel with him which turned out to be a "coffin bug" but I never knew it by that name until now. I was shown a photograph of the factory which they then told me was about ten miles away! They charged me £2 or £3 for it, I can't remember exactly but it wasn't much. Anyway that was my first bug and I used it until I bought my Vibroplex Champion in Seattle some time later. Somewhere I lost it; it could be six miles down in the Pacific Ocean. I've still got the Vibroplex though. I don't know what name it had on it but I'm almost sure it was Japanese script.

**G3IAF** - See you have raised some dust regarding the BK100.....had one here for a spell but unlike you I thought it was horrid!

**VK2IXV** - My first bug was the BK-100 and I still have got one, although it was distributed by Carload. By the way, the director of Dentsu-Seiki and Hi-Mound was the late Mr. Takaitu Takatsuka. Translated in English Takai = High and Tskuka = Mound, therefore the name Hi-Mound. His son now runs Hi-Mound.

**K2UV** - For my first bug I actually purchased a Lafayette model over the counter from the Lafayette store in Jamaica, Queens, N.Y., around 1959.

**W9GL** - just sold mine! It is a Monarch KY-102.

N1EA – Provided this URL for in depth reading about Japanese bugs, <http://foster2.hp.infoseek.co.jp/key4.htm>

K6BK - I owned other brand new Vibroplex bugs, I still thought the old Monarch KY-102 sent better slow-speed code than any of them.

G0RDO - Don't know if you were going to add the earlier model BK50 Don. Plus - I have one "unknown model". See #107 and #514 towards bottom of this page:  
<http://www.morsemad.com/bugs.htm>

WB9OFG - Nice bug, but it "stutters" on dits a lot. Still needs adjusting.

OZ1UF - when the damned thing is properly adjusted, and the the pivot assembly is in its stay-vertical-mood - it is a very nice key.

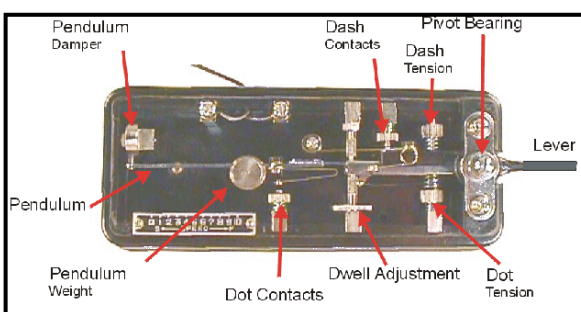
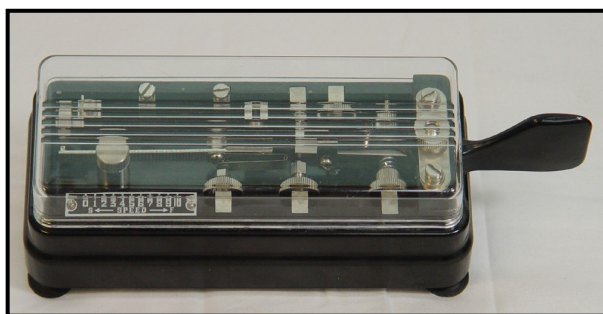
Steve – W7QC sent along a URL for a nice web based photo of the coffin bug – it can be seen at: <http://www.w0tq.com/equipment/Keys/other%20bugs/coffin.JPG>

DJ4KW made the following interesting observation-I am astonished about the name of this bug in your mail and the replies to it. In Germany we called it Snow White's coffin / "Schnewittchen-Sarg", referring to the fairy tale in Grimm's Kinder -und Hausmärchen ([http://en.wikipedia.org/wiki/Snow\\_White](http://en.wikipedia.org/wiki/Snow_White) ), where the seven dwarfs put Snow White in a glass coffin, assuming that she is dead. I never used a bug. As I wrote in FOCUS 78 p. 36, I started with an electronic keyer designed by FOC-member OZ7BO.

DL1BFE made a similar comment about “Snow White’s Coffin” .

I have to admit that I was totally amazed at the large response that I received from the FOC and Morsecode reflectors. Apparently the coffin bug stirred a lot of old memories. Personally I'm glad my friend K8MXC asked me about the adjustments. Now I have re-discovered a fine old friend.

