Volume 5, Issue 3

1/2022

the exchange

SWODXA
WWW.SWODXA.ORG
SouthWest Ohio DX Association

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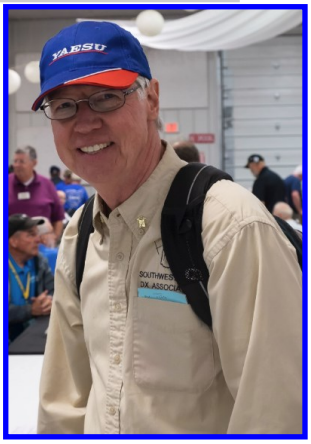
Club Call : W8EX

INSIDE THIS ISSUE:

The Prez says…..Tom, NR8Z



I hope you are well and that you had a wonderful holiday season with family and friends. We were fortunate to have both our sons/partners come to visit along with their feline family members. Hopefully you didn't need my recent QSO for an award!

As I write this in late December, our nearest star gave us a gift of increased solar flux. Like reindeer on the roof, strong DX signals on 12 and 10 meters suddenly appeared. Hopefully this is a harbinger of all-day worldwide DX contacts to come.

Welcome to 2022! I'm not a fan of New Year's resolutions but it is a great time to think about ham radio goals to drive your activity. Once the ground freezes I may replace my 40M dipole with an OCF antenna, it will fit into the available space/trees better. And, sunspots willing, I plan to complete 17M and 12M DXCC.

SWODXA meetings will continue for the foreseeable future at Hunter Pizzeria in Franklin. It is time for the club to start preparing for the DX Dinner® and the DX Forum at Hamvention®. I know the DX Dinner committee, with Mike, W8RKO as chairperson, would appreciate any help you can offer. I am personally really looking forward to having our May festivities.

Enough from me! Bill has packed this edition with reports on club members' projects, some hamming history, and interviews with top level DXers. There's also club news to keep you up to date.

Happy New Year!

73,
Tom—NR8Z

Club News

Last month at the Southwest Ohio DX Association meeting, the W8OK award was bestowed upon one of the SWODXA members, John Comella, N8AA . The award is described this way:

The W8OK award is given to the SWODXA member who exhibits those traits that Frank Schwab embodied. Frank was a Co-founder of the Dayton Hamvention® and the founder of Dayton Sky-Warn. Frank was a well-known top-flight contester and CW operator. He soon rose to the top of the DXCC ranks and eventual membership in the CQ DX Hall of Fame.

Frank is known to have said and appreciated the statement "CW is an art…be an artist!" Members who are considered for the W8OK award must exhibit the following traits and characteristics:

Operating ethics and courtesy.
Station activity.
Observance of FCC rules.
Contribution to the club such as participation in club activities, contests, etc.
Contributions to amateur radio such as helping new hams or foreign operators in any way practical.
Attitude toward fellow hams.
Attitude toward the public, including neighbors – e.g. managing TV, BC and tele phone interference.
Perseverance in listening for new countries, obtaining QSLs, striving for DX goals of various sorts, and ferreting out DX information.

This is the most prestigious award given to a club member by the club.
(www.swodxa.org/w8ok-award)

The award was presented to John by the club president, Tom, NR8Z. The picture of the presentation and the details are below. Congratulations to a great ham and person, N8AA!

(cont. on Next Page)

Club News (cont.)

John has been licensed since 1954, coming up through the ranks starting as a novice (ex-WN8QXQ andW8QXQ). He has been a SWODXA member for over a decade since moving to Southwest Ohio. A partial list of his DX accomplishments includes:Top of the DXCC Honor Roll, 9 band DXCC, and he's one Zone short of 5 bandWAZ. He also has completed 6 bandWAS.

John is an avid contester with entries a wide variety of contest formats. He is an accomplished CW operator and he gives back to the hobby as a member and instructor with CW Ops. He's been on the other end of a DX pileup from CY9C – St Paul Island.

When SWODXA asked for help updating our Constitution and By-Laws a few years ago, John stepped in and did a tremendous job sorting through much conflicting and changing input. The club owes John a dept of gratitude for creating the foundation that supports the club to this date.

Congratulations John, you truly represent the spirit of ham radio andW8OK.

Mark Your Calendars

Our 2022 meetings are scheduled at Hunter's Pizzeria, 4165 St Rt 122 - Franklin, OH 45005 for the following dates : (6pm-8:30pm)

January 13
February 10
March 10
April 14
May 12
June 9
September 8
October 13
November 10
December 8 (if we decide to have party there)

As of today, the DX Dinner will be held on Friday, May 20th at the Dayton Marriott.
The DX Forum will be held on Saturday, May 21st at the Greene County Fairgrounds.
The W8DXCC Convention will be held on Saturday, August 13th at the Clermont County Fairgrounds.

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Club News (cont.)

Hi Bill;

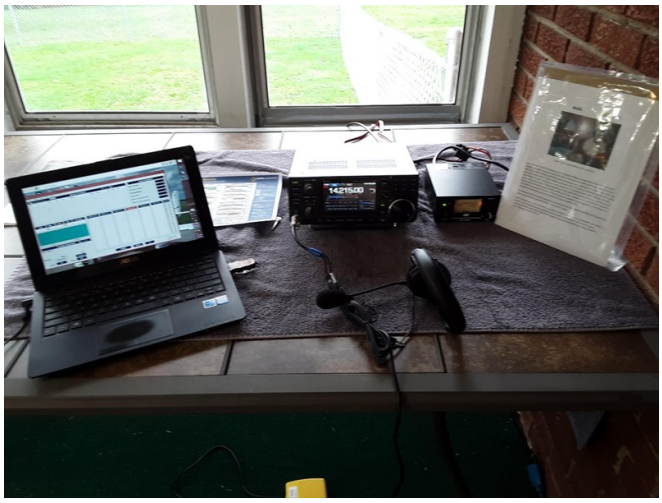
Don't know if this is of interest on not. I am visiting our daughter in Hubbard Ohio and I put together this modest station to do the CQWW SSB 2021 in memory of my brother N0ZUQ, SK.

I had a great time but could not be in the chair for the entire 48 hours. However, I scored 121,700 points and contacted 118 countries on 100 watts on a vertical (see photos). I hope to be here until the CQWW CW at the end of this month.

Best 73

Don N6JRL

Thanks Don. Always want to hear from club members



Chumbo Inglin to Take the Extra Test

Tom has informed us that his only offspring left at home will be sitting the Extra Test at the Hamvention in May. Good thing that Tom doesn't live in Indiana, a K9 call would just not work!

Chumbo is shown here catching up with some friends on CATalina Island, (NA-191)

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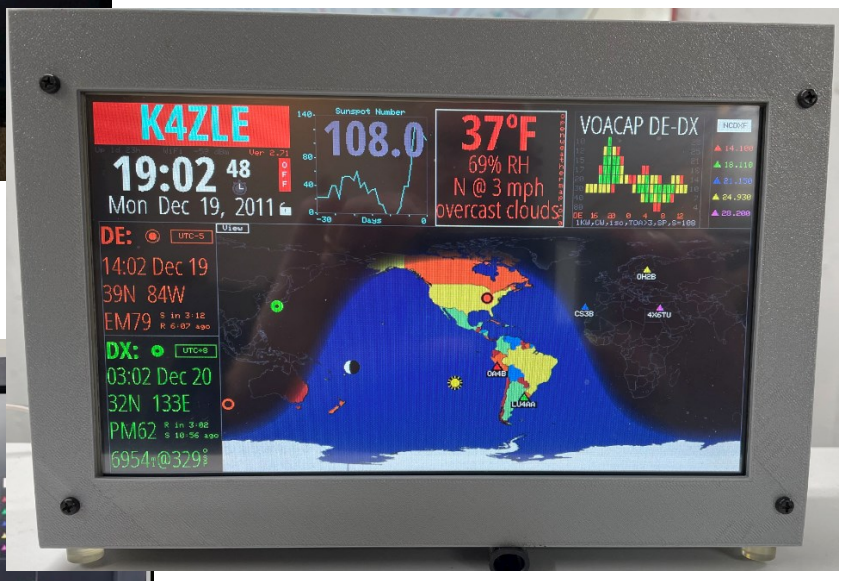
Club News (cont.)

At the September club meeting, K4ZLE, Jay, gave a presentation on the WB0OEW HamClock. This application runs on a couple of different platforms and provides a wealth of information about solar conditions and propagation. Jay inspired a couple of us to get the Raspberry Pi out, go to the website to download the software (https://www.clearskyinstitute.com/ham/HamClock/) and get busy. Below are three pictures of Hamclocks that have been built. I believe that there are more in the club that have built this. If so, please pass along your pics.

Thanks Jay for inspiring us!



1944, Christmas—A heart-warming yarn involving a combination of the Amateur and the Christmas Spirit in far-off Hollandia.

S/SGT. R.H. Newkirk, W9BRD
APO 74, c/o PM, San Francisco, Calif.

This first appeared in QST in January of 1946. It was then reprinted in the K9YA Telegraph, a free monthly eZine. (www.k9ya.org). I really enjoyed it as this was the timeframe that my dad, K8DWE (SK) was in Australia. This is reprinted with the permission of the ARRL and the K9YA Telegraph.

In a wartime world the singular and exclusive camaraderie that exists in the hobby of amateur radio results in so many unexpected and coincidental meetings between good friends, who have previously never seen each other, as to make such happenstance fairly commonplace. But I boast a tale in which time, place and circumstance combined to cause a similar occurrence to be most extraordinary.

The Liberty ship *El Segundo Ruiz Belvis* lay at anchor in the murky waters of Humboldt Bay, New Guinea, on a tepid, tropical night in '44. In the absence of the moon, the Dipper and the Southern Cross scintillated bewitchingly. On the shore, the lights of the army base of Hollandia burned steadily in contrast to the vari-powered signal blinkers which intermittently pierced the opaque darkness throughout the harbor. The latter were visual communication between ships and shore plus an admixture of ship-to-ship chatter, official and otherwise. There was an underlying tense tinge to the atmosphere and the stillness was broken only by the occasional clank of ship gear and the sharp staccato of the *Belvis*' blinker shutters as the signalman transacted port business with the powerful land station.

This was rendezvous. Our Liberty, with scores of army personnel aboard, had here become a unit in the formation of a huge convoy. Crammed into holds, on hatches and into every available nook and cranny of the steel deck, we were Leyte bound. Stifled, sweaty and hungry on our two meals per day, we wore out deck after deck of pinochle cards and read every available piece of literature over and over again. It was almost a month since we had left Sansapor, scene of our last operation. We were exuberant in the knowledge that we were soon to leave New Guinea.

Christmas was but a few days away and we had had no mail for weeks. Men leaned languidly on the rail and thought of home while others dreamed of the same in their cramped quarters. The circumstances certainly made this Yuletide one to be long remembered. Never- the less, all that would feature this day for us would be a possible piece of priceless turkey added to the usual dehydrated viands. Just another dragging equatorial day to be piled atop hundreds just like it.

It was ten o'clock. I was wide awake; only my eyes were tired. Presently, I found myself detachedly reading the blinkers which poked their focused fingers indiscriminately about the bay. My quarters, in the cab of a 399, were on the port rail amidships and afforded a good view across the water. I became absorbed in various bits of chatter between nearby vessels.

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1944, Christmas—(cont.)

It struck me that QRM was quite heavy tonight - a sort of an optical 80 meters. I saw one of the lights sign off with a "73." This was interesting as among the host of merchant marine signalmen, hams are spread pretty thinly. I seized my M-1 torch and focused an insipid beam in the direction of that ship. I sent CQ CQ CQ K. A ham call sign is a cumbersome thing to handle with a blinker. Furthermore, I had no faith in the DX powers of my 3-volt flashlight bulb. I was therefore elated when a bright interrogatory sign beamed forth, aimed obviously in my direction. Contact! True, it was far outside the ham bands, but band divisions in the microwave region are indefinite anyway.

I was still dubious as to whether my man was an amateur. Rather than complicate matters immediately, at this speed of 8 words per minute, I began in the language of the layman: HELLO PAL WHERE YOU FROM? K. Back in an agreeably rhythmic style came: R TULSA OKLA NAME IS HAL. The given name and place struck a subconscious responsive inner chord vaguely. Next, I blinked: GE HAL IM ROD FROM CHGO K. There was a pause. He reoriented his beam to compensate for tidal drift and then startled me with: W9BRD DE W5EGA K.

