

**Newsletter of the Australian / New Zealand chapter of the International Morse Preservation Society
December 2019**

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FISTS Down Under Sked Page <http://n8fq.org/sked/index.php?board=fdu>

Facebook <https://www.facebook.com/groups/1765058520392148/>

CW Practice Sessions: Michael's VK2CCW #14198 CW Practice Sessions are available on the [Club website](#)

Recommended FISTS calling frequencies (MHz):

1.808	3.528	7.028	10.118	14.058	18.085
21.058	24.908	28.058			



J38 and Navy Flame Proof. Wonderful Keys



From the Editor: Bill VK1MCW #15215



Another year done and dusted. 2019 has included our Member Survey, the introduction of a quarterly newsletter, monthly contests, and best of all, increased membership. The Quarterly Newsletter seems to have been received well. The positive feedback received is appreciated. Probably like most of you, I am wondering just where this year has gone! Way too quickly! Our VK Membership is steadily growing! Fantastic!! If I could set a personal goal for 2020 it would be to get many more of you into my log! So, as I said last edition, "Get On The Air!!". Whether I am on the wrong frequency at the wrong time, I just don't hear any of you – save for a handful of regular SOTA chasers. Don't forget to use the Sked Page (link provided above). Or simply get on the FB group and say "*Hey! I am in the shack and up on the Sked Page*". It might just prompt other FDU members to do the same! There is nothing wrong with advertising the fact that you are on air!

THANK YOU to the members who have filled my Christmas Article stocking to over-flowing! Most arrived in the last couple of weeks. A huge thanks to all who were so generous with their contributions. Rather than carry some articles over to 2020, this is what I would call a Bumper Christmas Edition. I hope you agree – and that many more of you are inspired to get on air and, write YOUR story!!!

On your behalf I wish to acknowledge all the behind the scenes work by Garry VK2GAZ, Chris VK3QB, Derek VK3KX, and on the other side of The Ditch David ZL2WT. FISTS Down Under does not exist without their dedication.

This edition has been a pleasure to pull together.

Enjoy!

73 de Bill VK1MCW #15215 Editor



Membership Subscriptions

We will not be publishing the callsigns of those with membership renewals coming up in the next few months. If you are not sure when your membership expires, the list of all FISTS VK Chapter members can be viewed here: <http://fdi.org.au/members.php>

We ask that all FISTS VK Chapter members check the website to see when their membership subscription falls due.

The Club website (http://fdi.org.au/join_renew.php) has all the details for making payments.

Please don't forget that when you are paying your subscription to include your callsign. Please do not send cash in the post as this causes problems for us in banking.

**** Remember, we are NOT seeking donations with your subscriptions.**

Thank you!

ZL Members should contact the ZL Admin listed above.



Welcome New Members

Brian Fredrickson VK1BF 15247
 Shaun Patston VK6BEK #19545
 Daniel Palaski VK7DP #15248
 Gary Ball ZL1FAB #15249

Featured Member – Dan Palaski VK7DP # 15248



Hello to all of you CW fans

Dan Palaski here VK7DP (ex VK2CPD), and still valid WA1TSJ (amateur extra class). I have just joined the FISTS Downunder group (FISTS#15248) and am excited to be a member. I have been licensed since the early 1970's and CW has always been my favourite mode. Mostly HF but some VHF and satellite (long ago). My wife and I migrated to Australia in 2004. I was poached by the agent for the company I was working for in the US and was the service manager for that company here in Australia for 7 years. After that I started my own service company in the industrial laser/machinery business. We lived in the Sydney area for about 13 years and about 2 years ago we moved home and company to Upper Natone Tasmania to a lovely farm property. Trying to at least semi-retire I am just getting around to getting back on HF. Hopefully in the next few weeks I will get a long wire up and operational. I am running an old Kenwood TS440s and just got around to repairing it. Apparently, Kenwood in the 1980's used a goo that was supposed to secure some of the parts to the circuit board to prevent movement during mobile operation. That lovely goo, over time goes conductive and created low voltage shorts in the VCO circuits. Many hours of picking this out under a magnifier I finally got the faults (only dots on the frequency read out) to go away. I have managed to throw up a 20-meter dipole (about 2 meters high) and make a few contacts. I am looking forward to getting back into some good HF CW rag chews and perhaps making some local friends along the way. I do travel a bit around Oz and NZ so if you are active on 2m FM drop me some details about your local repeater and or clubs as it would be fantastic to have a cuppa with you. I can be reached at danpal1959@gmail.com.

73

Dan

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From our Members

Chris VK1CT #9057

Portable Memory Keyer



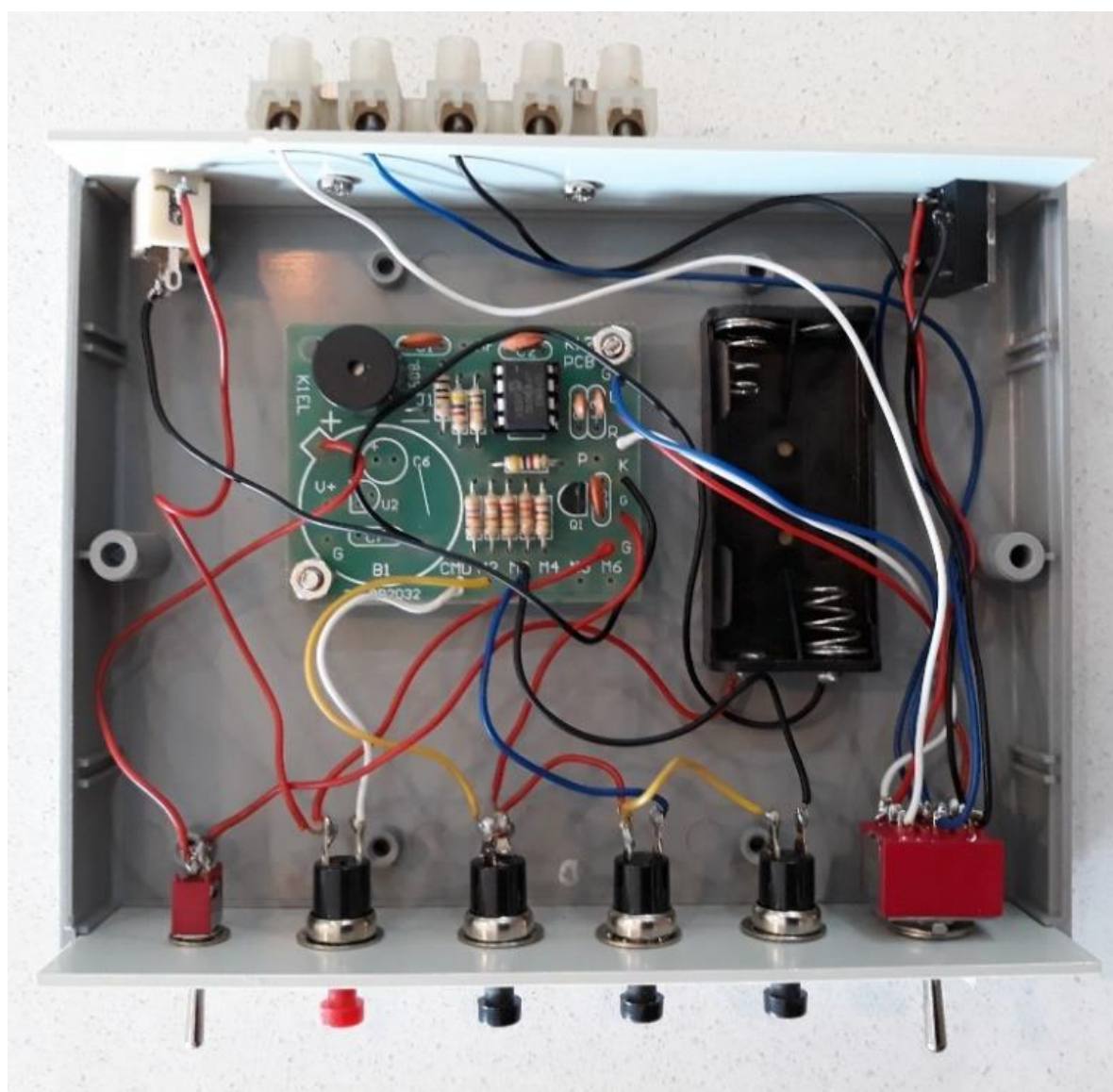
A close-up of a backpack

With so many features packed into a small size, the Yaesu FT817 holds a special place in the history of radio transceivers. Lots of operators who activate parks and SOTA summits have chosen to use the 817 (and now 818) for their activations. However, for CW operators there is one particular thing that the radio lacks. And that is an electronic memory keyer.

If you've used a memory keyer before, you'll know what I'm talking about. If not, it is basically a recording and playback device. You record your CQ message in one of the memory slots and can play it back at the press of a button. This means you don't need to sit there sending out CQ calls on a quiet band and giving up after a short while from getting no replies. The memory keyer can do the work for you!

I often use a memory keyer's beacon function, which means the CQ calls are sent out at regular intervals. This saves me time as I can do other things whilst waiting for a reply, like checking my log entries and drinking a hot cup of tea (especially during winter SOTA!).

The first memory keyer I ever had was a K12, which I built from a kit produced by Steve Elliott, K1EL. This is going back almost 20 years when I used it with my first HF radio; a Kenwood TS-50.

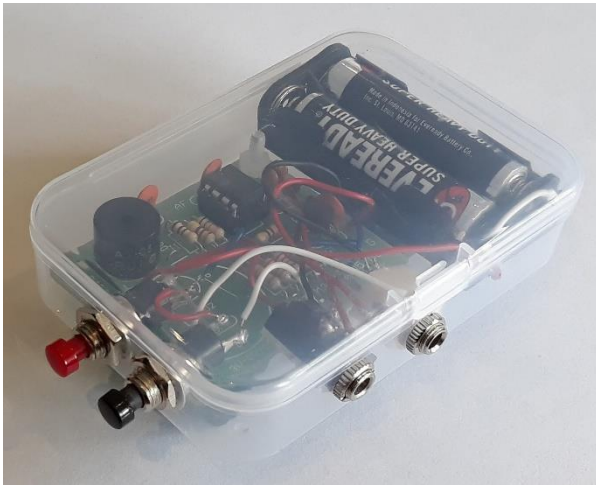


These photos of my original K12 Kit

Getting back to the FT817 situation... I wanted to have a small memory keyer that I could easily take along with the radio. Having bought two different memory keyers that were designed for portable use, I was disappointed in their convoluted operation and short battery life. The solution was simply

to re-purpose the old K12 for portable use. So, I set about removing the K12 from the case that I had originally installed it in and placed it into a small plastic box.

My rejuvenated K12 has an input socket for a paddle key and an output socket for connection to the radio. Two momentary push button switches allow control of the program functions (red button) and playback of the memory slots (both red and black buttons). It is powered by two AAA batteries and the keyer enters a very low power state when not in use. I may also add a small on-off switch.



I have since used the K12 on a few activations and I'm pleased to say it has worked perfectly. I have CQ calls programmed into both memory slots, with the only difference being that the second memory slot includes the beacon function. So, if I just want to send one CQ call, I press the red button. If I want the CQ call to repeat at set intervals, I press the black button.