Submitted by Don Karvonen – K8MFO May 17, 2010 and September, 2016 for SKCC



## Beware of Da Gang!

There's a new gang in town and they mean business! The "DitDah CW Gang" is serious about making contacts and promoting SKCC and for those who resist, they plan to "rough em' up a bit!" The "heavies" (and they are!) in this gang are KE8CEW Greg #15805, his son KD8VSQ Jeremy #13072C and the meanest and ugliest of the gang, K8AQM Ted #1629S!



When the gang operates multi-multi often a visiting mobster comes in as an additional hit man! When ya's work dezs guys, they all go by the alias "Dit" to cover their tracks! Their signature QSL is shown here and they QSL via "da SKCC buro." So if ya's mugs want a QSL, send it via da gang's SKCC buro! You's never know which gangster ya's worked till ya's git their QSL!"

## Findlay, OH Hamfest 2016

SKCC was well represented at the Findlay, OH hamfest this year. The weather was perfect, sunny, cool and clear and the fleas...lots! Left to right in the photo are: Wes AC8JF 10511, Ted K8AQM 1629S, Bill KD8TTM 11614, Larry K8TEZ 8426T, Mike NO8C 7239S, Jeremy KD8VSQ 13072C and Stan W8ATE 13165. Also there at the hamfest but not in the photo were: Greg KE8CEW 15805, Denny WE8Z 3172, Neil K8NP 6150. There were even other members who passed by but I forgot the calls...sri.

Especially exciting was to see Mark KK9U 3818T set-up at another site and running his KX2 to a Buddy Pole antenna. Mark took the time to show me all the features of this great little rig. And since the XYL won't let me take my K2 on "our" trips, I think I might just have to get one of those to slip in my pocket and some random wire when we go on "our" next trip to wherever, a very sweet rig!





## The WoodBug: A Semiautomatic Morse Key

Gary W. Johnson, NA6O SKCC #8335

### Abstract

A new semiautomatic Morse key has been fabricated almost entirely of wood. Its primary design feature is a very low inertia mechanism that permits exceptionally sensitive operation similar to high-performance iambic paddles. Magnets, used in attraction mode, are used in lieu of springs and provide crisp action. Lever force adjustments are made via a novel rotary adjuster. A magnetic reed switch is the dot contact, and dot weighting is precisely adjustable while operating. No lock nuts are used for any adjustments; 56 TPI threads with an interference fit provide high-resolution positioning and are vibration resistant. Overall form factor is a compact 6 by 3 by 1.8 inches and it weighs 2.0 lb.



### Introduction

Semiautomatic Morse keys, otherwise known as speed keys or bugs, have been useful tools for telegraphers for over 100 years and are still popular among amateur radio operators. A few commercial manufacturers still exist, but more interestingly, numerous home craftsmen are still innovating in this area (e.g. WB9LPU, WA9TGT), creating novel and beautiful bugs. I am a member of the latter category.

One thing all these designs have in common is that they are made entirely of metal—most commonly brass—though the base is sometimes made from other materials. For some reason, wood has been overlooked. Being an experienced woodworker and having previously built a Morse hand key that worked out well (Figure 1), this felt like an opportunity to me. I started experimenting with various bug components and doing some engineering calculations and soon realized that a wooden semiautomatic key was not only feasible, but may offer some advantages over conventional metal construction. This report will cover the background and construction details of my *WoodBug*.



**Figure 1.** Morse hand key, made by the author in 2008. Cocbolo.

Bugs are like musical instruments in that they are subject to much personal preference regarding their mystical “feel” as well as overall performance, reliability, ease of adjustment, and aesthetics. My goal in this project was to design a bug with lower inertia and the possibility of a lighter touch that more closely emulates state-of-the art iambic paddles. Also, I wanted to simplify some of the adjustments, in particular eliminating locknuts and also improving adjustment resolution.

### Why Wood?

Wood is among the oldest engineering material but is too often overlooked outside its common applications such as construction and furniture. Like many natural substances, it has some exceptional properties and is of course beautiful, but does require care in selection due to variations among species and even within a single sample.

An old saying is, “pound for pound, wood is stronger than metal.” Table 1 shows that wood is certainly competitive, at least in one parameter: Specific stiffness, which is the ratio of the modulus of elasticity to mass. This parameter is of particular interest in a mechanical structure where we seek a compact, light, yet stiff assembly. If a very stiff structure is desired, one can also adjust the dimensions to optimize section modulus, perhaps in a particular direction. Where low mass is needed but without high strength, you can turn to much lower-density species such as Balsa and Basswood.