The night quickly took on an exhilarant aspect as we lapsed into ham vernacular, spiced with many Morse slaps on the back. Hal Franks was no other than an old CW crony of mine. We had heckled each other on 80, 40 and 20 a countless number of times in the prewar days. In memory I was hearing again that beautiful swing and T9X sledge-hammer signal off his three-element rotary. We discovered mutual ham friends and we exchanged much welcome information and recounted bygone days. He was quite amazed to learn that I was behind a mere GI flashlight (with low batteries at that). The QSO continued far into the night - the next and the next.

We seemed destined to rot in our anchorage. The convoy movement was postponed from day to day. However, this Christmas season took on a much different aspect for me as arrangements were made and, at 0900 Christmas Day, my friend, Wilbur Kuure, W9YNY, and I debarked unsteadily down the ladder and made our way across an undulating swell to the Liberty ship *Chittenden*. There, we met Lt. Hal Franks, W5EGA, personally, for the first time. We all agreed that it was quite a small and bizarre world that December 25th.

Verbal reminiscences cluttered the air within W5EGA's exceedingly neat cabin for several hours. Shelves in his quarters were lined with excellent reading material including many late QSTs. Compared to our situation aboard the Belvis, Kuure and I thought this a bit of heaven. We were thoroughly acquainted by the time we appeared in the officers' mess.

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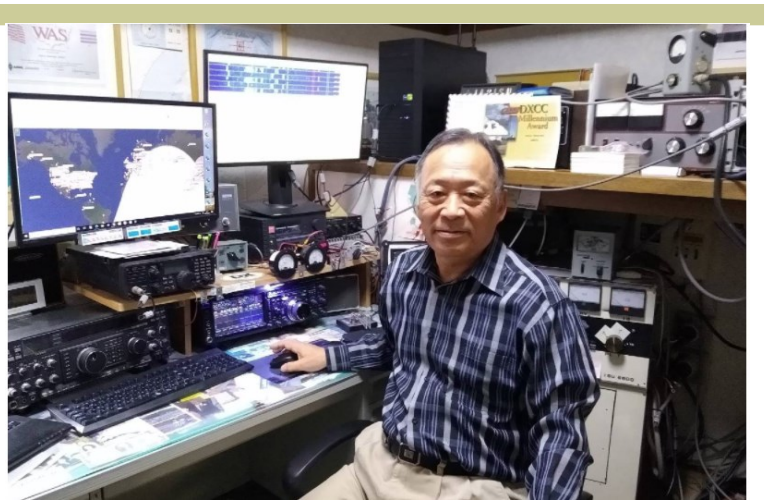
Interview with JA8ISU, Kazuo



I had worked Kaz on 160M and 80M and had to contact him to see what he was running. He was kind enough to agree to answer questions for us.

AJ8B: How did you first get interested in amateur radio?
JA8ISU: I started wireless in 1968. For the first 25 years, I enjoyed the high band of HF and then the low band. Currently I am enjoying 160m and 6m and sometimes 80m. My child is CW, but I've been enjoying FT8 for the past few years.

AJ8B: Do you have a favorite band or mode?
JA8ISU: 160m is the winter low band season 0900z to 1300z; 6m is from 2100z to 0700z in the summer season.

AJ8B: What time of day and days do you like to operate?
JA8ISU: Different bands, different modes and long fun.

AJ8B: Any secrets to your success?
JA8ISU: It is to give a QSO to a station that wants to make friends with familiar people of various bands and communicate with JA.

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1944, Christmas—(cont.)

As the cuisine took shape before us and disappeared into our eager gullets, my army pal and I felt somewhat sorry for our less fortunate buddies on the home ship. But such is life. We had, in nautical terms, a "Little Roundhouse," consisting of a generous helping of everything on the menu. We swept our plates clean to Hal's amusement. I remember, most distinctly, the dessert of apple pie and ice cream.

Nightfall found Kuure and me "back to earth" on the Belvis after a most delightful Christmas Day. According to plan, we blinked a "goodnight and thank you" to W5EGA through the twilight. That was our last QSO of that series. Not long after that we weighed anchor and headed for our next stop on the long road back home. Our holiday was over, a new year had begun and there was still a war to be won.

Interview with JA8ISU, Kazuo (cont.)

AJ8B: You have a wide variety of antennas shown on the web page and a great space. What antennas are there? Are you planning on any more?
JA8ISU: There are currently 4 towers. The three towers are 90m apart and 160m long with Half Square wires for W. I also use a 30m tower drive. 80m is an IV with a height of 27m. 6m uses 9-element Yagi with a height of 20m and 7-element Yagi with a height of 30m.

AJ8B: Describe what you are currently using:
JA8ISU: The rig is FT1000 for Yaesu FTdx101D backup. He made his own 1kW amplifier and 50MHz is a TR amplifier 500W made by the manufacturer.

AJ8B: What advice do you have for those of us trying to break pileups to work DX?
JA8ISU: You should focus more on the transmitting antenna than on the transmitting output.

AJ8B: What is your favorite contest?
JA8ISU: My favorite contest is CQWW160m ARRL160m test and 160mSP test

AJ8B: Any QSLing hints?
JA8ISU: Gather the information you need and wait patiently for a long time.

AJ8B: If I were to stop by for a visit, what local place would you want us to visit?
JA8ISU: It is close to a national park and is blessed with nature. Then it is a place where you can see the drift ice in the winter season.

AJ8B: What local food would you want me to try?
JA8ISU: This is an area where agriculture and fishing are thriving. There are many delicious foods.

Collins S-Line Restoration, On Air Operations, and 100 DXCC Entities—Part 3

By Dave, K8DV—k8dv@cinci.rr.com

In the first 2 parts I wrote about my early days of looking through the pages of ham radio magazines like it was the latest edition of the Sears Christmas catalog and dreaming of what it would be like to operate some of the equipment that was out of reach for a student on a grass cutting budget. I also went over on my adventure to restore the Collins 75S-1 receiver and getting it back in working order and ready for on-air operations. That was then followed up with the moderation of the 516F-2 by replacing the tube rectifiers and all of the capacitors leaving only the original chokes and transformer in place. Although some purist may not approve I think it is the smartest thing one can do for this aging equipment to try and extend its life.

Now that we have the 75S-1 receiver and the 516F-2 power supply completed it was time to dive into the 32S-1 transmitter. The first step in getting it prepared to get back on the air after sitting for an extended period of time was to replace all the paper and electrolytic capacitors. Before connecting to the power supply I rechecked my work to make sure it all looked good and found no signs of problems with the work I did. I also made sure all the ground screws were tight as so many times in these old rigs problems can be traced back to grounds. Also made sure all the right tubes were in the socket, plate caps were good on the finals and that all the controls moved as they should.

It was now time to connect it to the power supply and I just knew that I was only hours away from having the Collins back on the air and making contacts and working towards that goal of 100 DXCC entities.

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Collins S-Line Restoration (cont.)

All I can say here is NOT SO FAST, the reality of restoring 60 year old equipment quickly came to the surface and was facing me directly in the eyes. Needless to say the next few paragraphs will go through the adventure and challenges of this 32S-1.

I connected the 32S-1 to the 516F-2 power supply, plugged it in and then turned the switch on the 32S-1 to on. The pilot lamps came on as expected the tube filaments came on, all looked good and about his time things started going downhill. Out of the corner of my eye I noticed something around the supply that did not look right, smoke followed by the no mistaking smell of burning wiring in a transformer or choke, I immediately turned off the 32S-1 and unplugged the power supply from the wall. The first thing I did was check the power supply to see how much damage occurred and no surprise it destroyed the two filter chokes in the low voltage (275 volt supply) circuit. Well as many of you know once this happens there is no fixing the chokes they have to be replaced. The first question that came to mind was why didn't it blow the fuse before doing the damage? I soon found out that unlike most of the time I work on something like this I check the fuse, this time I did not and quickly found out what caused it to, well lack of better statement, "go up in smoke". It had a 10 amp fuse and should have been a 4 amp fuse, so it drew enough current to damage the chokes but not enough to blow a fuse 2 and half times the value called for. After doing a quick search on the internet and to my surprise new replacements were available, so I ordered the replacements and turned to the 32S-1 to figure out what may have happened.

At this point I knew he issue was in the 275 low voltage rail and putting a ohm meter on pin one of the 32S-1 proved that to be the case. It was shorted to ground, so back to checking all the areas where I had performed work replacing capacitors. I found no issues, after days of searching, I decided I was going to need some assistance with this one. I contacted a friend of mine who in the past has helped me with repairs and got me back on track with equipment on more than one occasion. I loaded the 32S-1 and 516F-2 up and took it to his shop and dropped it off. I shipped him the two chokes once they came in and he replaced them both and the power supply was now back in working condition.

He was able to locate the short, it seems like when I replaced the 2 section electrolytic there is a number 22 or so bare wire that connects to the can of the capacitor and to a terminal strip grounding point to ensure there is a good ground instead of relying only on the twist taps that hold the capacitor in place. It seems that when I connected this back up and then trimmed the access there was a sharp point remaining and the 275 low voltage rail runs right next to it, so it managed to puncture it sinking the 275 volts directly to ground. Ok so I know what you are thinking about now, that should be it and you should be good to go, again, NOT SO FAST.

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Collins S-Line Restoration (cont.)

After the short was removed was at lease able to fire up the 32S-1 without blowing a fuse (proper value by the way) or anything in the power supply go up in smoke. At this point it would transmit but was unstable and another issue was found and that was if the meter switch was turned it would go into transmit which this is not tied into the circuit that should trigger the transmitter to key up. The issue turned out to be two shorted out components that are next to each other and one had got bent into the other and when you would move the meter switch to the one position it would go into transmit.

Now that issue was corrected the transmitter was acting correctly with the exception the power would fall off and was not making full power on certain bands, this was nailed down to dirty trimmer capacitors in the RF section, so each of those had to be taken apart and cleaned, once completed the 32S-1 now had good output on all bands after alignment. Then it was time to give the chassis topside a good cleaning and it turned out great.

The last thing which I still need to take care of is the glass in the meter has come loose and needs to be secured back in place, this will require taking the meter out of the transmitter and disassembling the meter and reaffixing the glass back into place.

After that I will be ready to setup the S-Line and start my on air journey, which is what I am looking forward to.

Stay tune as we continue to make progress.

73,

Dave

FORTITUDINE VINCIMUS

"By Endurance, We Conquer"

South Sandwich (VP8STI) & South Shetland (VP8SGI)

By Jay Slough, K4ZLE

This article originally appeared in the July/August and Sept/Oct 2016 of The DX Magazine. Thanks to Jay for his permission to reprint this.

The title of this article, Fortitudine Vincimus, is the family motto of Sir Ernest Shackleton, the famous English Antarctic explorer. It was also the motto of his ship, Endurance, that was crushed in the ice in the Weddell Sea during his 1914 -1915 expedition. He and his crew certainly demonstrated the utmost in endurance in their epic tale of survival. While it would be highly presumptuous to classify our recent VP8S- TI/ VP8SGI operations in the same domain as that of those early explorers, we did exhibit some degree of endurance in conquering our set of circumstances. As they lived up to their motto, we rose to demonstrate the qualities of our name, Intrepid DX Group. Each of us can proudly echo the words of Caesar, "vini, vidi, vici." This article is but a snippet of that adventure.

As with most DXpeditions of this magnitude, planning started some two years before execution. I was invited to join the team about halfway through the planning stage. Having knowledge of the challenges of prior excursions to Southern Ocean DXCC entities and having bounced around on several previous military and ham related ocean "cruises", I was somewhat hesitant to commit. I looked over the roster of who was then on the list, considered the reputation of the team leaders, (Paul, N6PSE, and Dave, K3LP), played back in my mind the videos of the 1992, VP8SSI, expedition and the stories from the Microlite (VP8THUNP8GEO) trip in 2002, and agreed to join up anyway.

I have been asked several times why anyone 72 years old, would spend six plus weeks of his life and tap such a relatively large chunk of his personal exchequer for a trip as potentially challenging as this one. One of my aunts called me on the phone, after viewing the YouTube video of the VP8SSI trip, and asked me if I was "out of my bloomin' mind! " Others have asked the same question but stated slightly differently. The answer is simple, I, and I am sure others, go for the same reason - CHALLENGE!

The physical, mental and spiritual challenges are obvious, there is also the emotional challenge of pileup encounters - like working your friends, making new friends and feeling the happiness of you on the other end having met your challenge of busting the pileup! Without challenges in our life, we soon grow stale and stodgy.

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View of the cliff for access to South Sandwich. All equipment was moved on and off the island here

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

Maybe an alternative response would be the same as George Mallory gave when asked in 1923 why he wanted to climb Mt. Everest. His answer was, "Because it's there." I'm told that more people have summitted Mt. Everest than have operated from S. Sandwich! I do not know if that is a true statement or not, but it merits consideration, don't you think?