I have added a belt clip to the box so that I can anchor it to the radio pouch when in use. The unit weighs in at just 67 grams and measures 8.5 x 6 x 2cm (excluding switches and belt clip protrusions).



The K12 was introduced in the early 2000s and has since been replaced by the K16 model. Kit price is \$20 USD. For further details have a look at: <https://www.hamcrafters2.com/>

Chris VK1CT #9057

(Like a couple of our members, Chris (again) has been very generous with his time for this edition)

Chris VK1CT #9057

October Road Trip - Reunion with David VK3FGE (FISTS #9088)

During a 1,700km road trip in October this year, I had the opportunity to catch up with my good friends David and Elayna Bell at their home in Traralgon, Victoria. David's callsign is VK3FGE and he is a fellow Fists member #9088.



David, Chris and Elayna at Walhalla,

David gave me a tour of his shack and explained the ideas he has for improving his delta loop antenna. We spent lots of time talking about radio and eating delicious meals prepared by Elayna.



We also went for a drive to visit Walhalla, a former gold mining village, about 40km north of Traralgon. Walhalla is the starting point of the Australian Alps Walking Track which goes all the way to Tharwa at the southern end of the ACT. I didn't fancy walking home from there!



I first met David on 80m CW, back when I was just starting out in amateur radio. Our first contact was on 21 July 2002. We have had many CW contacts since then.



Chris and David

2002								No.	4
DATE	TIME		CALL SIGN	SIGNAL		FREQ. (MHz)	MODE	COMMENTS	
	STARTED	ENDED		SENT	RECEIVED				
27/6	1040	1130	VK2AI	589	589	3.534	CW	GREG CANBERRA	
2/7	1036	1109	VK2DLF	599	599	3.537	CW		
16/7	1044	1127	VK1AI	599	589	3.528	CW	WILL BE B/CAST ANNOUNCER FOR VK1 ON 25/7	
18/7	0939	0952	VK2COX/ARF	599	599	3.532	CW	RAY CWOPS&RP member.	
18/7	0952	1021	VK3CAB	599	599	3.532	CW	CHRIS STANLEY	
19/7	2158	2216	JG2KJU	579	529	21.128	CW	MASA QTH MIE SW OF NAGOYA	
21/7	1006	1112	VK3FGE	589	599	3.528	CW	DAVE QTH NR BRIGHT	
23/7	0901	1004	VK3FGE	599	579	3.531	CW	CW PRACTICE SKED	
26/7	0955	1024	VK3CAB	599	599	3.528	CW		

Log record of first contact between Chris VK1CT and David VK3FGE

Chris VK1CT #9057

Thankyou yet again Chris! Your continued support of FDU through your regular, wonderful contributions is appreciated by all, and your editor especially! (You know this job well!!!!).



Tony VK3TP #15204

A Few Thoughts on CW Under Canvas

I live in a northern suburb of Melbourne in a long, steep sided, S shaped valley, and I am surrounded by RF generating domesticity. Here the QRM/N on 80m and 40m typically runs at around S7+. I prefer to operate QRP CW but my QTH doesn't really encourage this activity. On the other hand, my wife's niece has a farm about 80kms north of here which is elevated (600 metres) in an area that is almost devoid of RF generating activities and, has beautiful uninterrupted views of distant hillsides. The famous Hanging Rock is away on the horizon. Another advantage of the farm is that it has a big fenced hilltop paddock which runs down to a dam stocked with trout (and noisy frogs). The field also has a row of Cyprus trees to the north, a fenced off clump of old gum trees in the middle and has a lush cover of grass. It's a beautiful camping location and a perfect location for QRP/Portable operation.

I had intended to operate from there for the last few FISTS contests, but the weather, with strong



winds, rain and electrical storms hadn't been good enough. However, I wanted to get in a camping 'expedition' before the weather got too hot. So, at the beginning this week I loaded up the Lancer with tents and radio equipment and set up camp in the paddock.

Earlier in the year I had extensive surgery on my lower back and had a small fortune in Titanium scaffolding installed. I didn't realise just how difficult it would be to set up a camp site when you can no longer bend over !!.... but I eventually got there.

My standard portable-operation kit comprises a squid pole supporting a 40-metre inverted 'V' wire dipole with the feed point at about 5m. I drive an 800mm length of pointed bamboo

broom handle into the ground and slip the squid pole over the end. I also put a layer of PVC tape over each joint in the squid pole to prevent it collapsing. Although the broom handle holds it vertical, the squid pole is also stayed with three guys. The dipole was set at about 30° below horizontal and I was able to tie one end to a fence post. (I also have a linked wire dipole covering 21, 14 and 7MHz, but it is a bind to raise and lower after dark to adjust the links, so I didn't install it.) My operating position is on a folding table against the wall of the tent. I guess it was more by luck than clever design that the SWR of the 40m dipole set up this way is a touch over 1:1, so I didn't need an antenna impedance matching device (I refuse to call them 'antenna tuners' because they don't tune the antenna!).

I took two rigs with me, a home-constructed CRKits HT-1A, and a Yaesu FT891. The CRKits HT-1A is a DDS controlled, direct conversion receiver, 4-watt output, 20m, 30m {?} and 40m, CW QRP transceiver. (I question the 30m operation as, although the rig can be 'fiddled' to operate at that frequency, the filtering hasn't been optimised for that band, and I've never made a contact with it on 30 metres.)

I have a 'love-hate' relationship with Yaesu FT891. It is a 100-watt, multi-featured, compact rig that is essentially menu driven. I think I counted 250 available menu options. This makes performing what one might consider relatively simple changes, frustratingly difficult. For example, reducing the power from 100 watts to 5 watts takes eighteen hand movements or adjustments (On my 35-year-old Kenwood TS680S you just slide a control to the left!). But the features it offers by way of filtering, noise blanking, working split etc. make it a good rig to operate – once you know how! The learning curve to understand and control the functions of the rig is steep. Because the dipole SWR was 1:1 I could use the FT891 output straight into the antenna. I was a bit surprised however that the maximum indicated power was only 80 watt not the 100 watt I would have normally expected. This could be due to the power supply being 12V not the 13.8V I use in the shack.



Which brings us to power supplies. I take two supplies: a deep cycle, 'car sized', lead acid battery. I don't know how many 'Amp Hours' it has but its lots! Connection to the battery is via bulldog clips, and the supply line is double fused (i.e. in both the +ve and -ve line). Mainly because everyone else does, I use Anderson Powerpoles for inline connections, but I think some of the ultra-high current 'high performance brushless motor' connectors would be even more robust. I also run a 7Ahr SLAB second power supply for the HI-1A. Although a slab is much heavier than a LiPo or LiFe battery, it uses tried and true technology, and can be recharged from the car. LiPo

batteries are like a bucket of electrons just waiting to be catastrophically tipped over and ever since I saw one blow up, I don't like them.

To key the rigs, I was using a Himound straight key and an Alphalex bug.

To save space in the car I had brought a folding tubular and canvas camp chair which I found was almost impossible to operate from. For comfort it tipped your rear end backwards and the arm rests brought your arms up at an impossible angle. I fixed it by loading the seat up with folded sleeping bags etc. to raise it some 250mm. The little stool in the picture was useless.

When operating the background QRN was around S4 and it was nice to hear a lot of DX signals. I made one contact on the HT-1A on 40Mts into Newcastle and he gave me 579.

The other contacts were made on the FT891. I had a good exchange with Shaun in VK6 and since then we have exchanged emails. I was also eventually able to work the Pitcairn Island expedition VP6R. Although they gave me the ubiquitous '599' my call kept coming back as 'VU3TP' so I doubt the reliability of the 599 report but after repeated sends the correct prefix of VK was recognised.

The following day the temperature and wind got up and operating and life under canvas became unpleasant, so I decided to decamp a day early and get home to enjoy the luxury of a shower.

Would I do it again? I see camping as a means to achieving something not an end in itself. I find I make most contacts after dark so there is a lot of time to fill in between breakfast and dusk. So,



unless I can think of something to occupy me during the non-transmission hours, I probably wouldn't do a canvas CW camp again. I guess I could always fish the dam loaded with trout, but I feel guilty about hooking the owner's stock (particularly when these fish are almost suicidal when it comes to spinners!).

Tony VK3TP #15204

Thanks Tony! I guess BCF will have a boost in tent sales this Christmas! 😊 (BK Ed)



Simon VK2FK #15233

Morse Keys

What They Are and How to Wire Them

Straight Key

The so-called "Straight" Key is the original instrument used for keying a transmitter to produce the "dits" and "dahs" of Morse Code.



Navy Flameproof Straight Key

Like all keys, it is simply a switch, nothing more, nothing less.

The early keys are characterised by having large wide-spaced contacts to handle the high current generated by the “Spark Gap” transmitters.

The “Aldis” lamp often depicted on ships in war movies is also a switch of sorts, using shutters to send long and short pulses of focussed light to send a message in Morse Code. Sometimes Morse keys such as the “Navy Flame Proof” in the photo above were used to key the Aldis.

(It is called “Flame Proof” because the contacts are enclosed in a cover in case any sparks were produced in environments that may have flammable gases present.)

You could probably send a readable message using one of your house lights by manipulating the light switch. (I’m afraid I have never been able to decode Morse in movies where it is tapped out on a wall or table.)

Cootie or Sideswiper



The Cootie is a single paddle “straight” key.

Around 1910, during the heyday of manual telegraphy, it was common for telegraphers to spend entire shifts sending, often at the same speed and with the same operator on the other end of the line.

The incidence of RSI or “glass arm” became a serious problem. The solution was to eliminate the vertical motion of the wrist typical of straight key operation and replace it with a horizontal movement of the entire hand.

The two devices developed with this in mind were the “bug” or semi-automatic key (see below) and the “cootie key.” Both feature a horizontal motion. The cootie key consists of a single lever, which can be swung back and forth between two contacts, either of which will close the circuit like a straight key.

So, holding the paddle to either side produces a continuous tone, which is interrupted by the operator to produce a “dit” or a “dah”.