**Table 1.** Properties of Selected Species of Wood and Some Metals

Material	Modulus of Elasticity, MPa	Density, g/cc	Specific Stiffness
Steel (1050)	210	7.85	26.7
Brass (C36000)	97	8.5	11.4
Aluminum (6061-T6)	70	2.7	25.9
Maple, Sugar	12.6	0.67	18.7
Cocobolo	19	1.1	17.3
Ebony, Gabon	17	0.96	17.7

Wood is highly machinable and tool life is very long except with certain exotic species that may contain mineral deposits. Holding tolerances better than 1 mil is not a problem especially in dense, diffuse-porous species.

The main problem with wood is its expansion across the grain in response to humidity, which can be significant. This will be the major source of “drift” in a precision instrument such

as a bug. Temperature coefficient of expansion is not much of a concern, especially in small assemblies. Long-term warping of larger pieces, for instance the base of the bug, could also affect alignment to some degree, but this is a very slow process.

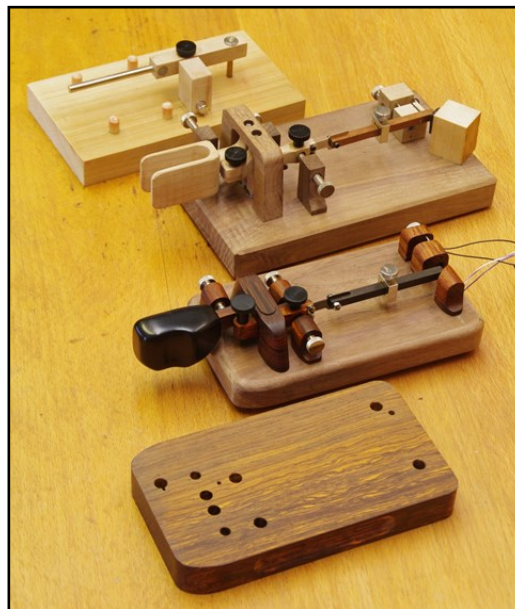
### Tooling for Wood

If you are a more of a machinist than a woodworker, treat wood like plastic. Use high positive rake, very sharp HSS cutters, 2-flute endmills, and high surface speeds. Saws of all types are great for roughing; slitting saws work great and last forever. Files are very effective for detailing and breaking sharp corners. Precision holes can be reamed, holding tolerances of a few tenths of a mil without problem. Don't worry too much about the dust on the ways of machine tools; it's not abrasive and simply wipes away. Infinitely better than machining cast iron! If you are a skilled woodworker and wish to build something on the scale of this WoodBug and with suitable precision, it may be difficult to do so without access to a lathe and mill. That being said, most of the special operations can probably be done with nothing more than a drill press and a few special cutters. For instance, the finest X-Acto razor saw works just about as well as a slitting saw, and leaves a kerf around .013 inches. Very careful layout, knife-marking, and centering of holes is mandatory.

### Development Process

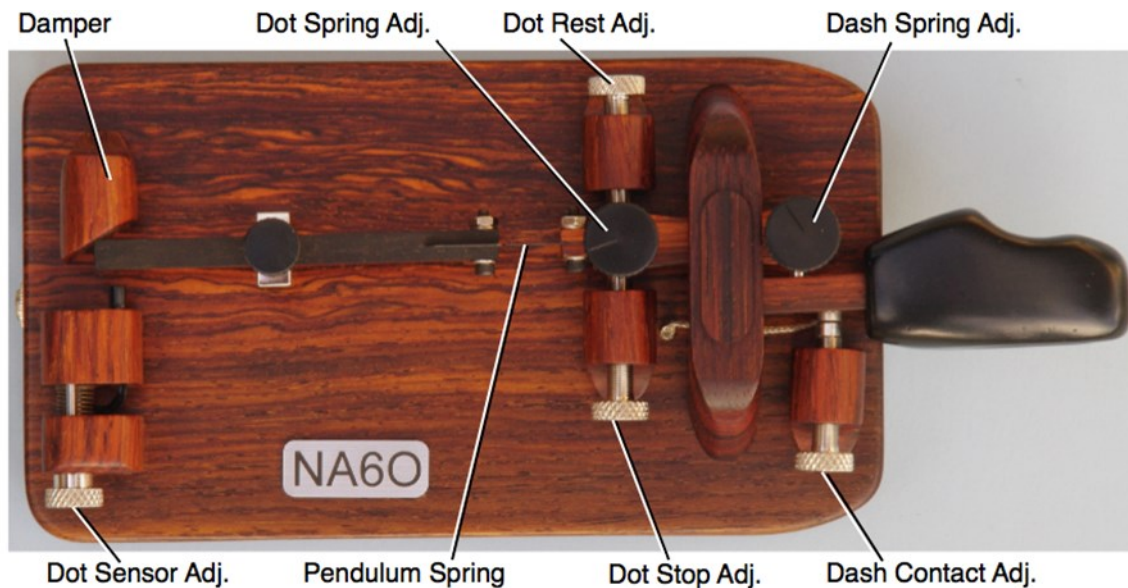
Many experiments were performed on candidate materials, components, and fabrication methods over the four-month duration of this project. These elements were integrated into mechanical testbeds so that I could do some operational evaluations. For once, the term *breadboard* may be used literally!