Amongst the challenges of operating from these types of locales is getting to and fro. From my home in SW Ohio, USA, it is a two-day trip to Port Stanley, Falkland Islands, where the team convened. From the Americas there is a once-a-week flight between Santiago, Chile and the Mt. Pleasant military base in the Falklands, the flight stops in Punta Arenas, Chile and once a month it makes an additional stop in Rio Gallegos, Argentina. There is also an option to fly out of the UK on a military plane, but that alternative was ruled out for various reasons by all team members, including those from Europe and Asia. Most of us had to remain overnight in Santiago prior to the final leg to the Falklands.

Arrival. in the Falklands went according to plan with an easy transit through immigration, etc. and onward to our transportation from the Mt. Pleasant airport/military base to Port Stanley and subsequent transfer to the RIV Braveheart. I left home on 7 Jan, arrived in Santiago on 8 Jan, departed Santiago on 9 Jan and boarded the Braveheart that same evening. We set sail for S. Georgia at 0530 local time on 10 Jan.

The voyage from Port Stanley, Falklands to South Georgia was five days. Initially the waters were relatively smooth, but these are waters of the Southern Ocean, otherwise known as the Roaring Forties and Furious Fifties. By the second day at sea, they demonstrated their ability to "Roar"! My estimate of differential of crest to trough reached between 25 and 30 feet at one point in this leg of the trip. Fortunately, the prevailing currents in that area tend to be from west to east, and our general direction of travel was toward the southeast. Those with a maritime background know the blessing of following seas, which somewhat mitigated the. potential severity of such a sea state.

We spotted our first icebergs on 12 Jan. Thanks, in part to those near following seas, we arrived at S. Georgia at 0300 local on 14 Jan, where we were required to check in at the British base at King Edward Point before sailing onward to S. Thule Island in the S. Sandwich group. Adjacent to King Edward Point is the old whaling station of Grytviken. We had time for a quick walk about there and visited the gravesite of Sir Ernest Shackleton.

In a short time, we were underway again. On the 16th we encountered snow, more icebergs and sighted our first whales of the trip. On the 17th we landed on South Thule and everything was ashore and set up on the 18th.

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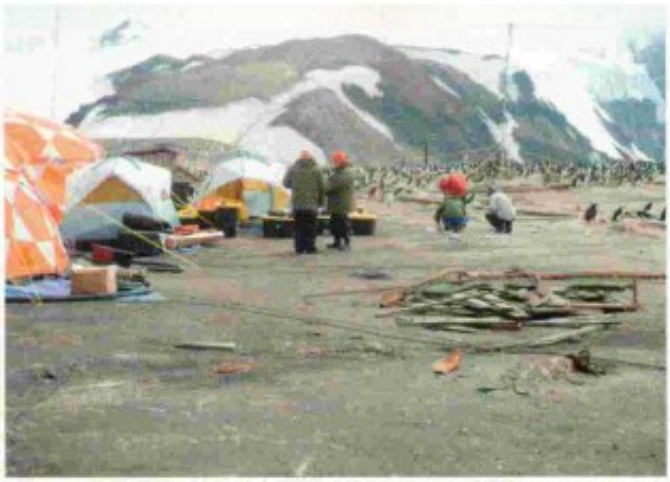

South Sandwich site almost ready to "rock & roll!" The planking in the foreground became part of our "sidewalk" between the tents.

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

The weather was excellent for our initial landing and set up. We eventually off loaded at essentially the same cliff site as the 2002 Penguins Microlite expedition with- in the caldera lagoon between Thule and Cook Islands In an effort to find a better landing site, we first examined the beach area outside the caldera. Three of our team donned full cold water immersion suits and made a wet landing on that beach. This was probably the same beach where the British troops landed and removed the Argentine base after the 1982 conflict. We decided that this would be too rigorous an approach for the full team to attempt. In addition, there would be a very high risk of losing or damaging equipment both in the boat-to-land transfer and in the longer traverse from landing site to proposed camping site.

With the favorable weather for setting up, things went fairly smoothly. We eventually ended up with two Force 12 tri band beams, (20, 1 5 and 10m), one Force 12 WARC beam (12 and 17m), a 4 Square for 40m, separate two element phased arrays for 80 and 160m and a vertical for 30m. We did assemble the 6m beam, but there was no magic to be experienced on the magic band. We used 4O3A high power multiplexers and band pass filters, which all worked as advertised. Stations were provided by Elecraft - K3s dressed up like the new K3Ss, and KPA500s. Our initial plans were to also activate 60 m; however, we discovered that it is not part of the IARU approved band plan for the region. We took materials for several 160 m listening antennas but found them to be unnecessary from both S. Sandwich and S. Georgia.

We believe our operating location was within 20 feet of the 1992, VP8SSI, site as there were pieces of green and black tents embedded in the penguin excrement that completely covers this portion of the island! The rescue hut available to previous expeditions no longer exists. Besides the tent pieces, all that remains of man's futile attempts to 'settle' the island are fragments of the old Argentine base mentioned above. We used some of the wood planking scattered about to lay a walkway between the sleeping tent and operating tent.

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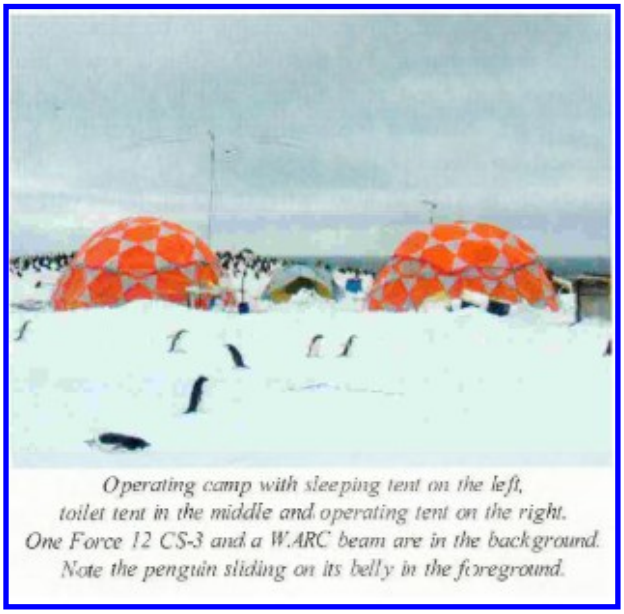
Operating site in process of being set up.
No antennas erected yet.
Cook Island in the background.



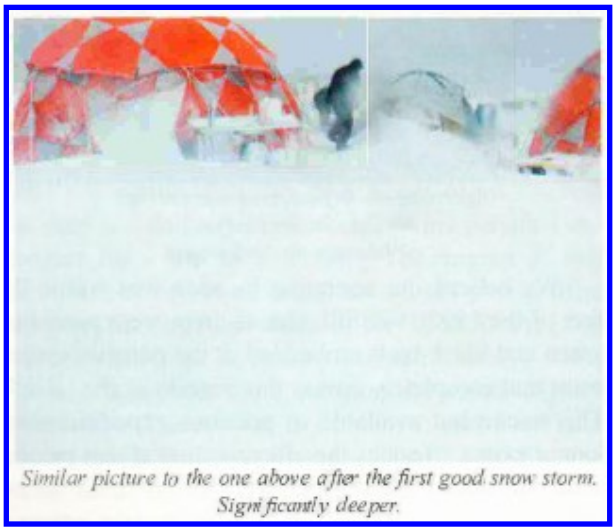
Operating camp with sleeping tent on the left,
toilet tent in the middle and operating tent on the right.
One Force 12 CS-3 and a WARC beam are in the background.
Note the penguin sliding on its belly in the foreground.

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

When we left the island the only physical evidence of our sojourn was our footprints in the pooh. At one point we were concerned that we would be leaving much more, which I shall explain later.

The operating team did not shuttle between Braveheart and the island. Once we set foot on the island, we were there for the duration. The Braveheart crew usually brought us one hot meal each day. Other than that meal, which was usually some form of casserole, we subsisted mostly on Ramen noodles, "cup 'o soup", bread, biscuits (cookies), and fruit. There were 13 of us on the operating team. One of our members, Krassy, K1LZ, had to cancel at the last minute.

Camp consisted of two dome tents 580 cm diameter (~ 19 ft) and two smaller (two man?) tents. One of the large ones was for operating with 6 stations. The other large one was for sleeping and "kitchen" with 7 cots. One of the smaller ones was used by two hardy souls who attempted to alleviate some of the crowding in the larger sleeping tent. The remaining tent contained two buckets reserved for "solid waste collection" (Loo, Loo, Skip to my Loo)! The first morning we awoke to fog and rain inside the sleeping tent as a result of the warm moisture in our breath condensing on the inside skin of the tents. Subsequently, the sleeping bags always felt a bit damp on the outside .



Similar picture to the one above after the first good snow storm. Significantly deeper.

We had one Liquid Propane powered heater. It was placed just inside the door of the operating tent. It helped some but did not alleviate the constant chill. I tried wearing gloves, but quickly abandoned that idea. We used NlMM+ for logging. I am a "seek and ye shall find" typist with "lazy thumb syndrome." As such, with our laptop logging computers having the mouse pad just below the space bar, I generated my own source of frustration most other team members did not experience. While entering calls into the computer, my lazy thumbs would accidentally tap the mouse pad and if the pointer was hovering over an input option, like band or mode change or active function key, I would inadvertently affect that 'command'. If it kicked me into a digital mode, I had to reboot the computer to get back on the proper band/mode! Initially I blamed it on other things and very vociferously expressed my displeasure much to my teammates chagrin! I have used N1MM for years and have never had that problem before. Guess my lazy thumbs get lazier when they get cold, and I get old?!

While on the subject of chill, I was cold from the time we boarded the ship in Port Stanley until we returned to Port Stanley five weeks later. The temperatures were not really that low, but they were constant and supplementary heat was lacking. Ambient air temperatures probably varied between 28 degrees F and 38 degrees F (- 2.2 to+3.3 C), but there was almost always a constant wind of about 20 mph (32 kph) with gusts in the 40+ mph (64 + kph) range.

(cont. on next page)

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

They did not turn the heat on aboard the ship. That was for two reasons, I am sure.

1) Seasick residue, unattended, will ferment and become quite noxious and pernicious. Cooler temps retarded fermentation and the subsequent odoriferous environmental impact!

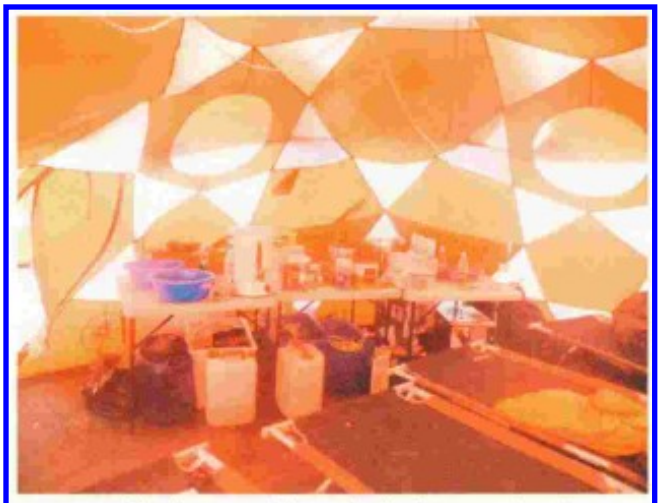
2) The ship had limited space. The only 'warm' place, besides the off-limits engine room, would be our bunks. People in their bunks are out of the way!

The first was expressed directly by Nigel Jolly, the owner of the Braveheart; the second is a personal deduction.

On the 19th we had our first on-island snow and winds started picking up. It snowed again overnight of the 20th with about 3/4-inch accumulation and increasing wind speeds - of both the steady component and the gust component. Each day brought repairs and modifications to the antenna farm, due either to weather dam- age, the penguins waddling through the area and subsequently displacing the radials or our constant effort to make things better. Perhaps it is my dimming mental capacity, but each day seemed to also bring more weather challenges - wind peaks a bit stronger and a little more accumulation during the snow showers.

Jay, K4ZLE, your favorite pirate, at play.
Five layers of clothing and still cold!!
Notice the gloves between the laptop and K3.
Maybe it was time for QLF !

On our last night of operating, Jan. 24th, we had winds gusting to greater than 60 knots (69 mph, 111 kph). Directly from the ship's log we read, "Conditions turned to custard." Both the operating and sleeping tents took a real beating in these gale force blows and although not as devastating, conditions were somewhat reminiscent of the YouTube posted film of the 1992 VP8SSI operation. We spent a large part of two nights repairing tent guys and pushing back from the inside against the forces on the outside.