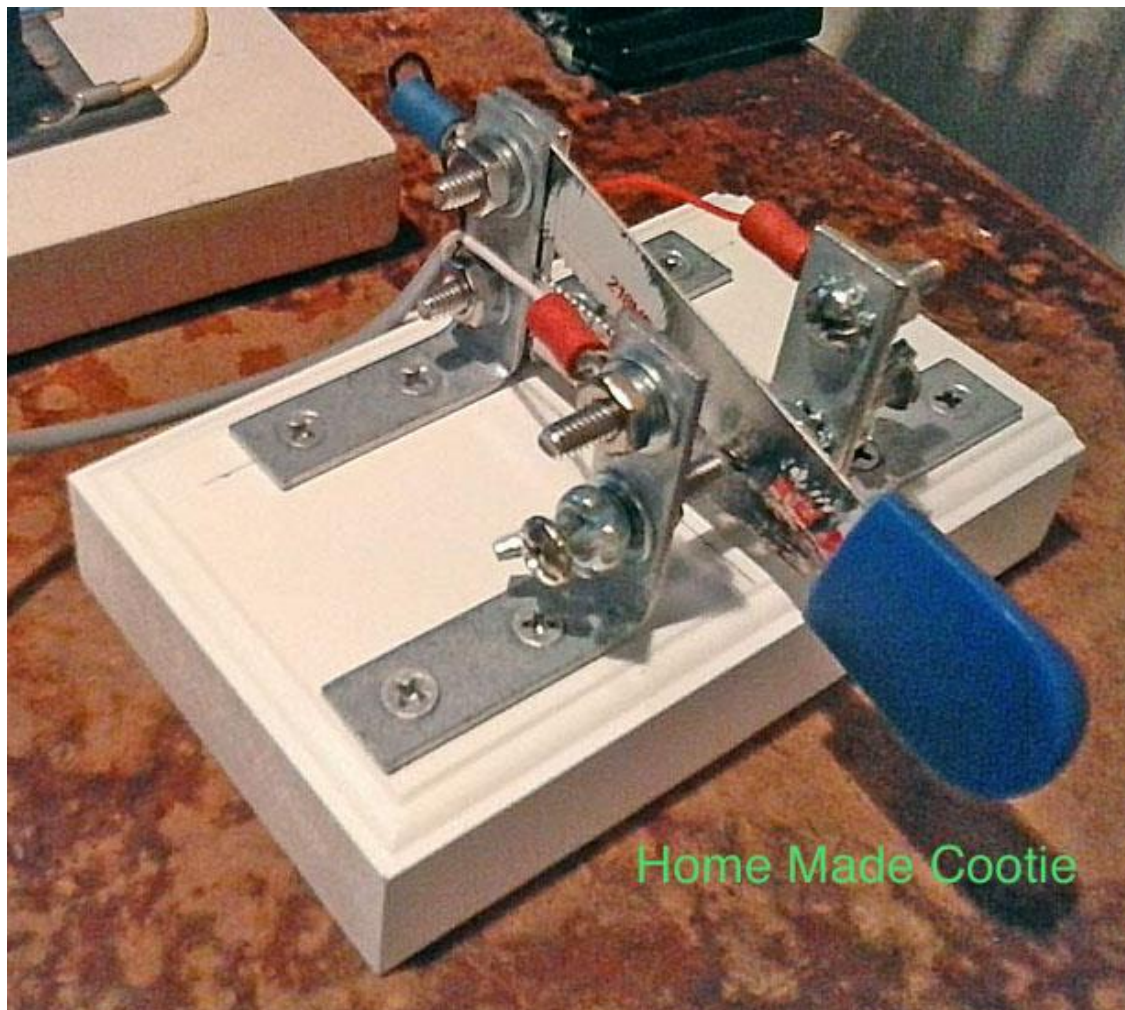
The convention is to alternate side-to-side to produce characters. Sounds complicated, but try it, you’ll like it!

The Cootie is connected using only two wires, to tip and shield of the plug.

Make Your Own Cootie

It is easy to make your own Cootie using a hacksaw blade and a few cheap parts, available at any hardware store.

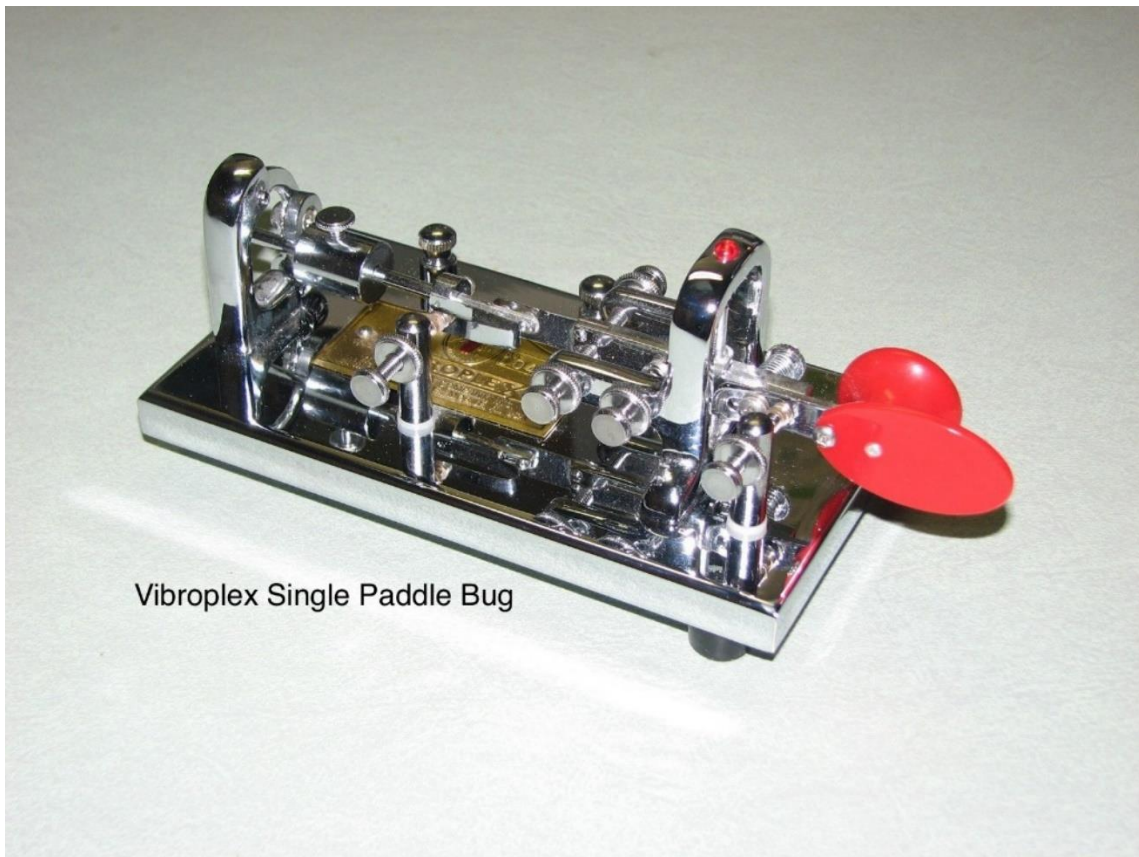
For this reason, Cooties have increased in popularity.



Mike, K4ICY has an excellent article on making your own Cootie: "The Depot Cootie" - <http://k4icy.com>

Unfortunately, Mike doesn't explain how to wire the key - you can find details of how to wire a Cootie in the "Wiring" section.

The "Bug" or "Vibroplex"



Vibroplex Single Paddle Bug

The Bug is a semi-automatic, single-paddle mechanical, or "straight" key.

There are a few manufacturers of Bugs, but Vibroplex was the first, and is still in business.

Pressing the paddle to the right (thumb) uses a vibrating arm to produce a string of "dits", and pressing it to the left (index finger) produces a continuous tone.

For "southpaws" the bug can be ordered in left-hand configuration.

Thus, the paddle is held long enough to produce the "dits" required for the character being sent, and the "dahs" are produced by tapping the right paddle to produce the required number.

Unlike other "paddle" keys the Bug cannot be used in any other mode.

The Bug is connected using only two wires, to tip and shield of the plug.

Single and Double Paddle Keys



These keys are the most versatile of all - with the aid of a keyer they can be set to a number of modes.



Modern transceivers have an inbuilt keyer to take advantage of paddles. A keyer like that pictured above is, nevertheless, a worthwhile investment. It can be used for practice with any type of key. It can run from your 12-volt shack power supply, or from an internal 9-volt battery. It can also be connected to your transceiver to allow for quick in-QSO speed and key changes.

Summary

As we have seen, the Cootie is a single-paddle key, but a single-paddle key does not have to be a Cootie. In fact, a double paddle, correctly wired, can behave as a Cootie or Sideswiper

The Begali HST paddle pictured above is especially versatile – it has an inbuilt switch (see picture), which converts it from a standard Sideswiper or Cootie to a “Bug Emulator” which, in conjunction with a keyer, behaves like a “Bug”, so that when the paddle contacts the left terminal, a string of “dits” is produced and a single tone results from contact with the right terminal. In this mode, the HST is using the electronics in the keyer to produce the dits and in this mode therefore no longer

regarded as a “straight” key. Other single and double paddles can be used in this mode if correctly wired.

The double-paddle keys, such as the Bencher BY-1 pictured above are more commonly used as “lambic” keys, where characters are formed by “squeezing” the paddles, making for accurately formed dits, dahs and characters. The left paddle produces a string of dits, and the right paddle produces a string of dahs. This paddle, when correctly wired can also be used as an electronic Bug.

(Note that the name “lambic Paddle” is a misnomer – it is not the paddle which is lambic, but the keyer to which it is connected. Nevertheless, the term is widely used to describe dual-paddle keys).

HOW TO WIRE YOUR KEY

Wiring Your Key:

I strongly recommend you use ALL 3.5mm stereo (3-conductor) plugs. Where a 6.5mm plug is needed, as in the “paddle” connection on most current transceivers, use a 6.5mm/3.5mm adapter. Having standard plugs on all your leads makes using a “hub” so much easier (see photo). These hubs are available on eBay for less than \$4 each – (item #202587596346, or search “headset splitter”). They do not come with a hole in the centre, but experimentation has shown that you can drill one!



My key hubs – top (pink) connects to the keyer & black is for straight keys & bugs.

If you have any mono (2 connector) cables or plugs, donate them to the Salvos. You can use a stereo plug in a mono socket, but NEVER a mono plug in a stereo socket.

Decide how much cable you will need and purchase a 3.5mm stereo-stereo cable (Jaycar, Radio Shack) twice as long as you need and cut it in half, giving you two cables, each with a 3.5mm stereo plug on one end and nothing on the other.



(The terminals on 3.5mm plugs are very small and a nightmare to solder, so don't be tempted to buy some to connect to your existing cables, it's much easier to buy the cable with the nice moulded plugs already on it!)

If you strip off a few centimetres of the outer cover, you will see that there are two insulated wires inside a woven copper shield. Carefully separate this shield from around the wires, being careful not to leave any strands behind. Use your finger and thumb to roll the shield into a separate wire.



You now have 3 wires - a bare copper one and two coloured, insulated ones. The colours are not specific, as in-house wiring, so you need to identify them.

Most cables I have come across have a red wire and one other colour - green, white, black etc. I would love to tell you that the red wire is always "X", but I'm afraid such is not always the case. Don't guess, be sure. It's easy to do this with a multimeter or continuity tester.

[On this subject, it is well worth getting (or making) a continuity (NOT voltage) tester. These are available at most electronics and motor spares outlets and consist of a tube containing a battery and a small lamp globe. One end of the tube has a spike and the other end has a lead with an alligator clip. When the spike is touched to the clip, the lamp glows. This makes it a snap to find which wire is which. These are so useful; I promise you won't regret the small cost. Supercheap Auto (Aus) has a small kit for around \$12 which also has a voltage and spark plug tester. Search part #12580]



So, using your new continuity tester (or a multimeter) determine which wire is which. The copper (braid) wire ALWAYS goes to the SLEEVE of the plug (see diagram) and is ALWAYS used, as is the wire to the TIP, regardless of key type. The third, or RING wire is used in conjunction with a Keyer.