Cocobolo was chosen as the primary timber due to its density, high strength, good machinability, and spectacular grain. The weight arm is ebony, which is extremely hard and smooth. The fingerpiece is carved from basswood to reduce weight in this large component. I shaped it to fit my particular finger position, matching height and spacing of my favorite paddle. Final finish is Watco oil and wax, except for the fingerpiece which is black enamel.



**Figure 2.** Development proceeded from breadboards to the final article

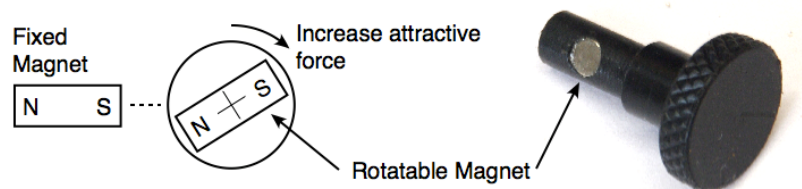




**Figure 3.** Top view of the Woodbug showing its main features.

### Magnetic Force Adjusters

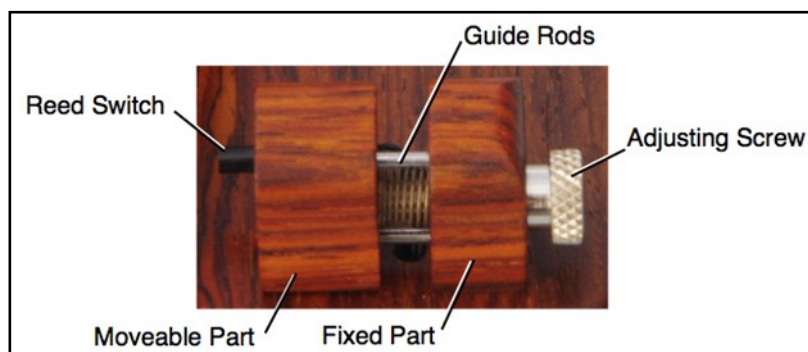
Instead of springs, this bug uses magnets in attraction mode to provide return forces on the dash and dot levers. One of the novel mechanisms in the Woodbug is a rotatable magnet assembly that allows you to vary the force without the need for linear displacement of one of the magnets (Figure 4). The assembly is very compact and quite sensitive. I chose to use attraction rather than repulsion because it yields a “snappy” feel when actuated.



**Figure 4.** A rotatable magnet allows adjustment of return force.

### Dot Sensor

A magnetic reed switch (Meder Standex MK 20/1-B-100W) is located at the end of the pendulum arm and is triggered by a magnet in the end of the arm, thus generating dot closures when the pendulum oscillates. For operator convenience, the sensor is mounted on a linear slide mechanism with an adjusting screw (Figure 5). While generating a string of dots, duty cycle can easily be adjusted.



**Figure 5.** Dot sensor adjustment mechanism. The entire assembly is about 1.25 inches long.

### Adjustment Screws

I have always noted that classic bugs use overly-coarse threads for sensitive adjustments, and I'm mildly annoyed by the need for a second hand to tighten the locknuts. In the Woodbug, extra-fine pitch threads (#10-56) are tapped in Delrin inserts that are then pressed into wooden mounts. Thumbscrews are machined from brass (later nickel plated) and threaded with a #10-56 adjustable die that is oversized to guarantee an interference fit. This provides high drag, a long service life, and no need for lock nuts.

For the fixed dash contact, a hybrid insert, split into Delrin and brass portions, is pressed into the mount. A wire is then soldered to the brass part. All contacts are machined from Sterling silver and diamond-polished to 1 micron.