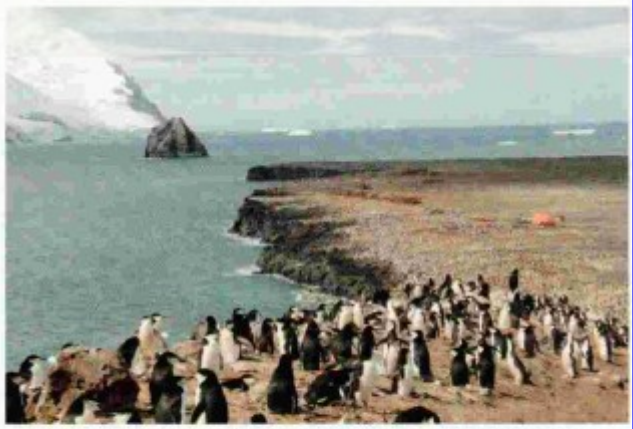
Sleeping tent with cots in the foreground and
the "kitchen" in the background.
Everything inside appeared "red" as a result of the tents color.

On Jan. 25th, Nigel Jolly, the Braveheart owner decided that we had to evacuate the island. Here is where we thought we might be leaving more than our footprints. During the overnight storm of the 24th the Braveheart had gone outside the caldera to seek shelter on the leeward side of the island.

(cont. on next page)

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

When they returned, they discovered that an ice floe threatened to block the entrance to the area between Thule and Cook Islands. If that happened and the ship were to reenter and remain within that area, it could have been stuck until the ice melted! The floe was huge. It extended as far as one could see in all directions. The ship radioed the onshore team and told them to gather only what they could carry of their personal gear and evacuate immediately. Once all were aboard, we sailed outside the caldera and spent that night anchored off the leeward side of the island.



The operating site viewed from the mountain looking toward the entrance that threatened to be blocked by the ice flow. Cook island is in the distance. This picture gives a good perspective to the cliffs and the penguin population.

In retrospect, while we were initially concerned that we might have to leave thousands of dollars' worth of equipment there, that was not a likely outcome. We may have had to wait a few days before we could get back on the island, but the probability was quite high we would clear our stuff from S. Sandwich. However, if the wait were too long it could have jeopardized our operation from S. Georgia, to the point of having to cancel that leg entirely.

Fortunately, the winds and sea currents took the ice floe away from the island overnight and we spent from 0430 to 1400 local time on the 26th retrieving all equipment. We were underway for South Georgia by 1700 local.

South Georgia

As Jonah endured in the belly of the fish for three days, so were we in the belly of the Braveheart for the three-day sail from South Sandwich to South Georgia. At 0600 local, 29 January we arrived at Husvik Bay ready to endure and conquer the challenges of another operation within the bounds of the Furious Fifties. Once again, the weather for set up was ideal.

Thule Is. of the South Sandwich group is beautiful, but Husvik Bay is beautiful in a different way. Thule was almost all snow covered with visible glaciers except for the area where we set up. That area, when not covered in snow, was covered in seals, penguins awash in their rookery and penguin pooh.

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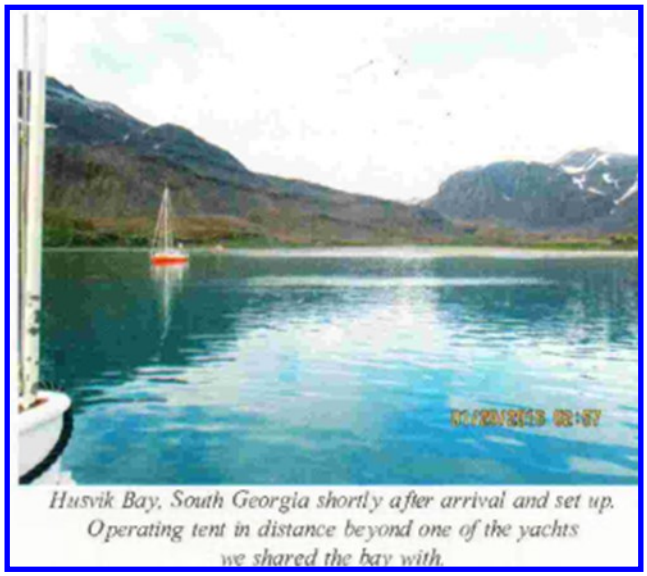

Husvik Bay, South Georgia shortly after arrival and set up. Operating tent in distance beyond one of the yachts we shared the bay with.

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

The "soil" was black and when the temperature got above freezing there was a definite odor about. Access from sea to land where we set up was not obtained by running a landing craft upon the beach. Instead, we had a 20- 30 foot cliff to traverse. (As mentioned previously in regard to the immersion suit landing, there are beach areas on Thule, but we decided that logistics were simpler via the nearer cliff vs. the more distant beach.) Husvik, on the other hand, has a zodiac accessible beach within a short distance of where we planned to operate. During the peak summer period, like when we were there, there are no visible snow-covered glaciers, the area behind the beach reminded me somewhat of a river delta, with small streams meandering through a green carpeted bog. There were seals and penguins, but different breeds than on Thule and the seals were more abundant and aggressive. While the exposed land mass contained its share of animal droppings, the composition was not 100 percent done in dung. The surrounding mountain sides presented a kaleidoscope of subtle shades of gray, brown and reddish tinted rock shards accentuated by white snow -covered peaks.

Axel, DL6KVA at the grave site of Sir Ernest Shackleton at Grytviken, South Georgia

Very near to where we set up was the old Husvik Bay whale processing plant, a rescue hut and another house, "the manager's hut", where a couple from the Falklands stay when they are there doing environmental observations. The Penguin Microlite team operated from that house in 2002. For us it was off limits. We had no visitors while at Thule, but there were three sail boats anchored in Husvik Bay during our short foray to South Georgia. One night we had a "barbie" on board the Braveheart where those crews were our guests. Cruise ships frequent South Georgia but not South Sandwich. We saw one in the mouth of the bay on January 31st. From the previous description you would think that South Georgia is generally considered to be more hospitable than South Sandwich. It really is but looks can be deceiving. Mother Nature is a fickle, fiendish lady!

Since landings on South Georgia were so much more genteel than on South Sandwich, we slept on the ship instead of on shore. Station set up mirrored South Sandwich - 6 stations, same basic antennas, but with more physical separation. With 6 stations and 13 operators, we settled on 12-hour shifts; six on days, 7 on nights. We took breaks whenever band conditions merited, or weather conditions forced shutting down stations.

At shift change, antennas were typically checked and repaired, and radials were straightened. While the beams performed very well at the low heights, about 2 0 - 25 feet (6 - 7.6 m), we constantly had them blowing over or the push up poles bending amidships. Temperatures were generally warmer on South Georgia, but winds seemed to funnel up and down the mountains more rigorously than we experienced on South Sandwich.

(cont. on next page)

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

Perhaps this was due to greater diurnal temperature variations on South Georgia coupled with the closer proximity to the mountains. Regardless, the winds were a definite factor.

As a quick aside, on one of the more pleasant days, I forfeited my sleep time and hiked up the mountains behind us to experience a bird's eye view of the valley and bay below. The hike, in relatively warm weather compared to what Shackelton experienced more than a century before, gave me a deeper appreciation for what they endured and conquered! I did not even come close to cresting the mountain passes but I was huffing and puffing and blowing so much wind when I did reach the crest that I needed to reef my sails! I came away with a deeper appreciation for the beauty and harmony of this remote region of creation!

A seal on South Georgia.
He may look cute, but don't get too close.

Harmony can become disharmony and so it was to be. We arrived in Husvik Bay early morning of 29 January. Again, from the ship's log I quote an entry. This one is from February 1st. "Blowing like hell." Wind gusts were 60 knots (69 mph, 111 kph). Overnight the ship drug anchor 50 meters (close to 165 feet). The day started out clear but by the afternoon it was overcast with light rain. By the next day, February 3rd, we had snow midday and gusts in the 40-knot range. On the 4th, the ship's log recorded nice weather. Winds were almost a steady 25 knots with moderate gusts from then until the 6th when we had winds up to 50 - 60 knots and snow showers.

Overnight of the 7th the winds picked up to over 85 knots in snow. That equates to almost 100 mph or 160 kph! On the Beaufort scale anything over 73 mph, 118 kph or 64 knots, is considered Force 12- hurricane force. I stepped outside the tent to check on a couple of teammates who went out earlier to examine the status of our antennas and tent guys and was literally blown about a foot and a half (over a meter) into a tent guy stake.

Fortunately, all I did was rip my rain trousers. The tent was on the verge of total collapse and was being held up inside by us leaning into the sides and holding on to whatever surface we could grip.

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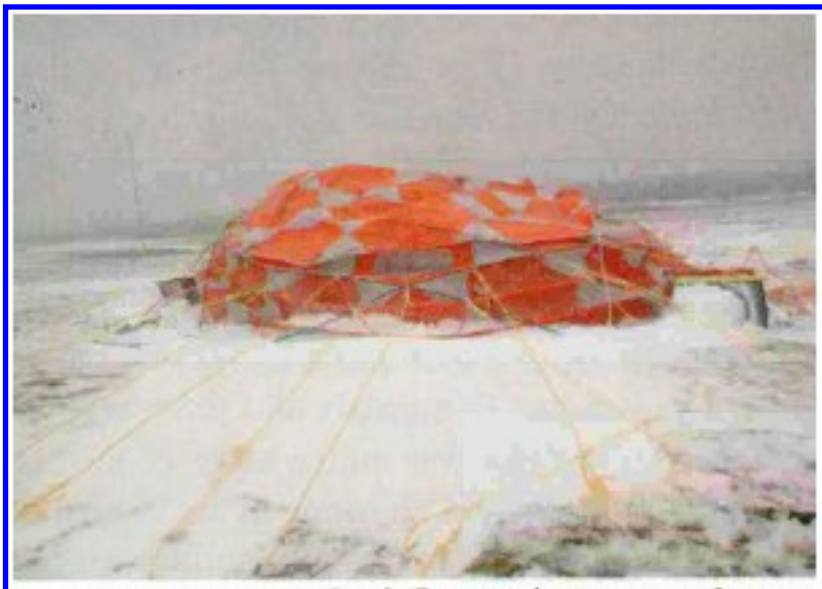
South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)



Operating tent on South Georgia the morning after "The Big Blow."

The outside tent stays, hollow aluminum tubing with elastic keepers, were stretching and contracting so much that where they crisscrossed each other they sounded like two dozen percussionists randomly smacking their drumsticks together. The tent itself sounded like an unfettered sail, snapping and flapping unrestrained except for where we were holding it inside.

Finally, somewhere around 0130 early morning of the 8th, we decided to 'abandon ship'. No longer able to operate, we took the equipment off the tabletops and placed it under them for safety. With no way to get to the Braveheart and the manager's hut and other hut off limits, we hunkered down as best we could in the flattened, flapping, cold tent for the wild ride of the night.

When relieved the next morning we found that one of the sailing yachts sharing the harbor with us had been blown aground and was noticeably listing to one side. By 1030 the tent had almost totally collapsed, and the decision was made to vacate the area. When I surveyed the situation before we struck camp, it appeared the only antennas not damaged or totally destroyed were the 40-meter four square and the 30-meter vertical. Everything else was bent, broken or bent AND broken on the ground. Can you imagine that people at home pay money to go to amusement park for "rides" like this?

The wild ride was not totally behind us. From there we sailed back to Port Stanley. Overnight on the 9th the ship had to slow down from a normal cruising speed of 8 - 9 knots to 3 .5 knots because of 'lumpy' seas! Because of the once per week flight schedule, we ended up spending a week in the Falklands and some of the team continued the adventure as VP8IDX or used their own VP8 calls; which one can acquire as a life time license for only 20 quid. I received the call, VP8USA, but only made a single baptismal QSO with that call.

I shall not go into minute detail, but the adventure did not end with arrival at Stanley. Some of us explored the area, enjoyed the relative comforts of civilization, learned details of the 1982 conflict and spent some time regaining our land legs and finding that weight that was lost from various aspects of the previous 5 weeks!

However, Fiendish Mother Nature was not finished with us yet. Our plane was delayed leaving the Falklands by more than 3 hours because of high winds.

(cont. on next page)

South Sandwich (VP8STI) & South Shetland (VP8SGI) (cont.)

This caused a cascade of events which meant that most of us arrived home at least a day later than previously planned. And for me and some others, our luggage did not arrive for up to 2 days after that!

DXpeditions like this do not just happen. Those of us who were on the operating team are just the tip of the iceberg. These trips take years of planning and consulting with various agencies and with those who have gone before. We are grateful to those members of previous expeditions who shared their knowledge either directly or through previous written articles, presentations and films. Because they conducted them- selves properly, we had the opportunity to do like-wise. We had a lot of help from the Falkland ham community before and after the operation. I would be totally remiss if I did not compliment the crew of the RIV Braveheart. When you sail with them, they become part of your team. They hauled and bawled right along with us. No job was too large nor too small. To paraphrase a well-known US insurance agency ad: "You are in good hands with the Braveheart.'