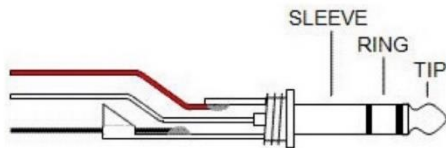
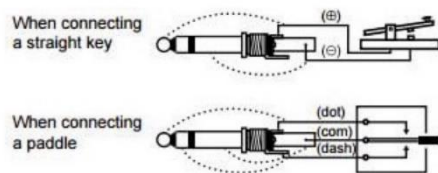
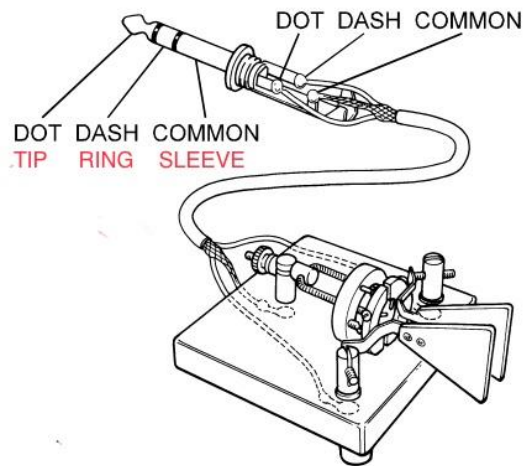
Check all 3 wires to be sure there are no breaks or shorts.

Write your findings down (e.g. tip=Red, ring=White, sleeve=Braid).

A word of warning - if making a 2-wire lead from a 3-core cable - NEVER join the 2 insulated wires - you'll cause a short! Always use the wire connected to the TIP and snip off the other one so it can't short.

Now you can prepare the wires for use by tinning them, soldering and/or fitting terminal connectors to suit your key.

Here are some wiring diagrams which may be of help:



Simon VK2FK #15233

Thank you, Simon, your editor has already referred to this when re-wiring a key!



The following article has been provided by **Mike VK4QS & VK4XQM**. I “met” Mike through a chance conversation on the VK QRP Facebook Group. He has graciously given permission to reproduce his article below. “Landing Whales on A Wet String” has been previously published in the US as well as AR Magazine in Australia in 2018. Without alteration, here it is below. I was fascinated and inspired by this article – and I humbly admit that Michael and I have a fair bit in common.

My sincere thanks to Michael who is a member of many AR organisations/clubs including our close cousins in VKQRP. The FDU welcome mat is always out!! (Bill VK1MCW #15215 Ed)

Mike VK4QS & VK4XQM

“LANDING WHALES ON WET STRING”

My First Ever CW Contest, the 2017 CQ WW DX CW Contest, QRP Category

By

Michael J. Charteris
VK4QS & VK4XQM

Email: mikevk4qs@gmail.com

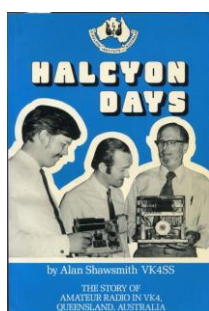
Hi, I'm Mike Charteris, VK4QS, and you might recall I recently wrote about Contesting from a Non Contesters point of view. A couple of weeks after expressing my long held feeling about this subject, I thought I'd embark on a journey of discovery. I decided to actively participate in the CQ WW DX CW Contest as a QRP entrant on the 15m band. As this was my first ever attempt at a CW contest in 33 years as an Amateur Radio Operator, I was a little unsure of what I would achieve. My station is pretty basic really and consists of a Yaesu transceiver, a homebrew 5/8th Vertical I built for 20m, and a Yaesu FC301 antenna tuner. Still I figured I had as much chance as anyone else depending on the condition on the day.

MY CW JOURNEY, MOTIVATION & INSPIRATION: What is yours?

Back in 1995 while I was still in the Royal Australian Navy, stationed at H.M.A.S ALBATROSS, I passed the required 10 W.P.M whilst to gain my Advanced License. I then spent the next 22 years solely operating SSB. From time to time I did attempt a little CW on air but it always ended with anxiety, followed by a cracking headache. I thought how could anyone in their right mind actually enjoy such a torturous form of communication?

OLD PRE WW2 QSL CARDS

This all changed when I started reading about the pre World War Two Amateur VK4 operators in Queensland where I live. If you get a chance chase up a book called “HALCYON DAYS”, written by a good friend of mine, Mr Alan Shawsmith, VK4SS, who is now sadly “SK”. Alan's book in turn led me to start collecting pre-WW2 VK QSL Cards from “Epay” and a couple of deceased estates. I then was contacted by a US Ham, Tony Ricicki, W2VRK from New Jersey. Tony was a QSL Card Collector and had a huge collection going back to the 1920's covering the US and many other countries. Tony very kindly offered to send me virtually all of his Pre WW2 VK Cards, many of which were pre VK prefix. Back then in the 1920's and 30's “CW” was king and most of the stations were Home-Brew. It was truly inspirational to read about what these wireless pioneers achieved with just a few Watts of power and homebrew equipment both locally and DX.



Alan Shawsmith VK4SS



BOOKS ON WIRELESS IN WORLD WAR TWO

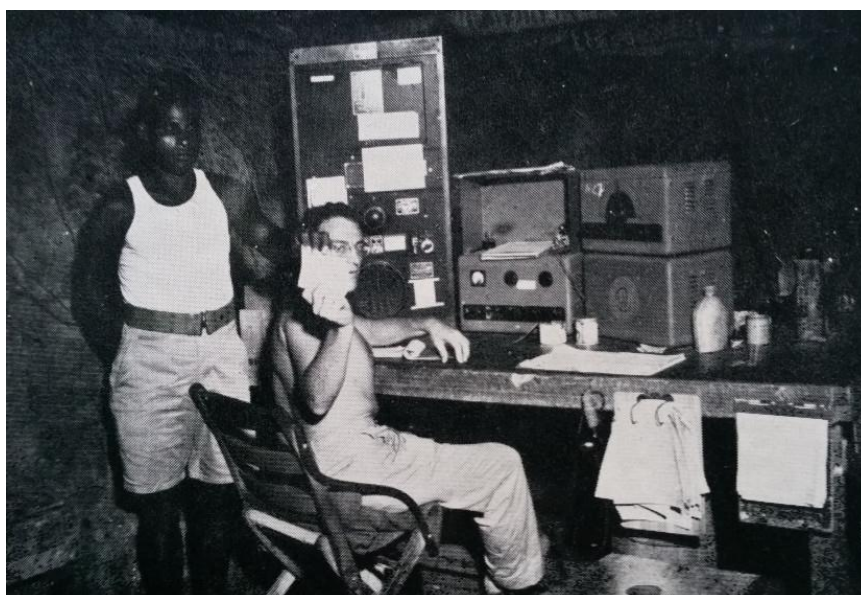
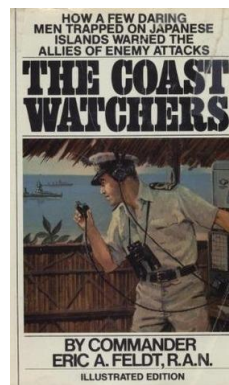
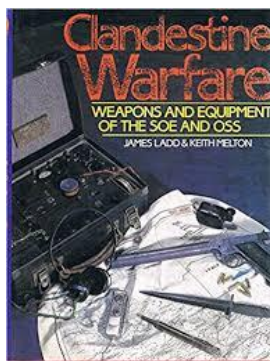
Following “HALCYON DAYS” I bought a few books on Naval and Military Intelligence covering Bletchley Park, S.O.E, and our own Code Breaking in World War Two. Books like “THE EAVESDROPPERS”, “THE INTRIGUE MASTER”, “STATION-X” and “THE COAST WATCHERS”. Within these books I learned about CW Communications intercept and analysis as well as the brave and resourceful COASTWATCHERS up in the islands of the Pacific.

And who could fail to be inspired by the courageous SOE Agents in Occupied Europe. Nobody would deny the absolute bravery of these people, who by number paid dearly with their lives in the fight for our freedom.

Thus I have taken my inspiration to operate QRP CW from those who have used it with such skill and daring during the dark days of World War Two. This in turn has lead to the construction of a replica PARASET to put on air very soon. Thus I plan to walk a mile in their boots by using the very equipment they did in occupied Europe, though not under threat of death.



WW2 PARASET



COAST WATCH STATION IN THE PACIFIC IN WW2
STATION
NATIONAL HRO & AWA 3BZ Receiver & Transmitter Station

SUCCESS ON AIR

April 25th, 2017, Anzac Day, saw me sending CW CQ's at 150 Watts on and off (Pardon the Pun) on the HF bands with varying degrees of success. Two days later on April 27th 2017 at 9:50 UTC, I was rewarded with a reply from Roger, ZL2RX, as my first ever international 80m DX CW contact. I was over the moon with this, especially so when I decided to experiment and dropped the output power down to just five watts, and was still making a good contact. There was no stopping me now and my next landmark was when I worked Josip, 9A57AX, out of Croatia on 7.018 mHz, for my first ever European CW DX contact. The floodgates really opened up after that and my confidence grew as I worked stations in Sweden, Russia, Austria, Denmark, Serbia and Japan. By November 2017, and I was looking for a greater challenge to quench my new found thirst for CW. It was then that it dawned on me that it seemed pretty easy to work the world with 150W CW. So I decided that from now on I would only use 5 Watts for every contact, unless it seemed impossible for the contact, and I would then revert to 150W to attempt success.

The CQ WW DX CW Contest

I then became aware of the CQ WW DX CW Contest that ran over the weekend of November 25th/26th. Now this was the Big League as far as I was concerned, and I sincerely wondered what was in it for me. I thought "What the Hell I'll have a crack at the QRP section for 15m." This was the best decision I could have made, because if I ended up making no contacts at all then it was all down to band conditions and operating QRP. But the upshot was that any contacts I did make were all victories. I reckoned that in a contest everyone is searching, and more importantly listening for any contacts. Therefore I stood just a good chance as anyone else, even though I was only using Five Watts QRP. My greatest fear though, was that everyone would be sending at 25 to 35 plus W.P.M.....!! and I would be blown out of the water by their superior speed.

UTILIZING MODERN TECHNOLOGY "Reverse Beacon Network"

In order to gauge my chances of success with 5 Watts I set about experimenting with the Reverse Beacon Network in the week leading up to the contest. Each morning, afternoon and evening I transmitted in sequence as follows, 150W, 100W, 5W on three different frequencies 5 Khz apart on any given HF Band. I would then wait and observe the SNR dB signal return for each transmission. The results across the week showed that 150W was mostly received with signals in the order of 32dB, whilst 100W returned at 25dB and 5 W more than often came back at 15 to 20 dB SNR. Of course it also depended on the band of operation, the time of day, the MUF and the propagation, let alone QRN & QRM. Try it sometime and you might just be surprised how amazing your signals are with 5 Watts and a simple antenna.