### Pendulum

The Woodbug uses a conventional horizontal pendulum with a spring-steel spring. To minimize total system inertia, a very limber spring was chosen, made of 8-mil feeler gage stock. The weight arm is made of Gabon ebony, and the brass weight weighs only 6 grams. Speed adjustment range is 18 to 40 WPM.

### Damper

Quite a bit of experimentation went into the damper, whose purpose it is to quickly stop motion of the pendulum upon release of the lever. With the very small amount of kinetic energy in the Woodbug, this is not a trivial task. A conventional bug's damper, which operates by momentum transfer to a weight and then dissipation via friction, was scaled down and tested with various geometries and materials but was never satisfactory. Then, various compliant materials were tested with mixed results. Ultimately, a low-durometer polyurethane was selected and mounted at an angle so as to maximize point-loading on its surface (Figure 6). Slow-motion movies, taken on a smart phone (Try it! Works great!) showed that all motion stops after just one reduced-amplitude cycle.



**Figure 6.** Closeup of the damper, with its soft polymer material mounted at an angle so as to maximize point force.

## Bearings

Double-shielded precision ball bearings support the main pendulum and the dash arm, with one bearing above and another below. Nearly all bug and key craftsmen have switched to these modern bearings, thus avoiding the adjustment, wear, and damage problems of traditional bugs.

## Keeping it Put

Weight of the Cocobolo base alone is insufficient for vigorous use, so I cast a block of lead which is set into the bottom of the base. Another discovery was that selection of material for the feet is more critical than I imagined. A very low durometer rubber (e.g., 3M Bumpons) were my first choice in that they are very sticky. But that compound is overly-compliant, and the entire bug acts like it's sitting in a bowl of Jell-O! After some more experiments, a much stiffer rubber sheet material was selected (butyl rubber diaphragm sheet), cut into thin disks, and glued into place.

## Performance

Here are my operational impressions of the Woodbug. The primary goal of low inertia and high sensitivity was clearly met. I found that I could send dashes somewhat faster on this bug though I'm still in need of more practice getting used to it. Operating forces can be adjusted to a very low level, though you can also set the spacings very wide and return forces quite high to emulate a conventional bug. While your first impression is that of a delicate device, it turns out you can really slam it around if you are old-school. Magnetic return action is positive and snappy. The dash contact is very solid. The wooden fingerpiece never feels cold. The bug weighs enough to prevent any walking about. Adjustments have a silky feel to them and I do not miss those locknuts at all!

A drawback of magnetic sensing for dots is that it seems more likely that you may produce a short dit, as compared with conventional spring-mounted dot contacts. It takes practice to overcome this tendency.

Adjusting the pendulum rest position against the damper is more critical than conventional bugs. In the quest for extreme sensitivity, it's also possible to adjust the throw on the pendulum to a small very distance (less than 8 mils). However, this is asking for trouble because damping may be unsuccessful, resulting in an extra partial dit no matter how hard you try.

Overall, I'm very happy with the final build and look forward to some quality air time. Wonder what I'll build next?





## **Some Thoughts on Sending with a Straight Key**

**By John Andrews, W1TAG**

A lot has been written about learning Morse Code, most of it about receiving. Much of the sending advice has been about using paddles and bugs. Maybe the feeling is that we're just turning a switch on and off, and that technique is less important (particularly if you've spent big bucks on a really fancy hand key).

This article gives a few straight-key pointers from personal experience, with the assurance that some readers will disagree with me! Take it for what it's worth.

### **The Key**

In the summer of 1967, I worked for a few months at National Company in Melrose, Mass. This wasn't the part of the company that made the ham gear – they were at the other end of the building. Our part worked on communications equipment for military contracts. At lunch time, I would frequently go upstairs to visit with Henry Barnicle, W1QA, who was an engineer. He kept a straight key at his bench, and had a receiver and antenna wire out the window. He taught me a few things about Morse sending (more below).

His first point to me was that I should stop lusting after particular keys, and just focus on using what I had. Adjustment was important. Many hams, in an effort to send faster, focus on narrow contact spacing and light spring tension. That's a recipe for ragged timing and run-together characters. Open up the spacing, and increase the tension enough that the key will quickly return to resting position without you pulling it up. Make sure that the contact points are centered on each other, and there is a little "play" side-to-side in the mounting. If the arm is bound-up, you will be working harder than necessary, and the sound of the key in your ear will be muffled.