After the planning comes the doing. While the onsite team operates, there are those who support in other ways. One example is the folks who helped configure and test our equipment and then pack it into the container that was shipped beforehand to New Zealand. Another example would be the pilot stations who provided near real time feedback from you. Paul's wife, Danielle, kept our "families" informed of our happenings via group email postings. A DXPedition does not end with the last QSO being post- ed in the log. For the QSL team, it then really just starts to ramp up. As I said, the operating team is just the tip of the iceberg. We may be the ones you see, but the ones you don't see are just as important.

Our prime objective was to put as many of you as possible in our logs to provide either an all-time new one or needed band fills for your logs. As a personal bonus I add this parting thought: George Mallory of Mt. Everest fame, mentioned earlier in this tome, said the following in a 1921letter to his wife about the Himalayans, "One comes to bless the absolute bareness feeling that here is a pure beauty of form, a kind of ultimate harmony." That was also my added "ah-ha" from this trip. Even amongst the extremes of climate and geography, there is a harmony and beauty of nature, of the cycle of life, in these distant locales that I am grateful for having the pesonal opportunity to experience, endure and conquer and to do so with such an intrepid group of adventurers.

Just a bit of trivia. Where are the (North) Sandwich Islands? A - The Hawaiian Islands. It is also a former name of the uninhabited atoll Manuae in the Cook Islands and a former name of Efate Island in the Republic of Vanuatu. All were named by Captain James Cook FRS, RN. (7 Noy 1 728-14 Feb 1779).

https://www.youtube.com/watch?v=BQKHnxL5Fnk The crew from the Braveheart did assist the yacht's crew (husband and wife team) and we subsequently learned they moved their vessel around to Grytviken for minor hull patching to get them where they could sail on and receive permanent repairs.

DX Friends—Our contributors and readers from across the globe weigh in on various topics...

My friends. I hope you are all doing well and things are starting to open up for you. I am back again with another question for the Southwest Oh DX association. As we say, it has been tough sledding the past 18 months and we have all had to change our approach, processes, and techniques.

My question for this edition of the newsletter is: **What are you planning for 2022?**

I know that there are still huge questions to be answered about COVID and its' variations, but the answer can be anything from trying a new mode or a new band, building a piece of equipment, a new antenna, participating in a contest you have never been in or even changing your operating habits.

Hope to work you in 22! Gud Hunting and Thanks in advance for your answers!

For 2022 pretty much as in preceding years, i.e., get on the air; work some of the more laid-back contests (SKCC, NAQCC, FISTS) and special event (especially 13 Colonies) stations; continue to write for and edit the *K9YA Telegraph*; build some gear; read and review some books; maintain antennas; attend ham radio gatherings; as VE, proctor some licensing exams; and anticipate a (hopefully) ever-improving solar cycle.

All the best to you and yours this holiday season and the New Year.

73, - Philip, K9PL

A-1 Op - FISTS #6753 - SKCC #258T - NAQCC #2227 - CWops #308 - CTC #2206 - JA A-1 #509

hello Bill!

Taking part in QSO Parties (as many as possible) and finish my US County Award.

regards,

Laci OM2VL

Dear Bill,

I have no plans to change my operating habits in 2022. I shall continue daylight cw operation on 15m and on 10m when I find it open.

I hope to complete construction of a 2 element yagi for 12m.

73 Brian 9J2BO

DX Friends *(cont.)*

Hi Bill.

2022 plans at HK3C:

new operating desk
second transceiver
improve operating skill
beat previous contest scores
have more fun

Stay well, Merry Christmas/HNY, and 73, Bill. 😊

John HK3C

Hi Bill,

I've been thinking about the magic band for quite some time, I just received a very low noise 6M LNA from HA8ET's son. I have in mind building a G0KSC 5 elements LFA beam and a 600 watt Linear amplifier, probably from a pallet amplifier using a pair of MRF300 LDMOS transistor. This is a long term project, meanwhile, I wish you all a Merry Xmas and a healthy 2022.

73s

Pat—3B8FA

Hi Bill,

I am sorry for a later response, but really been very busy at work and not much time to play radio plus the props have been really bad down here. I am looking into do some 6M EME, so I guess this will be next project. We have two 6 element 6M beams to put back up soon, when I get the time .

There are quite a few other things I would like to get into the hobby but time is the problem for me at the moment. That's it in a nut shell. Sorry I don't have more to give you .

73

Regards **Chris 9Y4D**

Hey, Bill!

I don't have any plans for the incoming 2022 year. I would like to stay healthy, without the corona, and like that, I will try to stay as active as I was in the last year. I was very active in the contests and also out of it. I reached 75 000 QSO's this year (545 000 overall). I hope all will be fine and I hope to hear many of you in 2022 again. I wish all of you Merry Xmas and a Happy New year. Best of luck Bill, regards!

73 es DX de **Janez S51DX** - s51dx@yahoo.com & URL : http://www.qsl.net/s51dx/

(Cont on Next Page)

DX Friends *(cont.)*

Hi Bill,

Seasons greetings to you and yours! Again , as you said it is very covid dependent. But, all going well I will be taking part in Club activities (www.sbrc.ie) as in IOTA contest, few local EI contests and field days. I am also flat out trying to complete my DXCC on six meters. Of course, there is always something that will go wrong or fail so I presume that I will end up traipsing around outside trying to sort antenna issues!

Considering buying a new (second hand) amp, have to see how the finances are! All in all, its probably going to be the same as many years as long as covid doesn't dictate otherwise. Time will tell. So, all the best to your readers from the Emerald Isle.

73 de **EI8IU Brian.**

Hi Bill

Although it sounds like an easy question I find it hard to answer at this time.

As you probably remember, I have no antennas at home and that means I have to travel with my radio to find opportunities to get active. Corona has managed part of my travel activity for the last few years, but now, fortunately, there are usable opportunities again. I have just been to Ireland where I participated in the CQWW CW Contest with the call sign EI7EE. Gerard EI5KF had invited me to use the Avondhu club's radio station EI1E and it was a really good experience. I used Elecraft K3 100 Watt, as I usually do and then I had super antennas for all bands so it was actually only at 10 meters I came to lack contacts. The result can be seen at https://oz2i.dk/sh5/2021-CQWW-EI7EE/

My plans for next year are pretty sparse so far. I am preparing to participate in the ARRL DX CW contest in February where I hope to be active from the Azores. However, there are no fixed appointments yet so I have to wait for a response from the sponsors I have sent out.

I would like to take part in the IOTA contest with Gerard from one of the Irish islands and I would like to take part in the WAEDC from one of the Caribbean islands.

— **OZ2i – Henning Andresen**

(Cont. on Next Page)

DX Friends *(cont.)*

Hi Bill,

During this winter I will be busy testing 3Y0J antennas and masts 0a my vacation home in upstate NY, the weather is very rough (high winds and low temperatures) and so it is the perfect environment to test antennas for Bouvet.

Our antenna sponsor WiMo (http://www.wimo.com) as well as our mast sponsor SILCOM (http://www.silcom-ant.gr) are providing their products for us to test.

During the winter contest season I will be testing these antennas in pileups. I will also figure out ways to get the antennas setup quickly and efficiently to help us get these installed faster on Bouvet.

Apart from 3Y0J DXpedition to Bouvet, there are a few other DXpeditions in the pipeline. But unfortunately they all depend if the borders will be open after the Holiday Season.

Let's stay in touch!

Happy Holidays to you and your family!

73, **Adrian—KO8SCA**

Hello Bill.

Yes very well , thank you but I am very occupied with my job. For the question : What are you planning for 2022 ? The situation with Covid 19 in France actually is very difficult , we had planned to go Corsica in April but we still haven't taken our plane tickets. In spring I will install a motor to mount my tower cart electrically. Actually, I made an LWA (53 m at 12M) for local QSO and added a third video card on my PC for the Icom 7300 Panadapter. I control the SDR from my screen. This does not work properly yet.
Here it is Bill, there is always something to improve in an amateur station.
73 take care and I wish to you and yours a Merry Christmas.

F8PDR—Ben

Hello

I hope and pray that you are all well in health and mind. In the new year, I hope to master F4 Satellite, improve my morse, but my main goal is to enjoy my hobby more than I did in 2021!

Kind regards,

Doug Goodison G0LUH

(cont. on next page)

The "No-Excuses" 160 Meter Vertical

This is part III of the article by John Miller, K6MM. You can reach John at k6mm@arrl.net.

This article originally appeared in QST, June 2009. The entire article is available on John's website, www.k6mm.com. This was reprinted with the permission of John.

The first part of this article is the final section of Johns original article. The second section describes the tweaks that I have made and the results to date. I did not get this up until 12/16. The previous 3 days were cool and partly sunny. Of course, I waited until the weather changed, but that is what we are supposed to do with antennas, right?

John and I will be presenting on this antenna at the QSOToday Expo in March.

ON THE AIR: So how does this Helically Wound Vertical for 160 meters perform? From the West coast, it's a solid performer throughout the North America. I have worked all 50 states, Canada, and Mexico during the last year with it, almost all confirmed via LoTW. I was awarded First Place, Single Operator, Low Power for the Santa Clara Valley section in the 2007 ARRL 160 Meter contest. In the 2009 CQWW 160 Meter contest, I worked 46 states and 7 countries using 600 watts in just a few hours of operating. For DX, with limited operating time, I have worked 30 countries. Overall, this antenna plays well to the Far East, South Pacific, Eastern Russia, Caribbean and Central/South America. Europe is the most difficult region to reach from my location, but that's generally true for most West coast stations.

Am I the loudest signal on the band? No. Can I compete in pileups with folks having better antennas or higher power? No. But am I having fun on Topband using a homebrew antenna that generates memorable QSOs? You bet!

There are some obvious improvements that can be made to increase overall on-the-air performance with this type of antenna. They include, among others:

(cont. on next page)

DX Friends *(cont.)*

Good morning Bill,

I have nothing new planned for 2022 . I decided to scrap the idea of putting up the other wire antenna for HF (80 to 10) the current antenna works also because of space.

I have a 170 countries confirmed and nearly 3 bands on a 100 so dx is my goal and getting to 200 countries and maybe in 50 years to 300 lol……

You and all hams must have a Blessed Christmas and a Wonderful 2022

73 de **Zs2ec Theunis**

The "No-Excuses" 160 Meter Vertical *(cont.)*

- ◊ Installing more ground radials in a full 360-degree pattern
- ◊ Using a remote tuner at the antenna feed point to reduce coax losses
- ◊ Running legal-limit power
- ◊ Adding beverage antennas for improved reception

Summary— A Helically Wound Vertical is not "the" perfect antenna for 160 meters, but for a small lot, or where CC&R's are strictly enforced, this easy-to-build vertical is a good alternative to an inverted-L or dipole. During the last year, I have helped other hams around the country get on the air with this HWV design for 160 meters.[11]

This unsolicited comment from Armand Sun, K6IP, is typical of the feedback I've received:

> "I finally put up the HWV antenna and I'm happy to report that it works FB. Mine has two feed options: ladder-line or coax. I'm currently feeding with ladder-line and one elevated radial from leftover wire on the spool and the results are excellent! It takes a KW from 1.8 - 1.9 MHz I painted mine olive drab with black #14 wire so it's pretty stealthy. I would imagine brown would be good too. Sometimes the traditional designs just don't blend well with the existing antenna farm. A Helically Wound Vertical is a good option for small lots or for those with antenna restrictions. Thanks for the design. It was fun to build and just what I needed for a Topband solution."[12]

So, no more excuses for Armand -- or Me. Now how about you?

John Miller, K6MM — Originally Published in QST, June 2009, pages 32-36.