THE NOSTALGIA OF VINTAGE KEYS ON AIR

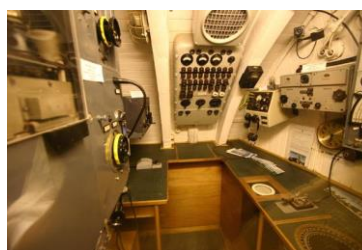
To really gain some inspiration for CW, I had always wanted to use a WW2 German Kriegsmarine Key on air. Finally I bought one from a good friend of mine, Phil, VK2FGBR. Phil is a former Royal Navy Submariner Telegrapher and can often be heard on 40m bashing out CW. My other key is a fairly rare Pre WW2 Japanese Navy Spark Key which I picked up at a Ham fest years ago. Thus to be able to hold in your hand, let alone put to air a Morse Key that was used in anger during WW2 on warships or a shore stations was just an amazing experience. The German key is made by Junker (Not the Aircraft manufacturer). It is stamped with "D.R.P" which stands for Deutches Reiches Patent, which indicates that it was manufactured prior to the end of WW2. These early Junkers have a wonderful micrometer-feel adjustments and an exceptionally crisp and light action. ([Info W1TP](#)). The Junkers key was apparently designed by Joseph Junker, a German Navy Wireless Officer during the Great War. Junker patented his design in the 1920's and the keys went on to be used by the German Navy as well as NATO Navies post World War Two. ([Info morsex.com](#)) As for the Japanese Naval Spark key, I have been unable to find out any information on it.



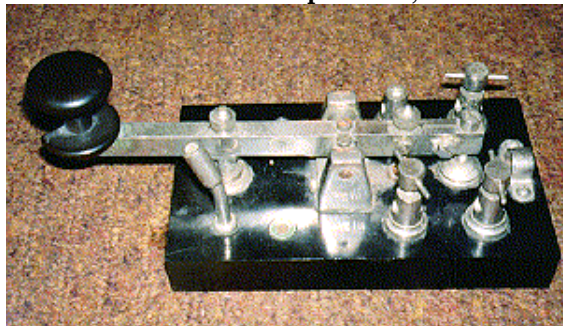
WW2 German Navy Key



WW2 German U-Boat Radio Operator, Inside U995



WW2 Japanese Radio Operator



Pre WW2 Japanese Naval SPARK KEY

THREE GOALS TO SUCCESS

5 Watts CW and a 5/8th Vertical

On Saturday November 25th 2017, 00:00 UTC, at 10-00AM Queensland time, the bands suddenly showed signs of life. I knew from this moment forward that it was going to be an uphill battle regarding any contacts. I had set myself just three goals to measure the success of my venture. The first was to actually make a contact outside of Australia. The second was to make at least one contact into Russia. And the third and final goal was to work into the USA. Each of these goals seemed like a mammoth task before the contest started and I hoped to at least achieve one of them.

LANDING WHALES ON WET STRING

It took more than half an hour of sending CQ TEST VK4QS, until I was finally rewarded at 00:43 UTC with a reply from JH8SLS. Reports exchanged were for 59-25, my return 59-30. Sadly in all the excitement and nerves I incorrectly decoded his call sign. Upon checking all my contacts after the contest I found that he is not listed on QRZ.com. But at the time of actually working him on air, I was ecstatic. This first contact really gave me the enthusiasm and encouragement to soldier on to see what was actually possible with just 5 Watts and a Vertical. My next couple of contacts were both in Asia, being a JA and then a station in Hong Kong. Once again there was about half an hour between the contacts. I next scored a contact with KH6LC at Keeau, Hawaii, as my range extended to 4691 miles. Things were really starting to pick up as I worked JH9KVF and JH3CUL followed by ZM4T in New Zealand.

GOAL ONE & TWO ACHIEVED

On Sunday the 26th here in Australia, I was rewarded for my persistence with a couple more JA's and V73NS in Micronesia. With my next achievement being KH6J out of Kaneohe, I seriously thought that I would not be achieving goals two and three. But you know what they say, persistence pays off, and within 30 minutes at 1:49 UTC, I was duly rewarded with a reply from RT0C, some 40 miles north of Khabarovsk, Russia. This was a distance of some 5228 miles from my QTH in Granville, Queensland which balanced out to more than 1000 miles per Watt of power. At this stage I was blown away to have managed to work into Russia with just Five Watts on CW. Not long after that I shut the station down and headed off to work feeling pretty good.

MONDAY & GOAL 3 ACHIEVED

On Monday the 27th here in Australia I ventured out to the shack at about 8-00AM local time to see what could be gained before the Contest ended at 10-00AM local. My first two contacts were ZL's, one being ZM2B out of New Plymouth. At 22:45UTC, my world changed as I successfully worked Lew, W7AT out of Salem Oregon, for a grand total distance of 7175 miles. It was a rush to say the least and there was just one hour and 15 minutes left before the contest closed. I frantically looked up and down the 15m band in search of another US station before falling over the signal from station K5BJ, Lawrence out of Dallas Texas at 23:23 UTC. I actually did a little research into this man, as he had no email address on his QRZ page. It turns out that Lawrence actually served in WW2, and is currently 93 years of age and happily sending good CW on air. You just never know who is on the end of the key when you make a contact. Well my contact with Lawrence was indeed icing on the cake with a total distance of 8406 miles, approx from his station to mine. By now I was feeling pretty happy with my efforts and thought I might just give it away early when I came across the signal from Gary, NA6O, out of Livermore, California. Now as had been the case all weekend, it actually took a few goes to be heard, but I got through in the end at 23:57, with just three minutes to spare.

SUMMARY

In the beginning I started out with no illusions that taking on this contest using CW and operating QRP would not be easy. Like every other station participating I was at the mercy of the elements and the conditions that prevailed. My inspiration had been the people who had used CW prior to, and during times of war under very trying conditions. All that I achieved, if it can indeed be called an achievement is available to each and every one of you out there reading this now. So find your inspiration, read about our history and walk a mile in their boots.

CHALLENGE YOURSELF

Look for a challenge and embrace one of the oldest forms of communications created by mankind, namely Morse code, or CW as we know it. You too can experience the absolute exhilaration of “Landing Whales on Wet String” as I did.

I look forward to hearing and working you on the air sometime, perhaps during a CW contest. My current goal is to work DXCC by way of QRP CW, and I am sure you can all help me with that when you hear my call.

All the best for now,

Cheers & 73,

Mike VK4QS

Mike – A personal thanks for allowing me to publish this wonderful CW journey. I enjoyed it very much, and I believe so too will our readers.

Bill VK1MCW #15215 - Editor



From Kees van der Spek # 15229

HOW MORSE CODE WAS ORIGINALLY SENT:

THE ENDURING ENIGMA OF THE LITTLE ‘STRAP KEY’

The simple strap key remains something of an enigma for Morse key collectors. Those who previously worked as postal, railroads, or commercial landline telegraphists; those sending communications by Morse code in their former capacity of army, navy or merchant navy radio operator; or the current worldwide fraternity of amateur radio operators with a penchant for working CW, many of whom may be collectors of telegraph keys, all of these will likely be familiar with the simplest form of Morse key (Figures 5-8).

They will have seen drawings of that earliest strap key, the ‘Correspondent’ devised by Alfred Vail¹ who many hold as the father of Morse code (rather than the claimed inventor Samuel Finley Breese Morse).² The ‘Correspondent’ was a strap key used by Alfred Vail and Samuel Morse in their first May 1844 telegraphy experiments between Washington and Baltimore (Figure 1). It would indeed be tantalising to think that the 1843 strap key in the collection of the National Museum of American History at the Smithsonian Museum in Washington on loan from the Western Union Telegraph

¹ Alfred Vail, 1847, *The American Electro Magnetic telegraph: With The Reports of Congress, And A Description Of All Telegraphs Known, Employing Electricity Or Galvanism. Illustrated By Eighty-One Wood Engravings*. Philadelphia: Lee & Blanchard, pp. 19, 22. However, it now seems likely that Alfred Vail was also influenced by the work of English scientist Sir William Fothergill Cooke, whose notebook containing sketches of a strap key reached the United States in the possession of Frederick Kerby, Cooke’s former assistant. In turn, Frederick Kerby became an associate of Samuel Morse and Alfred Vail. For a summary of these most recent developments see Tom Perera’s website at <http://w1tp.com/cooke/>. Also see footnote 4 for further indication of collaboration between prominent individuals working on related technologies.

² See for example: Pope, Franklin Leonard, 1888, ‘The American Inventors of the Telegraph – With special reference to the services of Alfred Vail’. *The Century; a popular quarterly*. Volume XXXV Issue 6, April 1888, pp. 924-944. New York: The Century Company.

<https://babel.hathitrust.org/cgi/pt?id=coo.31924079633370&view=1up&seq=934>

Company is in fact one of the strap keys used during those May 1844 experiments.³ Those simple strap keys certainly remained 'in vogue' for some six months after the first May 1844 experiments, until Alfred Vail designed and constructed his famous 'Lever Correspondent' Morse key some six months later and now also in the National Museum of American History at the Smithsonian Museum in Washington.⁴ That 'Vail Lever Correspondent' was premised on the basis of a lever turning on a horizontal axis, the pivot, suspended between trunnions that in combination provided the up and down movement of the lever, requiring less effort and allowing for greater sending speed than permitted by the brass blade-spring of the strap key (Figure 2).⁵ In its pivoting lever design, the 'Vail Lever Correspondent' became the prototype of all later 'straight' (that is 'up-and-down') Morse keys, at least until the development of the semi-automatic Morse key or so-called 'bug', which provides a series of automatic dots through a weighted and spring-loaded swinging pendulum.

It is now difficult to say how quickly the uptake of the 'Vail Lever Correspondent' resulted in the mass production of the more common brass Morse keys manufactured by Phelps, Tillotson, Greeley, Bunnell, Western Electric, MESCO, Signal Electric, and a host of other manufacturers, both in the USA and world-wide. A study of a sample of such individual companies may provide indication for the starting point of, and increasingly widespread production and use of the pivoting 'straight' key as conceived by Alfred Vail in November-December 1844 and again in 1845.⁶

What is certain is that the simple strap key never fell totally into disuse. Scientist Joseph Henry continued to use them in his electricity experiments around the 1850s and two of his strap keys are now also preserved in the collection of the National Museum of American History at the Smithsonian Museum.⁷ However, it can hardly be expected that the less efficient strap keys continued in widespread operational use, and maybe this is a reason why they do not seem to figure in some of the major instructional works on landline telegraphy that aspiring operators had to study. At least, and unless hidden in some dense schematic circuit diagram, they do not stand out and rate no mention under several search terms one might choose to check in relevant indices.⁸ Interestingly, in many such circuit diagrams, what could arguably be identified as a strap key remains the symbol for an open key.

³ The item in question is Catalogue Number 181410, Accession Number 31652. The inventory description simply states "This key is an example of the earliest type of key used by Samuel Morse and Alfred Vail." See: https://americanhistory.si.edu/collections/search/object/nmah_706715.

⁴ For an illustration of his 'Lever Correspondent', see Vail's 1847 *The American Electro Magnetic Telegraph*, p.41. For interesting comments on the development of the 'Vail Lever Correspondent' which appears to have been a collaboration between different people working in related fields, see: Franklin L. Pope, 'Relays, Keys, Registers and Sounders', in *The Telegrapher*, July 27, 1872. <http://www.telegraph-history.org/pope-articles/index.html>. For the 'Vail Lever Correspondent' (Catalogue Number 181411, Accession Number 31652) see: https://americanhistory.si.edu/collections/search/object/nmah_1096762. What this collaboration demonstrates, as it does with the influence of Cooke's notebook on Alfred Vail's Correspondent, is that there was likely active cross-fertilisation going on between scientists, inventors and instrument makers working at the same time on related ideas and technological innovations.