More on Hank's teachings under "Arm" below.

### **J-38 and Mounting**

My love affair with the J-38 began around 1960, when I was learning code for a Boy Scout merit badge. A local ham (W1LYZ) came in to do some teaching with a J-38, and I really liked that key. Every subsequent hand key was judged against it, and most came up short. Over the years, I came to realize that my teacher's J-38 was the Signal Electric version (narrow diameter contacts), and that the key's mounting was part of its success. He had scrapped the Bakelite base (a travesty for collectors), and mounted the key on a heavy stack of brass plates. He had glued some felt to the bottom plate, so the stack was acoustically decoupled from the table. If you are horrified at the "sacrifice" of a valuable antique by removing the original bottom plate, just get over it and save the plate in a safe place.

A key like the J-38 provides some feedback to the operator. You get a sensation in the hand when the contact closes, and when the arm returns to the resting position. More importantly, you *hear* that closing and opening. By mounting the key on the metal base, you get a definite ringing sound at those two points. Those sounds can aid in your character timing. Regarding the small contact diameter, that version of the J-38 seems to "ring" better than the ones with larger contacts. In choosing a key of some other manufacture, note whether the sound when the arm goes back to rest is deadened by not being coupled into the key base.



I make no claim that the J-38 is better than *your* key! Stick with what you like. Then again, if you have judged a key based on its base, you might want to think what that key could do on a better base.

#### Headphones

I usually wear headphones when operating CW. Maybe you use a speaker, and that's fine. But if you do use 'phones, consider whether they are attenuating the acoustical sound from the key. Old-fashioned diaphragm-type headphones fit pretty loosely, and allow you to hear room sounds. But many folks these days use 'phones designed for music that seal pretty tightly. If you're in a noisy room, that may be a good idea. But if you're in the cellar, and it's just you, the furnace and the cat, maybe something looser would be a help.

Lately, I've switched over to ear-buds, and really like them for straight-key use. You can easily hear the key working, and that feedback really helps, as described above.

#### Arm, Wrist and Hand

There are two basic approaches to the use of your arm. The British prefer to mount keys right on the edge of the table-top, and let their whole arm pump up and down without support. Over on my side of the pond, custom is to keep the key back, resting the elbow on the table. Some have suggested that the British approach comes from muscle-building, after years of lifting heavy pints of warm beer to the lips. Americans are more used to drinking from lightweight cold metal cans, and possibly less inclined to be heroic in operating a straight key. I won't enter into the discussion, and will focus on the elbow-on-the-table method.

slow you down, but you will adapt with practice, and your speed will be fine. Feel free to over-do this pumping action, and maybe you will find a sweet spot in motion that will best suit you. Practice.

These days, long straight-key sending sessions get me a bit in the shoulder, but I feel no tiredness in my arm, nor pain in the wrist. You probably can't un-do any damage done from years of keying and typing, but maybe you can prolong your straight-key career a bit by focusing on that forearm and wrist.

#### Practice

Yup, you have to. You can do it on the air, or locally. If local, consider using some sort of CW reader to try to interpret your sending. If it can't figure out what you're doing, then your on-air performance may be annoying to the other guy. As always, starting slow and working up in speed is the best approach. A sense of rhythm is a big help – try to send at a steady speed, not in bursts. Most receiving ops would prefer hearing a smooth string of characters.

And, have fun!

## SKCC at Massillon, Ohio Hamfest



Once again SKCC was represented at a local hamfest in Massillon, Ohio. Tony, KD8BBK, SKCC 2443T, and myself, Scott, N3JJT, SKCC 255T sitting right to left in the picture, promoted the SKCC Group.

We had a stack of information sheets, our trusty SKCC table top banner, a few bugs

and hand keys hooked up to try. We only had 4 check ins that had numbers, but we handed out some info and a few good eyeball QSOs.

One gentleman in particular that we chatted with for awhile was Jerry, W8HOG, SKCC 8875. I am sure lots of members have worked him in the past. He just lives north of us outside of Cleveland. We had some very good conversation.

The hamfest was not very busy at all. We have noticed the decreasing amount of folks each year. It is a shame to see this taking place.

Well, needless to say, Tony and I had a good time hanging out together that day, and promoting our great club.

See ya in Dayton...umm umm... Xenia at the SKCC Booth!