(All Footnotes at the end)

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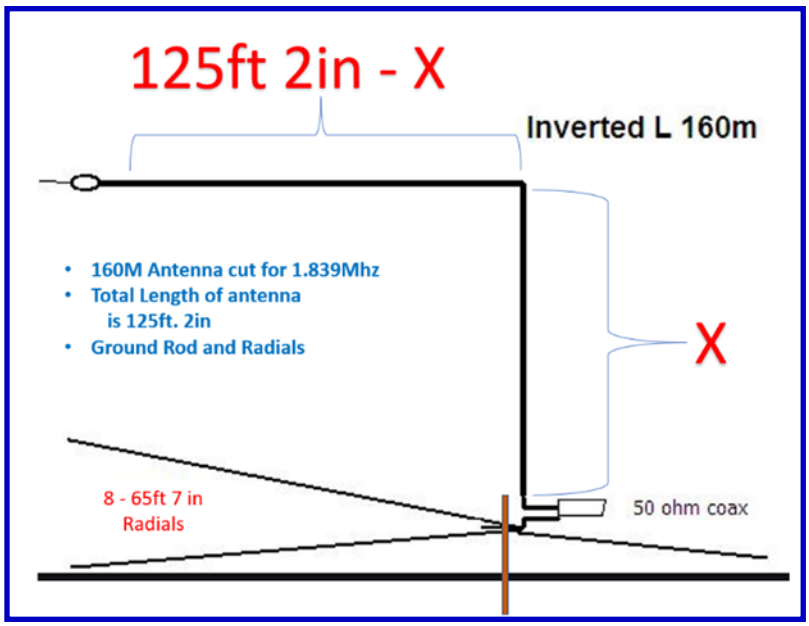
The "No-Excuses" 160 Meter Vertical *(cont.)*

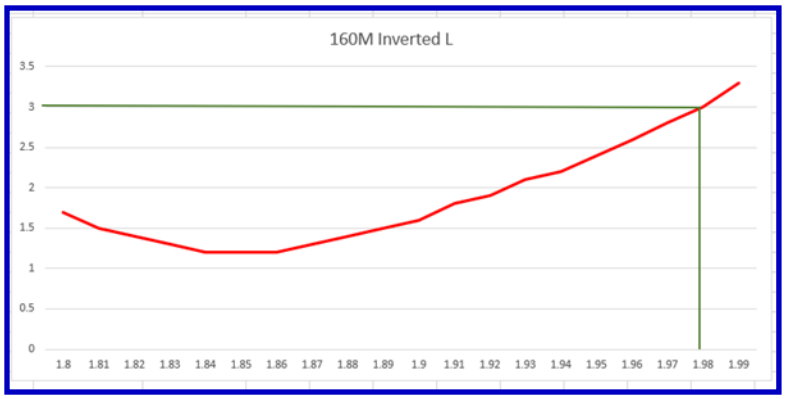
The information in this section is from AJ8B.



I originally had an inverted "L" with the dimensions shown in the drawing. This worked well and certainly got me on to 160M, but I felt that the performance was lacking. I was only able to get the vertical portion up about 40 feet which meant that the long side was 85 feet long.

This was a simple installation and I was able to keep it up from November 1st to April 1st. However, at some point, the grass needs to be cut!

The SWR for the Inverted L is shown in the next diagram. I know that SWR is a complex measurement and that there are many factors that affect it and many opinions about how important it is. However, since I was pruning the length of the antenna and had to use some figure of merit, I chose an SWR of 3. This would allow me to use as much of the antenna as possible without a tuner. The SWR diagram shows an SWR of less than 3 up to 1.9M. Not too bad.



With this arrangement, I worked 29 entities and 48 states, mostly on FT8. When I read Johns article, it struck me that it would be an interesting test to compare the "short" inverted "L" against the helically wound vertical of 256 feet. I decided to make Johns vertical.

I already had a 500' roll of #14 wire so I started to wrap it after painting the PVC and fitting the sections together. I am not the most coordinated person and have very large hands which make fumbling around with spools of wire etc. a challenge. The wire kept sliding and would bunch up in some places and be spaced out too much in other.

(cont. on next page)

The "No-Excuses" 160 Meter Vertical *(cont.)*

I enlisted the help of my coworker, Jeremy (a non-ham for now), and he designed and built a wire guide that could be attached to the PVC pipe, keep the wire consistently spaced, and keep it in place. He used his 3D printer to print the wire guide as shown in the picture. The length is approximately 7". As the mast is 24.5' tall, this translates in to 42 of these wire guides. The latest "version" of the wire guide is a bit longer and only has one mounting hole in the center, not at the ends. I used a very small screw to hold the guide on since the tension of the wire will really do that job!

The picture shows a mid-section wrapped with the wire guides in place. I did use electrical tape every few feet as insurance. Once I dropped the feed spool and achieved the "slinky" effect. The tape helped to keep this under control.

The wire guides (and screws) added about a pound and a half to the overall weight and help me to control the wrapping.

I did expand the ground plane under the vertical by using a 160M "kit" from Joe, W8GEX. Joe had this left over from a DXPedition and graciously lent it to me. He had the DXEngineering ground plate and pre-cut and nicely stored radials. Took me no time at all to deploy 16 radials. Thanks Joe!

Using the same criteria that I used for the Inverted "L", I took SWR readings across the 160M band without a tuner. The results are shown in the graph. I can use this antenna without a tuner from 1.8M to 1.9M.

My results, after a few days, have been very good. I have worked 26 states and 10 entities. The map shows the states, in orange, that I worked the first night using FT8 and CW. The second night is represented in Yellow. Of course, propagation has a lot to do with this and it is only a sample of a few days, but I am optimistic. It is noisier than the "L", but signals are several S-units louder.

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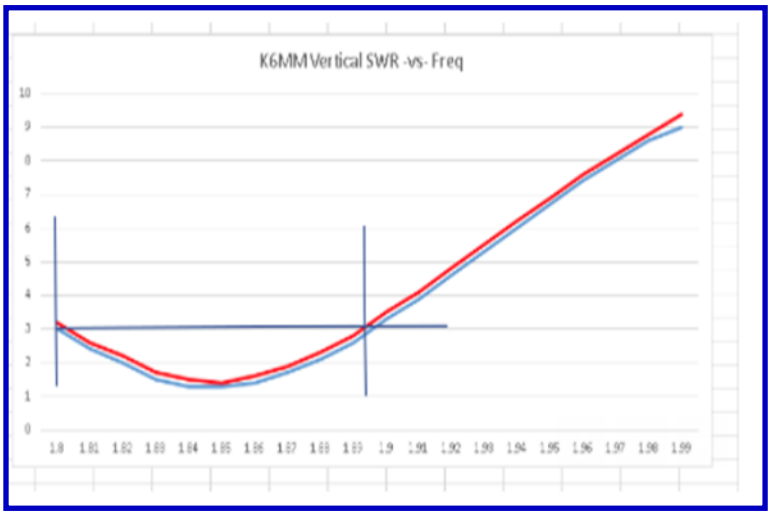
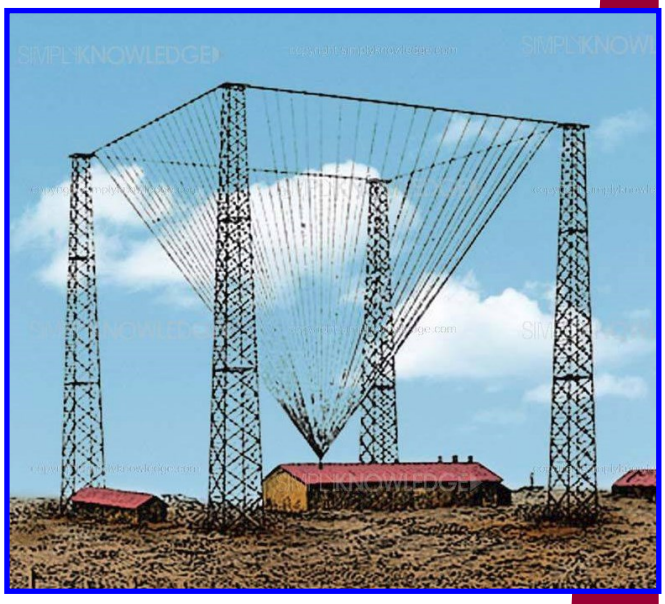
The "No-Excuses" 160 Meter Vertical *(cont.)*



K6MM and I will be giving a presentation on the Helically wound vertical at the QSO Today Ham Expo in March. I will have updated data by then. There have been lots of hams who have built this with quite a bit of success. Check out Johns website for more details.

Notes from K6MM Article

1 G. Ellingson, WA0WHE. "A Helically Wound Vertical Antenna For The 75-Meter Band," *QST*, Jan1972, page 32.
2 J. Swinden, W5JCK. (a) http://w5jck.com/broomstick_antenna/80m_helical_antenna.html (b) http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=19786
3 J. Moraski, "The Rubber Duckie 160 Meter Antenna", *HF Antenna Book*, published by CQ Magazine, edited by Bill Orr, W6SAI, 1996, p. 615.
4 F. Lee, G3YCC. "A Practical Antenna for 160 Metres" http://www.zerobeat.net/g3ycc/ant1.htm
5 A. Wells, G4ERZ. http://topband.blog.cz/0612/a-practical-antenna-for-160m-by-alan-g4erz
6 P. Sidwell, M0VEY. http://uk.groups.yahoo.com/group/topband-helical/
7 *The ARRL Antenna Book*, 21st Edition, 2007, p. 6-38.
8 R.J. Edwards, G4FGQ. (a) "Model and Predict Helically Wound Vertical Antennas". http://www.smeter.net/antennas/helical-modeling.php August 2, 1997; (b) "Very Short, Helically Wound, Monopole Antennas", http://www.smeter.net/antennas/short-helical.php, May 19, 2006
9 I am especially grateful to Jon Sims, N7ON, for sharing his ideas and experiences with me. J. Sims, N7ON – Personal communications, January 2006.
10 Gorilla Tape. http://www.gorillaglue.com/tapes.aspx
11 A downloadable construction manual can be downloaded from: http://k6mm.com/antennas/160M.pdf
12 A Sun, K6IP. Email communication, January 29, 2009. Quoted with permission. (cont. on next page)



Interview with PC2F— Frans

I had an excellent email exchange with Frans immediately after working him regarding the exchange of QSL cards. I am also a kindred QSL spirit so we hit it off right away. He kindly agreed to answer a few questions. Don't hesitate to email Frans for a schedule.

AJ8B: How did you first get interested in amateur radio?
PC2F: I started with CB 27 MHz radio as a young boy 15-16 years old. (1975) This was in the seventies in the Netherlands still illegal. I worked with a Super Panter 40 channel SSB radio and a GPA 27 antenna (I still own these items hi). In those days I heard about SWL radio stations, Radio Moscow, Voice of Amerika etc. I bought a Yaesu FRG 7 for SWLing and became a member of both HAM radio clubs; VERON and VRZA. I began sending SWL reports via QSL cards via our Dutch QSL bureau. For that used the given SWL numbers by our radio clubs. I try to send a copy of my QSL cards CB (call sign Pioneer) and SWL QSL cards.

In the days after I began studying for the radio exams and in 1979, I got my call sign PE1IWS (C class license) In those days only VHF, UHF and SHF above 144MHz was aloud. For HF operating we had to do a CW exam.

Many years later this license was changed and I could also use the HF bands. In 1997 i changed my given call sign in PC2F.

5 years ago a made my USA exams in Germany during a international radio meeting (Friedrichshaven) and now I own also the extra USA class with call sign W2PCF.

For the last 9 years, I have been the chairman of our local VERON region with 200 members. I love to activate special event calls; examples PA375KL, PC100AR etc.

AJ8B: Do you have a favorite band or mode?
PC2F: I love all bands, but 6m the WARC bands i like most.
But on VHF i like Sporadic E also FT8 and meteor scatter 6, 4 and 2m.

AJ8B: What time of day and days do you like to operate?
PC2F: During the weeks times the evenings depending the conditions. And in the weekends i like to compete in contest running mostly QRP 5-10w.

(cont. on next page)

Interview with PC2F— Frans *(cont.)*

AJ8B: Any secrets to your success?
PC2F: Good listening (SWL experience) and try to be active when the conditions are good. DX clusters help me a lot.

AJ8B: Any tips that you can share?
PC2F: Be patient and listen before calling. And visit club meetings and enjoy other radio friends.

AJ8B: Describe what you are currently using:
PC2F: Elecraft KX3 and a FD4 from Fritzel. Hopefully in 2022 I will use a hexbeam on a new 50-foot antenna tower. I also own a IC7300 and a FT748 used for 2m and 70cm. VHf and UHF 16el Tonna 2m and 21 elYagi 70cm. 58 elYagi 23 cm and for Q100 a 2m disk.

AJ8B: What advice do you have for those of us trying to break pileups to work DX?
PC2F: As I said before be patient and listen well. Watch the DX clusters these give info about conditions. Try a DX-pedition not to work in the first day. The big stations are pushing you away if your equipment (power and antenna) are not very good.

AJ8B: What is your favorite contest?
PC2F: PACC (Dutch contest I run every year in February with other club members under our club call PI4AMF). Sent in your log you will get a nice "vaantje" via postage.
See: https://www.veron.nl/vereniging/commissies-en-werkgroepen/traffic-bureau/hf-contesten/pacc-rules/
But also, the big ARRL, CQWW 48h contest i like.