⁵ Its construction is assumed to have taken place around November-December 1844. Vail's 1847 *The American Electro Magnetic Telegraph* was written during 1845 (Introduction dated 18 August 1845) and makes reference on page 40 to the Lever Correspondent having been used "during the past winter", that is, during the period December 1844 – February 1845.

⁶ A third telegraph key developed and constructed by Alfred Vail in 1845, also in the National Museum of American History at the Smithsonian Museum in Washington (Catalogue Number 181412, Accession Number 31652) is less well known, see: https://americanhistory.si.edu/collections/search/object/nmah_706535.

⁷ See: https://americanhistory.si.edu/collections/search/object/nmah_706717.

⁸ For example, T.E. Herbert, 1907, *Telegraphy*. London and New York: Whittaker & Co.; H.W. Jenvey, 1904, *Practical telegraphy*. Melbourne: George Robertson & Co.; Hawkins and Staff, 1917, *Hawkins Electrical Guide Number Eight*. New York: Theo Audel & Co.

Even so, and certainly in the American market, essentially two versions of strap keys remained in use well into the twentieth century. The first one may be discounted as a Morse key (Figures 9-10). Measuring at its wood or Bakelite base 15cm by 9cm, the strap itself is of fairly thick brass and requires a degree of force to press against its 'make' contact. The stiffness of the strap makes it entirely unsuitable for telegraphy use, as no real code is able to be sent with it, or extremely slowly, if at all, and in any continued use placing the operator at extreme risk of the dreaded 'glass arm', the telegraphist's form of repetitive strain injury (RSI). These keys, with heavy binding posts at back, were certainly used by the railways, mounted in a glass covered wooden box and suspended vertically from the wall. They either served as switches operating track-side equipment, or they were used to send a single signal to a distant operator as instruction to action such equipment as points, signal settings, etc. They may also have been used to raise the alarm in case of fire when placed in locally positioned 'fire boxes'. I have as yet found no evidence of such heavy railroad or emergency services keys in the catalogues of companies whose focus it was to advertise telegraphy-related equipment, and their use in a telegraphy setting must be ruled out.

The same cannot be said for a smaller type of strap key, fitted to a slate or wooden base of dark walnut or mahogany and measuring 10cm by 5cm. A Bunnell mahogany-based version featured in company catalogues at least between 1901 and 1918, with illustrations displaying two or three binding posts of the more common US types (Figures 3-4). Other manufacturers such as MESCO or Western Electric who advertised their wares in company catalogues will similarly have featured such keys.

Two of the three specimens owned by the author have inscriptions which directly link them to telegraphy-related commercial business: "Foote.Pierson & Co. N.Y. W.U.T.Co" (Figure 7) and "J.H. Bunnell & Co. W.U.Tel Co." In the case of Foote-Pierson, that company did not start operating under its own name until 1896 as the successor to L.G. Tillotson & Co. and E.S. Greeley & Co. Similarly, the Bunnell catalogues of 1901-04 also suggest that this type of small strap key dates to either the late 19th century, or the early 20th century.

On that basis we may assume that there is no direct chronological link, that is, in terms of active commercial operating, between the earliest 1844 and these strap keys of some sixty years later. The intervening years and the many lever-type Morse keys since produced by the many companies specialising in telegraphy equipment would rule against large-scale use of strap-style Morse keys as both inefficient and unlikely, as has been argued.

The question thus remains what these small, and admittedly 'pretty', strap keys were used for. Their featuring in telegraph manufacturers' catalogues and their association with the Western Union Telegraph Company would rule out non-telegraphy-related use. Indeed, the 1901-04 Bunnell catalogue designates the strap key as a 'signal key', taken here to mean 'telegraph key'. Even so, non-telegraphy-intended use keeps surfacing periodically in the descriptions of strap keys when offered for sale on eBay or when commented on in the Facebook pages of amateur radio groups, telegraphy aficionados, and Morse key collectors. While contradictory named as 'Morse keys', such sources may nevertheless say that this particular type of strap key was *"used not for sending Morse code, but instead for connecting different signal circuits, for telegraph line wire testing purposes, and fire alarm telegraph circuits,"* adding that a strap key of this type would make *"a nice addition to a collection of telegraph keys, antique radios, or even fire alarm memorabilia."*⁹ Other suggested use has been scientific laboratory use. What seems to occur to a certain degree is confusion between the larger non-telegraphy but emergency services-related strap keys and the smaller versions that do have an apparent telegraphy-related purpose.¹⁰ However, what their use precisely entailed

9 eBay post August 2019.

10 See for example Lynn Burlingame N7CFO Keyletter #7 page 70 and Keyletter #12 page 128.

remains speculative,¹¹ as does the answer to the question whether they can be linked with the development of other Morse key concepts such as the 'sideswiper' or 'Cootie' key.¹²

If any of the above telegraphy-related uses are correct, then their precise operation has not been described, or at least not in an easily accessible format with, as observed, landline-related telegraphy instructional materials not overtly referencing them nor providing specific descriptions about their intended use. The precise use of these early Morse keys will be increasingly clouded by the mists of time the further the era of active commercial Morse code operation recedes into the past. Further study of documentary records, and the ever diminishing recollections of the remaining few landline telegraphists, may still shed light on their use. What we are left with for now is one of the many 'little mysteries' that those who remain interested in the history and use of Morse, and the keys used to send code, have to confront.

What can be said, however, is that conceptually they provide a direct link to the May 1844 'Correspondent' strap keys used by Alfred Vail. His 'Lever Correspondent' may be the more famous of the two for improving on the simple strap key in ways we can all recognise and benefit from today. But equally, those little strap keys – despite the fact that much of their use-context appears uncertain – are not less significant historically for the direct link they trace to Vail's very first Morse key. They would 'bookend' any collection, with the Vail Correspondent-inspired strap key design at one end, and any modern Morse key of Begali, Schurr or Frattini sophistication one cares to name at the other end. And, truth be told, in their evolutionary simplicity and in their aesthetics, they are quite lovely little keys, if only we reflect enough to recognise and appreciate them...

Kees van der Spek

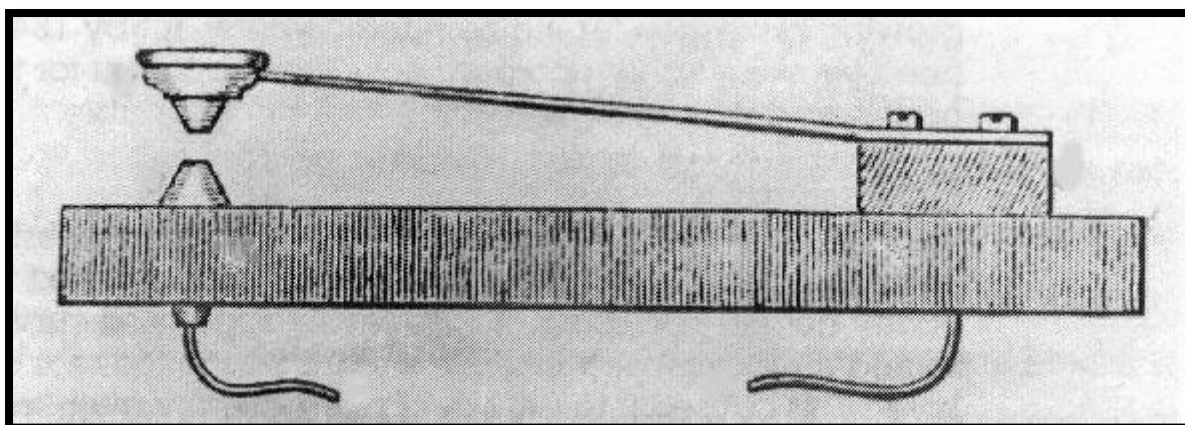


Figure 1 Alfred Vail's 1847 drawing of the May 1844 'Correspondent'.

11 Bill Holly K1BH (personal communication) views the presence of a contact gap adjustment mechanism as a possible indication of telegraphy-related use, suggesting that if used as a simple switch such would not "require close regulation of the contact gap." However, strap keys of the heavier variety that would clearly be unsuitable for regular and sustained Morse transmission still have the contact gap adjustment.

12 Bill Holly K1BH (personal communication) considers many sideswiper keys as essentially a strap-key suspended in a vertical position. The idea is most interesting: could the strap key model have given rise to such a variation, even if Cootie keys are at some distance in time from the first 1844 strap keys?



Figure 2 Alfred Vail's late-1844 'Lever Correspondent' in the Smithsonian Museum

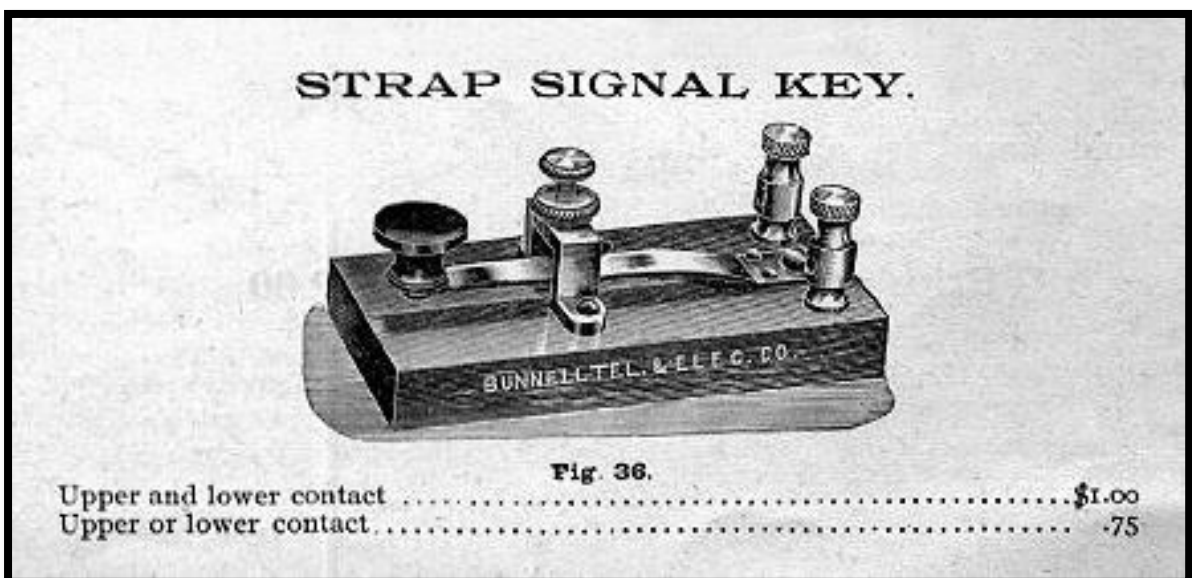


Figure 3 The Bunnell Telegraphic and Electrical Company 1901-04 Catalogue 11, page 20. Note the designation as a 'Signal Key'.