73, Scott N3JJT



## **Please Thank a Vet**

### **By Urb LeJeune W1UL**

A few day after Veterans Day I am still awash in the recognition vets received on their special day. In the interest of full disclosure, I spent two years on active duty and four years in the Army Signal Corps Reserve during the Korean War era, which probably doesn't make me an impartial observer.

In actuality, this story began about ten years ago. I was visiting relatives in Florida and was dispatched to the supermarket to procure a few last-minute items. As I was walking into the store a distinguished looking old timer was heading toward a car with Purple Heart courtesy license plates. (The Purple Heart is presented to United State military personnel who have been wounded in combat.) I walked over to him and put out my hand and said, "Thank you for your service and sacrifice, I sincerely appreciate both." Whereupon he started to cry and said, "I've had these plates for ten years and you're the first person who has ever said a word!" In the discussion that followed, he told me he was a Marine who received a serious leg wound while fighting on Iwo Jima. Sixty years later he still walked with a serious limp. He also received the Bronze Star for valor in action. My new-found friend dispatched me with a big hug and an emotional, "thank you." This chance encounter made my vacation and literally changed my life.

Over the ensuing years, I've frequently thought about this WWII hero. I wish I had taken his name and address so I could have remained in contact. It has also reminded me of the vast number of vets who gave their life or years of their life in the service of our country. You may be totally anti-war but in my opinion, even the most avid pacifists owe homage to those who died or were willing to serve to give them the right to protest.

Looking for vets I would simply say, "thank you for your service" and shake their hand if the occasion presented itself. I am especially on the lookout for Viet Nam vets as they were the object of disdain when they came home. People would spit at them and called all types of names. Possible a few acts of kindness now can help erase the pain of their homecoming. When encountering a WWII vet, there aren't many left, I try and engage them in conversation. If I'm in the check-out line at a convenience store and there is a vet behind me with a container of coffee, I frequently tell the person at the cash register, "take-out for the vet's coffee."

Don't be surprised if thanking a vet, or other random acts of kindness, makes you feel better. Knowing you have brought a smile and a good feeling to another human being is a very special thing.

If you are thinking of getting, or upgrading, a ham license, or know someone who does, please check out my ham-cram.com website. It had three distinguishing characteristics:

You will not waste time and add confusion, studying incorrect answers.

You will only study the questions most likely to be on the VE test.

It's completely FREE.

<http://ham-cram.com>

73 Urb W1UL [urb@w1ul.com](mailto:urb@w1ul.com)

## A Mini-Expedition to Iowa

### Pete NN9K #13940S

One evening over coffee Dave, KD9VT mentioned that folks on the SKCC sked page were complaining that the lack of active Tribune and Senators in Iowa made it difficult to complete WAS-T or WAS-S. He then asked if we could do something about it. Dave and I both live a few miles from the Mississippi River in Illinois and getting to Iowa was not a problem. Finding a



good place to operate from though might be a problem. After more coffee and a little more thought we decided to plan a KISS mini-expedition to put Iowa on the air for the SKCC needy.

Keeping it simple meant that we would use my mobile setup and a portable generator for power. There is an interesting Iowa park on the outskirts of Davenport that could be a good candidate to operate from and a quick trip was made to verify that fact. As we were in the middle of contest season, we decided that sometime during the weekend of Phone Sweepstakes

would leave the CW bands clear of any heavy contesting. Sunday, November 20<sup>th</sup> worked well for both of us.

We had a date, an operating location and equipment. We used Dave's portable generator, an Icom IC-7000, a Netbook running AC2C's SKCC logging program and a vintage Hamkey straight key. We also had



Antenna system—resonators for 17, 20, 30 and 40-meters page.

another computer that we used to access the SKCC sked

After having several days of 70 degree weather Sunday morning's low was 21 degrees and it was 33 degrees when we started our operations. The van was nice and warm however.



Dave, KD9VT (T) and Peter, NN9K (S) working away.

Our mini-expedition was a success, we helped a lot of people and most of all we had fun!

73 from Iowa

Dave, KD9VT es Peter, NN9K

## **Delaware for December WES!**

The much needed "Delaware" will be activated during the December WES. Not only activated but with TWO "Senator" stations running for most of the event! Ron AC2C 2748S, and Larry AH6AX 11165S will operate from a friend's station with a tribander at 50 feet, a G5RV and a 40m inverted V. They will use both calls during the event and will be running 100 watts to two transceivers set with bandpass filters. The operation will begin Saturday about noon and except for a dinner break, operation will continue into the late evening hours. Operation will continue Sunday until about noon when the team will breakdown and head for home.