AJ8B: Any QSLing hints?
PC2F: Look on QRZ.com if the stations still use paper QSL and bureau before writing a QSL-card. If so i also always upload all QSO's on eQSL and LOTW. I also sent sometimes a email with the info from digital QSO's asking for QSing. This helps to shorten the waiting time for paper QSLs via bureau.

AJ8B: What coaching/advice would you give new amateurs?
PC2F: Try to find a buddy, a other amateur how has more experience. Taking and helping a new station is nice to do.

(cont. on next page)

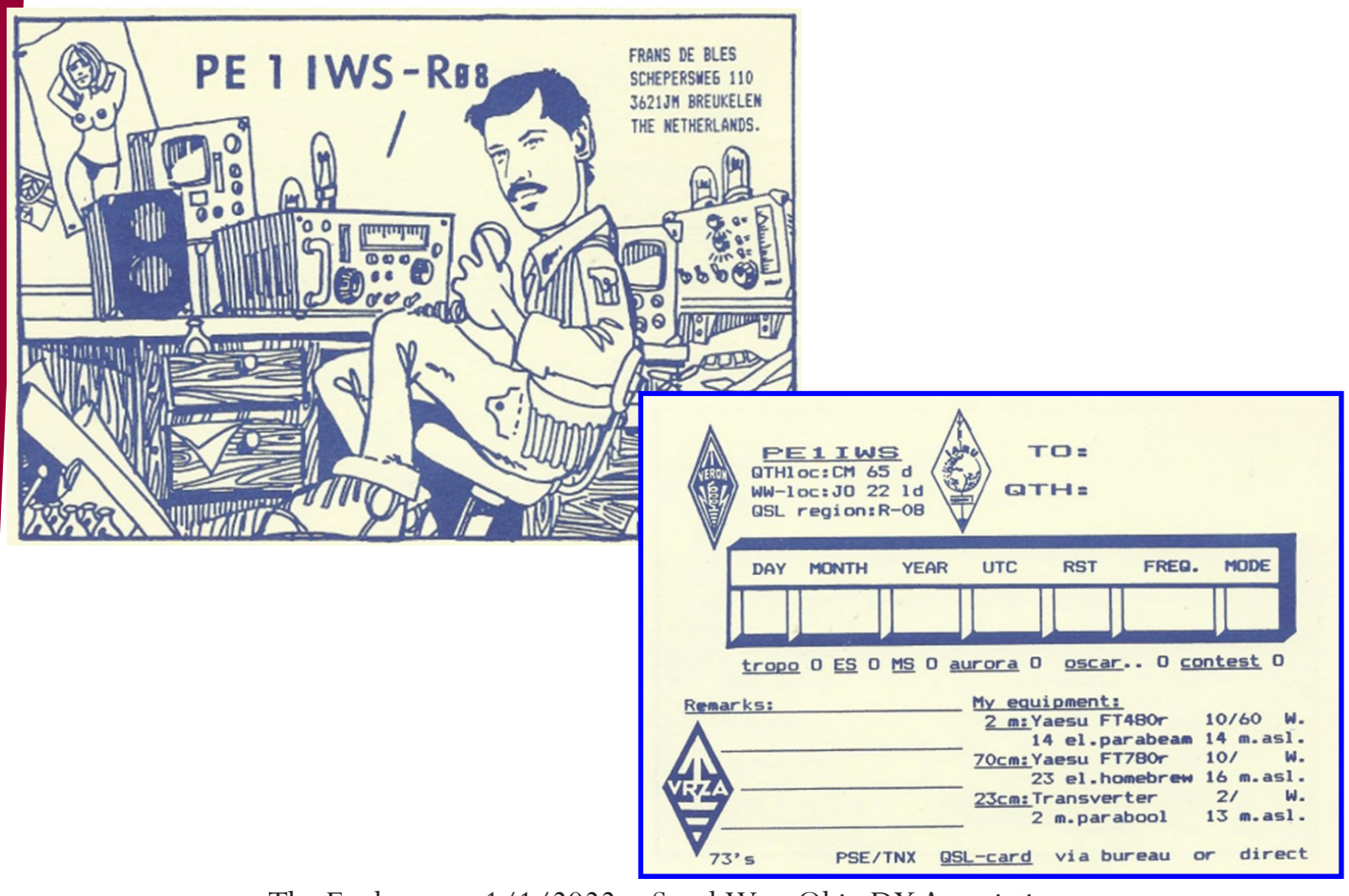
Interview with PC2F— Frans *(cont.)*

AJ8B: If I were to stop by for a visit, what local place would you want us to visit?
PC2F: My city Amersfoort got some middle age buildings and walls. But here in our small country there are many nice things to visit and see. Example our famous Rijks museum with the big painting of Rembrandt van Rhine; de nachtwacht, in Amsterdam. This is about 20 miles away from my city this museum you must see when you visit the Netherlands. But also, Madurodam den Haque, Kinderdijk Windmills, cheese market in Alkmaar and in springtime the tulip fields. Too many to choose from I would say.

AJ8B: What local food would you want me to try?
PC2F: Salt herring with raw onion (not every bodies favorite)
Pancakes, Dutch Gouda cheese and during wintertime potato stamp pots. There are many types of potato based to make or choose from.

AJ8B: Thanks for taking the time to answer my questions. Is there anything you would like to share with us?
PC2F: If you like I can email you my old QSL and the one I have now.

Thanks!!!

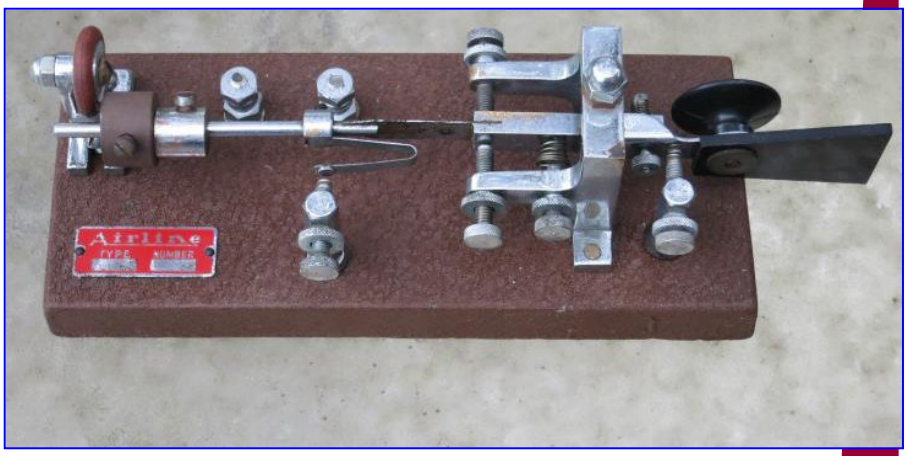


Some Telegraph Key Mysteries by Ed Goss, N3CW

When this article originally appeared in the November 2021 issue of Solid Copy, the CW Operators Club Newsletter, I knew that there were club members who would love this. Thanks to the author, N3CW, and the editor or Solid Copy, Tim, K9WX, for permission to reprint it in our newsletter. This entire newsletter can be found at https://cwops.org/wp-content/uploads/2021/11/solid-copy-2021.11.4.pdf

While one would think that by the year 2021 just about everything that could be known about the telegraph key would be known, and that there would be no such thing as a key mystery. Reality shows that is not the case. This article presents a quick overview of eight historical key mysteries for the reader to consider and help solve. Although all the research conducted by the author on what is shown here will not be presented in this article, the results of that research have only added to the mysteries.

THE MONTGOMERY WARD AIRLINE KEY



The Montgomery Ward Airline key shown here was first described in a K9YA Telegraph newsletter (January 2017), with hopes of someone recognizing the key or being able to provide some details about it. No further information was received, and so the mystery of this key's origin remains. The key obviously looks like an Electric Specialty (ES) device, sometimes called a Cedar Rapids or CR speed key. Adding to the mystery is the "Airline" label. Keys sold by Montgomery Ward typically were name brands, but this key actually has a Wards- branded label on it. Continued detailed searches for any mention of an Airline key have to date not yielded any results, and no collectors contacted have recognized this key.

The key's Airline label shows no evidence of marking ink or mechanical stamping of any numbers or identifying marks. The years when this particular label design appeared on Montgomery Ward products help to estimate the age of the Airline key, with somewhere between 1941 and 1945 as probable years of first fabrication. One possible explanation for the key's existence is that the key is a Montgomery Ward device that was actually produced and sold during the 1940s or early 1950s. Other possibilities include the key being a prototype made from Electric Specialty parts as a result of a business arrangement between Wards and ES, or perhaps the key resulted from parts obtained when ES went out of business. No matter what the explanation for this key, it remains an interesting and rare device that very few collectors are aware of.

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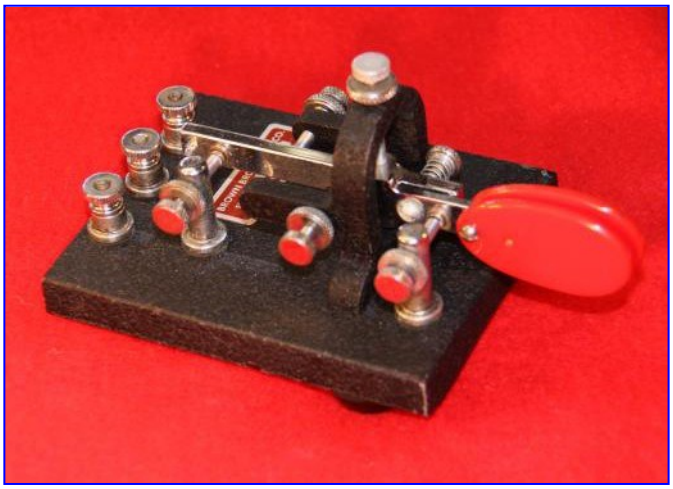
Telegraph Key Mysteries (cont.)



BROWN BROTHERS MODEL ES SINGLE LEVER

BBMC manufactured keys from 1964 through 1979. The BBMC product line consisted almost entirely of ten well-known models. Various experimental and prototype models were presented and discussed in an earlier K9YA Telegraph newsletter (March 2016), but unfortunately no new information was made available after the article's publication.

The Brown Brothers were Edward C. (Ed) Brown, and William F. (Bill) Brown. Bill Brown taught mechanical studies and basic electronics courses in the St. Louis school system. Bill was never a licensed ham; however, Ed was licensed and held the call W0BMM, and enjoyed contesting and working DX. Ed was an engineer who worked for the McDonnell Aircraft Company. The brothers made their keys in Bill's basement shop, located on Southwest Avenue in St. Louis, MO. Bill made the casting equipment and dies, and all of the zinc casting, small part plating, and painting were done in-house. Brown Brothers Machine Company kept very little documentation and whatever paperwork that may have been left when the shop was sold is most likely long gone. According to friend and neighbor Jim Glasscock, W0FF, the Brown Brothers were known to build experimental devices, and to accommodate special requests for friends.

Unlike other BB devices, the Model ES does appear to record a serial number. The number "011" can be faintly seen on the label in the above photo, and another single lever previously owned by the author clearly showed a "014" serial number. These serial numbers would seem to support some claims that at least a dozen of the single-lever devices were made by BB. Also of interest is the bearing frame on the Model ES, which appears to be the same design used on the Model CSA for the bug suspension. Why weren't more of these single-lever keys made, and why were only these models serialized?