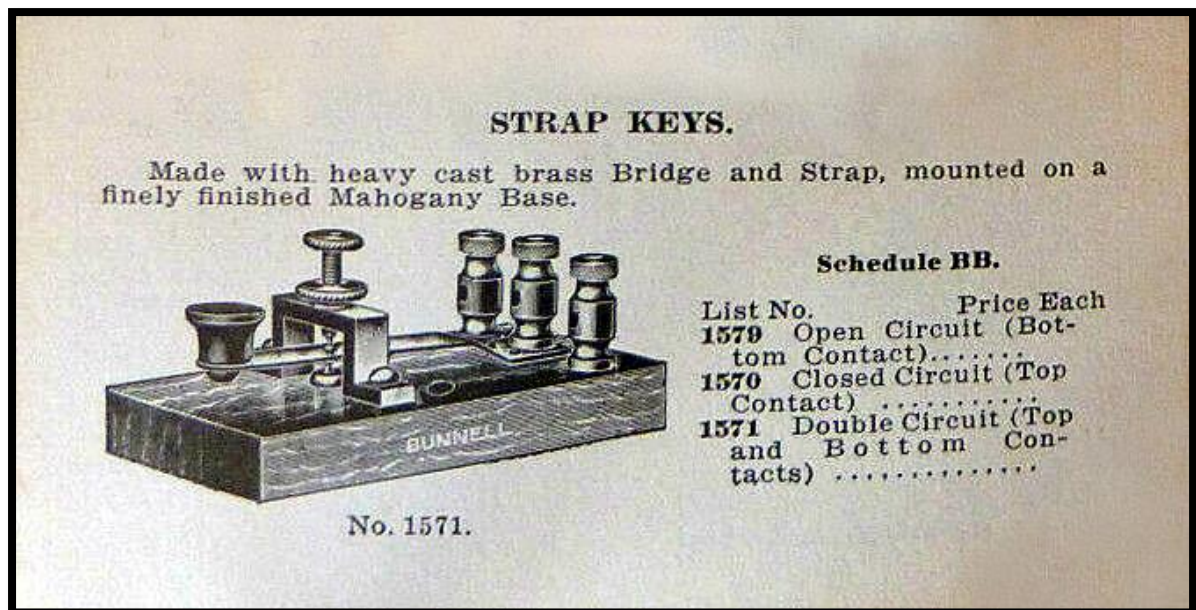


Figure 4 J.H. Bunnell 1918 Catalogue, page 18.



Figure 5 Strap key for telegraphy use. Most likely by J.H. Bunnell. Size 10cm x 5cm.



Figure 6 Telegraphy strap keys. J.H. Bunnell key on stone base at centre. Size 10cm x 5cm.

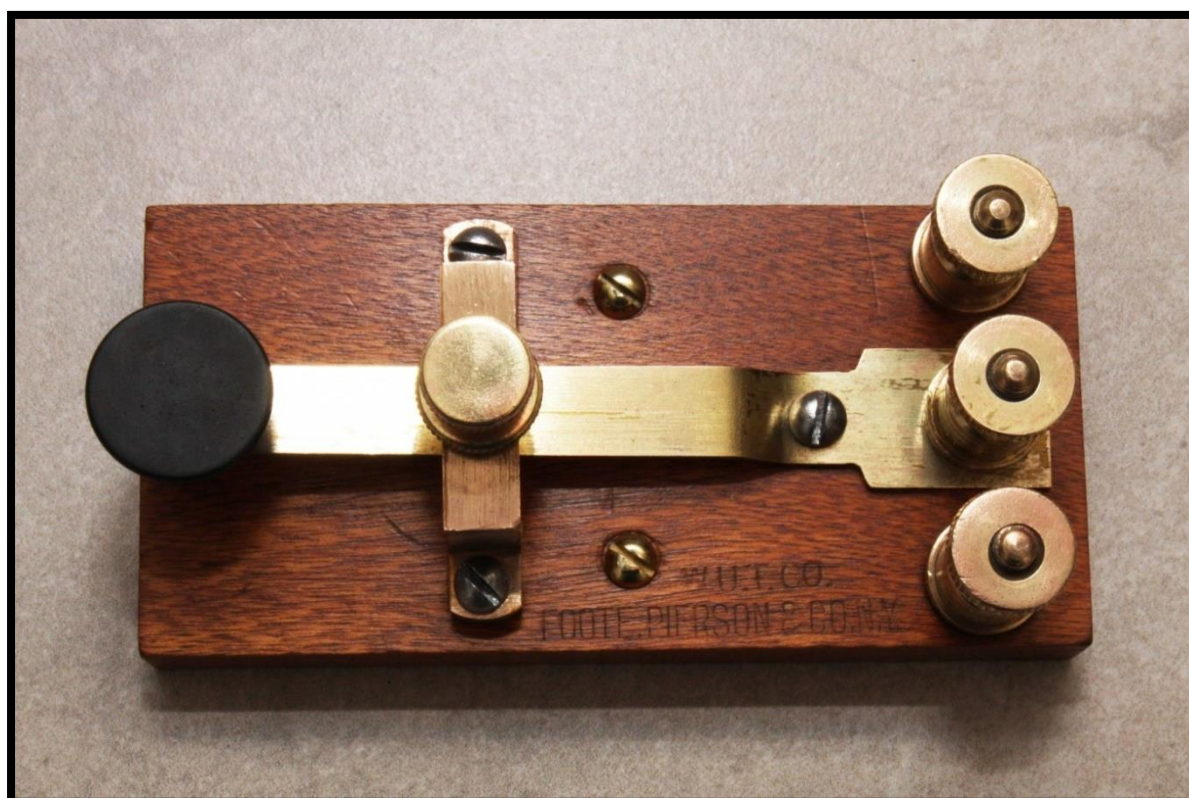


Figure 7 Foote, Pierson & Co. N.Y. strap key for Western Union Telegraph Company use.



Figure 8 Australian (English?) variant. Unknown markings: S.M.&I. Size 13cm x 9cm.



Figure 9 Strap keys used by railroad companies and emergency services. Size 15cm x 9cm.



Figure 10 Strap keys for telegraphy use compared to railroad and emergency services use.

Acknowledgements

- Published sources as identified in the footnotes
- Figure 1 Alfred Vail 1847 *op.cit.*
- Figure 2 ©Smithsonian Museum, Washington
- Figures 3-4 processed from Internet-sourced images
- All images for Figures 5-10 ©Kees van der Spek
- Tony Rogozinski for offering the author his little strap key 'trinity'
- Tom Perera for information about the William Fothergill Cooke manuscript
- Bill Holly K1BH for his thought-provoking ideas
- Herman Willemsen for making inquiries through his networks

Appeal

Should readers have further information on strap keys in any form or shape, please share your knowledge with the author via kees.vanderspek@netspeed.com.au

Kees van der Spek #15229



From Garry VK2GAZ #14151

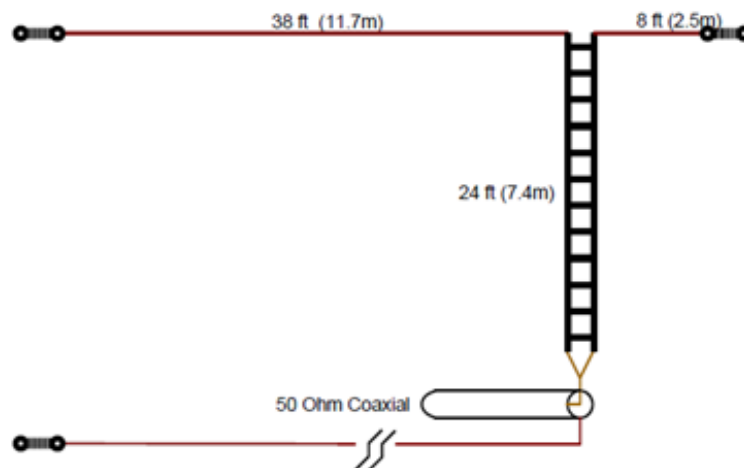
A Different Antenna

An ideal replacement for your 1/2 sized G5RV or Windom 40

G7FEK Limited Space Antenna

G7FEK Multi-band "Nested Marconi" Antenna – 2008 Version (rev 5)

A 46 ft multi band antenna for small gardens that works well on 80 meters
Main bands (@~50 ohm) are 80m / 40m / 30m / 17m / 15m / 12m
Other bands (see text): 20m / 10m



Designed specifically for small gardens, it is an ideal replacement for those half size antennas such as the 1/2 size G5RV and Windom 40 (51 ft and 66 ft long respectively). This smaller antenna will give six bands, including 80 meters as a resonant band with a full size 1/4 wave element. Using this antenna, tuning on 80 is not an issue and has performed very well with pleasing signal reports.

Advantages

- Small size (46ft long x 24ft high) (14.2 meters long x 7.4 meters high)
- Ideal for use with Squid Pole (10 meter version)
- Very light weight
- 50-ohm Coaxial Feed
- Multi-band operation for 80m to 10m
- ATU less operation possible on up to 4 primary bands (80m/40m/20m/15m)
- Low angle of radiation dominant (good for DX)
- Easy to construct and set up

I have been using this antenna for a while now, running an IC-7300 with auto tuner and the antenna tunes up very well on the bands which I use - 80/40/30/. I have not included the 20 meter element at this stage but can't see why it would not work.

For a full description of the antenna go to Mike G7FEK's website at:

<http://www.g7fek.co.uk/software/G7FEK%20antenna.pdf>

If you have 8:29 minutes to spare, have a look at this video from another amateur who also has experience with this antenna.

<https://www.youtube.com/watch?v=3ZTYtyQkBAo>

(Permission has been sought and given by Mike G7FEK to use his information.)

73,

Garry VK2GAZ #14151

Not to be out done by Chris!! 😊

Garry VK2GAZ #14151

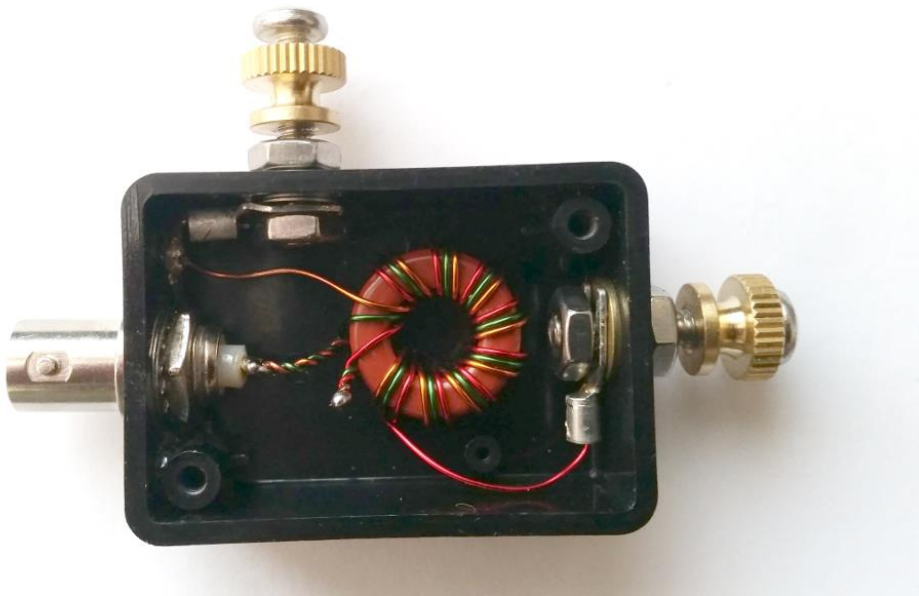
QRPGuys 40m – 10m Mini UnUnTenna



A while back I purchased and put together the **QRPGuys Mini 80m – 10m No Tune End Fed Half Wave antenna coupler** and was very pleased with the results, so I thought I would give this little guy a go.