Here is your chance if you need Delaware for WAS or WAS-S. Catch both calls on as many bands as you can, good luck!

PS...I am told only severe weather will keep the operation from happening!



## Give CW Traffic Handling a Try

I can thank the SKCC for getting me on the air using CW. Since that first QSO with my CW elmer (Ron, AC2C) I continue to enjoy the many activities and awards that SKCC offers. While I try operating many different modes and bands, I keep coming back to manual telegraphy on 40 and 80 meters as my favorite part of ham radio. I'm always looking for new ways to pursue this part of the hobby.

Thankfully, about a year ago I found the "Maryland Slow Net" or MSN. The MSN is a CW traffic and training net sponsored by the Anne Arundel Radio Club in Maryland. To quote from the MSN web site, the "MSN is a section net and is a member of the National Traffic System (NTS). MSN meets daily at 7:30 PM prevailing Eastern Time on 3563 KHZ. All are welcome."

Now I had heard some traffic nets on my local VHF repeaters, and admittedly didn't find them very interesting at first. I don't think I understood the National Traffic System, or how this could help build my CW skills. And CW traffic handling seemed difficult (if not mysterious) to me. I wasn't certain how to get started.

Enter the Maryland Slow Net! The MSN is a great group of CW operators, with net manager Bruce W8CPG. You check into the MSN and are immediately welcomed like an old friend. (By the way, you don't have to live in Maryland to participate. The propagation most nights on 80 meters makes for easy copy along the East Coast). While the MSN handles traffic (messages) just like other NTS nets, the magic of this net is their "Traffic Handling Course".

Each night you check-in, you are paired up with an instructor who will send you a set of 3 "radiogram messages" using the ARRL radiogram format. Each message is a small lesson on the National Traffic System, and how to send/receive CW traffic. This is a great concept - you get to practice receiving CW messages AND participate in a course on CW traffic handling.



If you like SKCC, I think you are going to love the MSN. Most of the instructors use straight keys, and the lessons start at around ten to 12 words per minute. The instructors will

match the speed you are comfortable with. I've made some new radio friends on the MSN, and even ran across a fellow SKCC member. I'm well into their traffic handling course, and now have the confidence to send a CW radiogram through this and other slow nets. I hope to participate in my state and regional nets soon. By the way, I've now gotten interested in my local VHF traffic nets; a novel use for my microphone! I'm keeping track of my service on the nets, and hope to make Public Service Honor Roll soon.

You can find information on the Maryland Slow Net at their web site: <http://www.bdb.com/~msn/>

Also, check out my blog for info and resources related to NTS and CW traffic handling at: <http://n1dn.blogspot.com>

73,  
Phil, N1DN

## You Just Can't Have Too Many Antennas!

What do you do when a friend (N8CC 7541) says, "Want a 2L 40m yagi..free?" How fast can you say "Yes please!" So now what/where to put it? The tower already has a 2L 40 yagi at 55 ft and fixed SW for SKCC stations; so now point one SE to hear KB4QQJ's QRP signal from GA of course! Only remaining place on the tower is at 25 ft; sheez, not the best

but then easier to store there than behind the shack in the aluminum pile!

So with the help of a few friends and unbelievable late November weather, up she goes! That's Greg KE8CEW 15805, pulling the antenna up from "garage height" where K2RLY (Roger...non SKCC...yet!) and a good neighbor friend stand holding the front end of the antenna there on the garage.

Even at this height the SWR was great and a very noticeable change in signal strength

of stations when switched to-and-from. "I'm sure I'll hear Randy now!" This is my 105 ft Rohn 45 tower and I think I have it loaded now top to bottom on the tower: 40-10m Log Periodic, TH6DX fixed NE, 160m inverted L, 80m dipole, 2L 40m yagi fixed SW, 2L 30m yagi fixed SW and the new 2L 40m yagi fixed SE! "Yup, you just can't have too many antennas."

The K8AQM is designed to make contacts, and we do. Often other calls are used since it takes a lot of friends helping to build the stations and we enjoy operating together, laughing and of course eating! Unfortunately, we consume more calories than we make QSOs!

Tnx Jeremy KD8VSQ 13072 for the pixs.

Is that you there Randy at S2 ?...hihi!