Both packages are very similar to look at from the outside however, the difference is in the toroid and its' winding. This is a T68-2 toroid with 9 turns of three different coloured magnetic wire. (The three different colours are just to make the winding that much easier to complete.)

Once the toroid is correctly wound, which is very straightforward, the rest of the assembly is very easy. As with all QRPGuys kits, they only supply the very best of materials, which means a long life can be expected from their kits.



The manual, which can be downloaded from the QRPGuys website, suggests 4 different lengths of non-resonate wire for the driven element, I chose to use 41 feet or 12.497 meters and 35 feet or 10.668 meters for the counterpoise.

The driven element was strung up as a sloper from the HB-1B operating table to a 10-meter squid pole and the counterpoise was just strung out along the ground under the driven element.

Although the antenna tuned up very easily on 20 meters and above, it was not so easy to tune 40 meters. This may have been just me but the SWR was way off the scale. Will have to try different configurations to see if this can be improved.

Another great little kit from QRPGuys. However, comparing the two, and knowing that my preferred operating bands are 80 meters and 40 meters, I do favour the first kit I mentioned, the Mini 80m – 10m No Tune End Fed Half Wave antenna over this coupler.

Full details of the QRPGuys 40m – 10m Mini UnUnTenna can viewed at:

<https://qrpguys.com/qrpguys-40m-10m-mini-ununtenna>

73, Garry VK2GAZ #14151



Key Moments

Kees van der Spek # 15229

THE HARD LIFE OF A MORSE KEY

This is a telling example of the hardship some Morse keys were subjected to during a long life of use and at times abuse. The first image shows it in the condition when acquired from a CW ham in England who had purchased it many years ago at a flea market in the Tynemouth area where there exists a strong maritime heritage. The key is an earlier model of the Admiralty Pattern (A.P.) 7681 British Navy key and manufactured by Goodburn Engineering Co. Ltd., Uxbridge (manufacturer's code G.D.N.). The previous owner never got around to restoring it and put it up for sale. After having been taken out of service and before ending up at a local flea market, rough treatment resulted in localized chipping of the Bakelite base, a broken Bakelite knob, and the left-hand cable clamp screw badly bent.



Figure 1 Admiralty Pattern 7681 as purchased May 2019 (©Ian Williamson / eBay image)

Upon receipt of the key I decided that conservation treatment would be more appropriate rather than full restoration. A 'new' key it could never be and given its condition and evident past handling it would be preferable for it to show its age and still evidence some of the treatment it endured during its working life.

I completely disassembled the key and cleaned all parts: dirt and grime accrued during years of poor storage and inaction do not add meaningfully to notions of authenticity. I de-rusted the main pivot screws and the tensioner pin and spring. I de-oxidized and polished the silver front and rear contacts, and straightened the left-hand bent cable clamp screw. Polishing the Bakelite base with fine-grade car cutting wax brought back its pleasing original sheen. However, I retained the original patina which formed over many years on the nickel-plated brass parts. To restore it to a fully functioning condition I added from spares a genuine period-specific knob for this type of key (there exist minor variations between the knobs of the three A.P. 7681 models) and soldering tags for the

cable connections. This key may or may not have had the black or eggshell blue pressed metal cover, which was not always supplied.

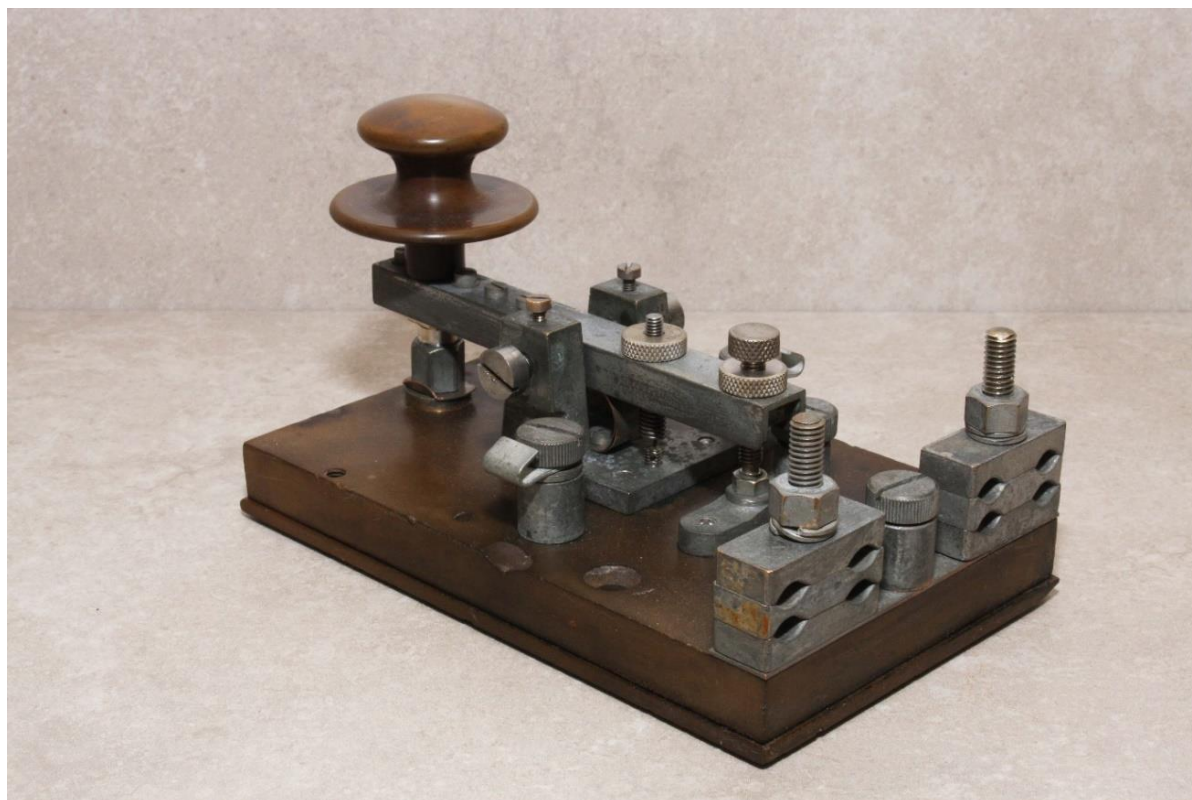


Figure 2 Showing its age: Bakelite chipping and patina (©Kees van der Spek)

Now back in working condition it shows all the more clearly some of the (mis)treatment it would have sustained during its long working life. The cigarette burn marks on the front edge apparently are a not un-common occurrence. They tell their own story of a time when smoking was still allowed inside the immediate work environment and where a busy radio operator had to find a safe spot to free his hands while calibrating receivers, adjusting paper in a typewriter, taking messages, and completing logs. The makers' marks that should be on the front leading edge have been ground out, maybe by a bored radio operator during a quiet shift, or seeking to hide the more excessive burn marks in an effort to mask damage to 'Her Majesty's property'.

In its conserved condition this key is good for another hundred years, yet showing its age and providing some insights into its shipboard working life, complete with patina and some of the 'quirky modifications' that were made by their users, reflecting telegraphists' shipboard preoccupations, concerns and obsessions with their keys.



Figure 3 Pressures of work at sea: cigarette burns and missing manufacturer's marks (©Kees van der Spek)

To return to the key some of its lost identity, here are the standard identification marks for this type of British Navy key, with XXXX representing the missing serial numbers and #.#. the missing production year alphabetical code as used by Goodburn Engineering Co. Ltd.:

ADMY. PATT. No. 7681 KEY MORSE

SERIAL No. G.D.N. XXXX YEAR #.#.

Notes on A.P. 7681 types, manufacturers and dates

The A.P. 7681 British Navy Morse key was designed by Marconi engineers and is closely related to the smaller version numbered A.P. W691, A.P. X691 and A.P. 65485. Apart from the Marconi Wireless Telegraphy Company Ltd., a number of companies manufactured A.P. 7681 Morse keys for the British Admiralty, broadly following the Marconi specifications but also resulting in minor variations, mainly in relation to the materials used and likely with the objective of reducing production costs.

The actual age of the different A.P. 7681 models is now somewhat indeterminate. Early models with Admiralty Pattern identification number 7681 go back to at least 1928 (see: <https://www.brundrit.co.uk/british-military-keys>). The shape of the mainframe and its trunnions of that 1928 version are identical to the specimen under discussion here. However, Morsum Magnificat (MM) dates at least the Goodburn Engineering A.P. 7681 version much later, between 1952 and 1977 (MM20, page 3 and MM21, pages 40-41). Either the analysis in MM is incorrect, or other manufacturers may have produced an identical version with the same style mainframe much earlier. A second version, also with a nickel-plated brass main frame but of slightly different shape was produced by an as yet unidentified company using the manufacturer's code 'L.M.' and followed by a four-digit serial number on the right-hand front leading-edge.

Both of the nickel-plated brass mainframe versions were eventually replaced by one that had the trunnions cast as part of its Bakelite base, again likely to reduce production costs. Manufacturers marks on these Bakelite versions may be 'PL' (unidentified) followed by a serial number; 'WG' (Ward and Goldstone of Frederick Road, Salford, and of Dutton Street, Salford), no serial number; or no

marks at all. Often these keys did not stand the test of time, with the Bakelite trunnions snapping off if dropped or when the pivot screws were tightened with excessive force.

The production of keys with similar specifications but with minor modifications by different manufacturers makes precise dating difficult. Irrespective of their date of introduction, what seems clear is that all three A.P. 7681 versions were used side by side on board British naval vessels, as observed with the keys and metal pressed covers this author obtained from Frigate HMS Achilles F12 in 2016. HMS Achilles was decommissioned in January 1990 and sold to the Chilean Navy. It was likely at that time that the ship's Morse keys were auctioned off as a 'job-lot' and found their way to hamfest middlemen and eventually collectors. By that stage the British Admiralty would have made use of the long-lever Swedish-styled Pryce Edwards Ltd. and Marconi S. & R. Systems Ltd. 'NATO key' and we may assume that around the same time our 'tortured' and newly conserved A.P. 7681 Morse key here discussed was also decommissioned.

Kees van der Spek #15229

Thanks for your double input Kees! Much appreciated!



I was going to add another "Key Moments" key – but that will have to wait as I need something to kick off 2020!! I hope in the next edition to include a short article which I will probably title "The Italian Job" and share a couple of wonderful keys from Alberto Frattini..... Truly a master craftsman!

Don't forget to share your favourite key and or restoration projects here.

Again – thankyou to those who have submitted some wonderful reading! My "In-Box" is now empty – Over to you!



This, and an AF stablemate in March

Have a Safe and Merry Christmas all!

73 de Bill VK1MCW #15215