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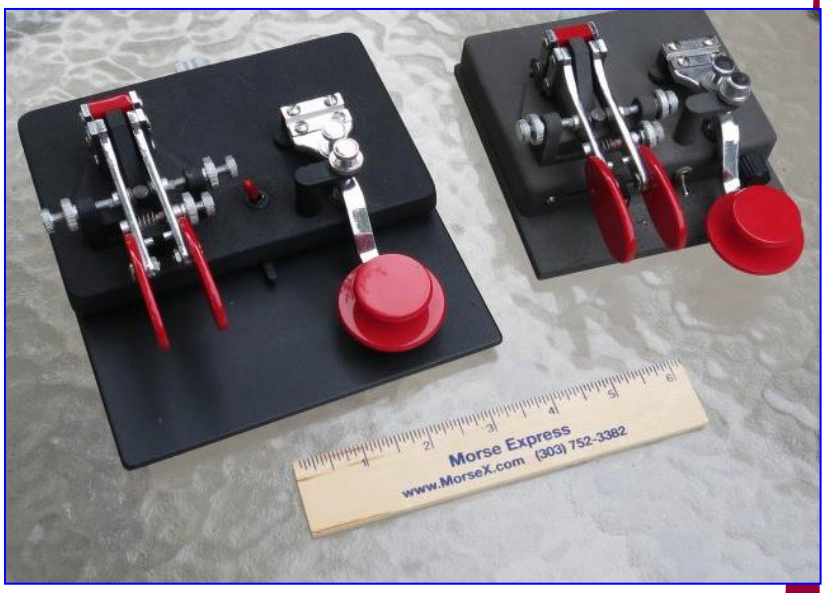
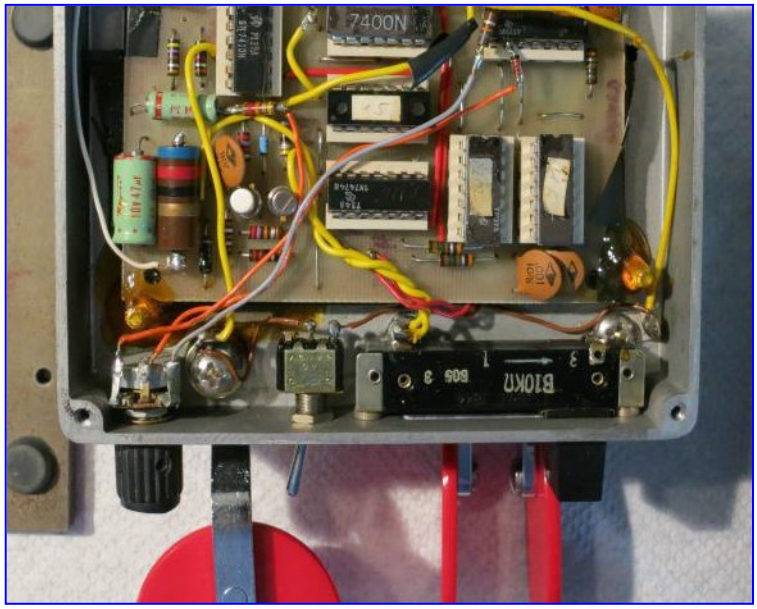
Telegraph Key Mysteries (cont.)

BROWN BROTHERS ELECTRONIC KEYER PROTOTYPES



As seen at right, the only two BBMC keyer prototypes known to exist differ in size and arrangement of controls. Both devices were obtained from different sources over a period of time. These keyers exhibit many construction commonalities, including use of similar controls for speed and sidetone volume, choice of control knobs, use of epoxy for internal parts mounting, similar component wiring techniques, and the choice of the WB4VVF Accukeyer and board for the keyer. It appears that an external speaker was intended to be utilized by using two of the rear panel connector pins. The bases appear to be aluminum, with the cases cast zinc. The devices appear original, with no evidence of any refurbishment or re- painting over time. The keys' mechanical supports, such as the hand key spring pedestals and the BTL-A frames, are identical to those found on standard BB keys.

It is estimated that these keyer prototypes were fabricated somewhere between 1974 and 1976. The existence of a keyer prototype can be easily imagined having resulted from Ed Brown's interest in CW.



The photo at left shows the inside of the smaller of the two keyer prototypes, with sliding control under the dual-lever paddles and the component side of the Accukeyer circuit board visible. Why did these keyers remain relatively unknown and never see production? Do any other BB keyer prototypes exist?

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Telegraph Key Mysteries (cont.)

SPECIAL DEVICES: MODEL 100A KEYER

The Special Devices Model 100A was first described by the author in the May 2016 CW Ops newsletter. For a more technical discussion of this keyer and additional photos refer to that first article. This Model 100A was essentially a total unknown when that May 2016 article appeared. However, a bit of additional background on the keyer and its maker were provided from several newsletter readers, although aspects of the mysterious nature of this keyer's existence remain.

By way of review, several things were immediately intriguing when first examining this keyer. The unit's serial number of 43, the compact size of the keyer, the construction techniques used, and the sophistication of the dual-lever paddle design offered evidence that the Model 100A was not just a quick homebrew project The keyer has similarities to some early 1950s W6OWP compact designs, as well as the 1957 Eldico EE-3 . Stampings on the keyer indicate that it was made by Special Devices Co., of 7 E Franklin Avenue in Barron, WI. Attempts to find any archived historical records for Special Devices yielded no matches.

The Model 100A is a tube-based keyer, using a 6AL5 dual diode, a 6J6 dual triode, and an OB2 regulator. Output keying is via a relay. The dual-lever paddle design, when other integrated keyer mechanisms of the time period were single-lever or converted bugs, makes the Model 100A stand out. The paddle mechanism features elongated aluminum finger pieces, which eliminate the need for separate paddle arms. There are two embedded pivot bearings in each finger piece; the top and bottom adjustment screws are hollow at the ends to allow the operator to set bearing feel. Two pairs of contacts are used, with contact points provided on finger piece standoffs and on the ends of the contact adjustment screws. Locking nuts are included for all adjustments. Paddle return to center is via spring tension, which is also adjustable. Despite the age of this integrated paddle, it is velvety-smooth and consistent in operation. The low moving mass of the mechanism (remember, there are no arms) is far ahead of its time. This is a paddle which is an anachronism and is as pleasant to use as many of today's paddles.

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Telegraph Key Mysteries (cont.)

Keyer fabrication includes use of cable lacing and red paint to mark solder joints and supports the fact that the maker was an experienced assembler. A terminal board is used for resistor, capacitor, and fuse mounting. The mechanical design is well thought-out, as seen by the orientation of components and the holes for ventilation and cooling. There is a hole plug on top of the keyer – not to cover up a drilling mistake, but to provide access to the relay arm tension adjustment inside. The extra effort to mount a recessed toggle switch on the bottom of the keyer is meant to keep a seldom used switch out of the operator's way; this switch appears to change the polarity of the paddles. The "remote" jack on the rear panel allows an external paddle to be connected. There is a front panel toggle switch to the left of the speed knob; this switch provides a "hold" function for transmitter tune-up. The rear panel jack marked "bk.in" is most likely meant to mute the receiver while transmitting – it is wired to the normally closed contacts of the keying relay.

Using the limited information available, it is estimated that the Model 100A may have been produced at some point during the years 1958 through 1961. The estimate is based on introduction of the OB2 tube (1957), beginning widespread usage of commercial dual-lever paddles (approximately 1961), and increasing availability of transistorized keying devices (beginning approximately 1960).

As of 2021, it is known that this keyer was manufactured by Archie Smith, W9DND, and that he was first listed in the 1927 Callbook. John J. Holman (the current holder of W9DND), is a nephew by marriage to Archie Smith. John writes to me that the that the Special Devices keyer business was started by the original W9DND in the early 1950s. John also provided some biographical information on the original W9DND:

"Archie Smith was born on December 13, 1902 and died on November 24, 1995. Archie was known on the radio as Art and was first licensed as 9DXB in 1924. The call W9DND was issued sometime before Jan. 1, 1933. Art operated KDXL, WME, WAM, WLK, and WVT all using CW. He worked on the Great Lakes as a shipboard Radio Operator. Also in the early 40's he worked for the Army in a message center in Chicago. The message center was CW and later RTTY as the war progressed. I remember visiting his house in Barron, Wisconsin. The lower level was filled with things of many wonders for a young boy to get into.

Art owned and operated a business called Special Devices Co. in the early 1950s. He made an electronic key that is now called a keyer. With tube technology he developed it to the point of self-completing dash. It was a 4"w x 4.5"h x 6.5"long metal box with key paddles built onto the front. There was always one of these keyers someplace in his station. Art did most of his operating in the 1970's. He earned an ARRL 60 WPM CW certificate on June 18, 1970. He retired from Dairyland Power Co- operative in 1968. Probably what was most impressive was him talking with you while operating CW on the nets at the same time. I have witnessed this and also heard it from others. Art encouraged people to get interested in electronics and electrical fields. He and I had many conversations on technology. He built solid state devices for himself, both transistor and IC. "

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Telegraph Key Mysteries (cont.)

John was also able to review Special Devices paperwork in his possession and told me that Mod- el 100A serial number 43 shipped on April 3, 1950 to A. C. Krones, W9UIT. However, the OB2 tube used in this keyer was not developed until 1957, and so the mystery continues. Is the paperwork wrong, or a number unclear? Fred, W2AAB suggests the paperwork's date could have been mis- read, and possibly could be 1959 or 1960. Why wasn't a keyer exhibiting this level of advanced design not advertised or reviewed by major publications? How many Model 100As were produced and how were they sold? Were any Model 100As made before 1957 and the introduction of the OB2 tube?

HEATH GREEN VIBRO-KEYER

An interesting variation of the early 1960 Vibroplex Vibro-Keyer (it was re-named the Vibrokeyer in 1981) paddle is shown here and features a green base. Sometimes called the Heath or Heathkit VibroKeyer, the author has seen three different green paddles over time, all with a base of the same green shade and serial numbers that date the paddle to 1960. All three examples examined ap-pear to be factory original and not indi-vidually painted. No Vibroplex records or advertising has been found to indicate how this paddle variation became available, and few collec-tors are aware of it. How many were built? Are these green-based variations actually related to Heathkit or is there another reason for their existence?

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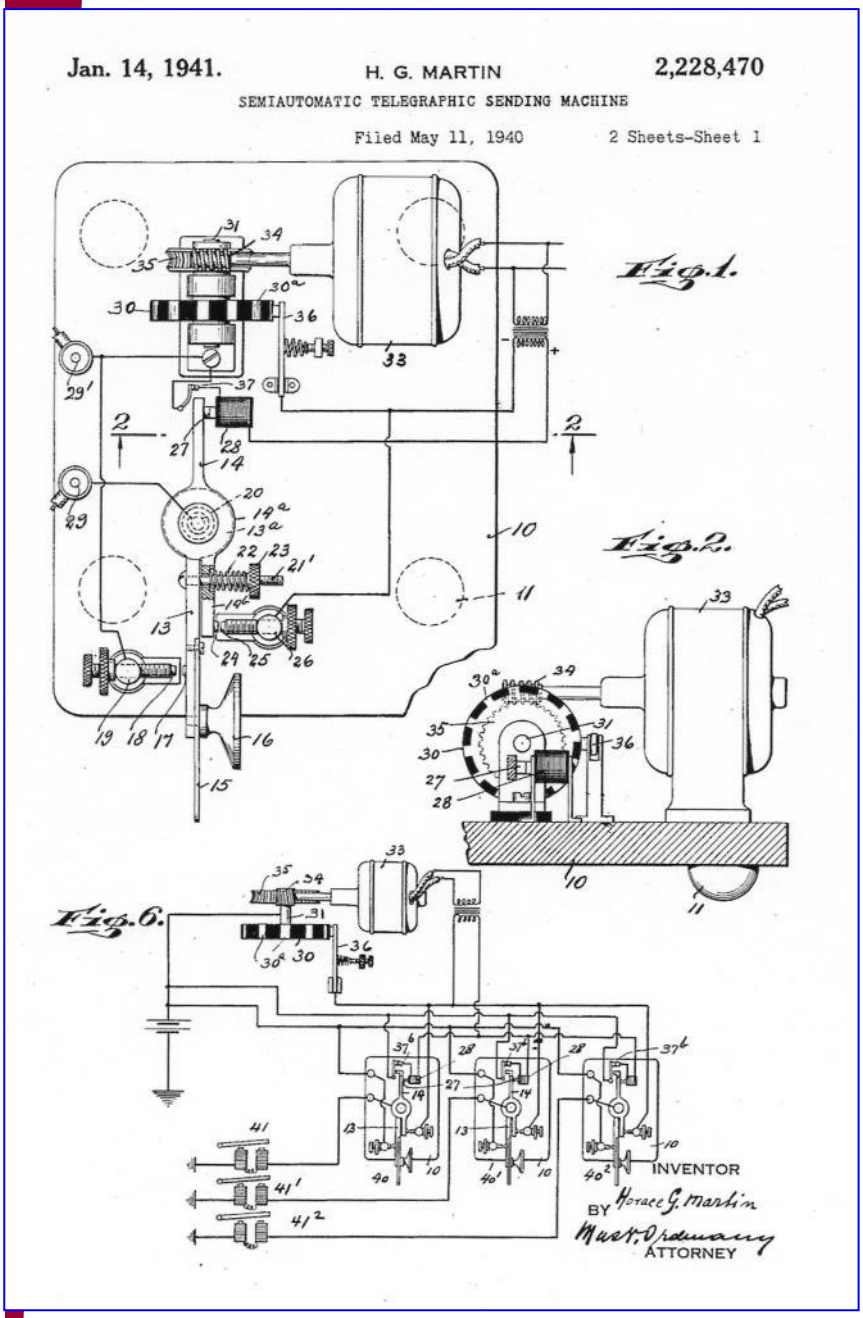
Telegraph Key Mysteries (cont.)


Jan. 14, 1941. H. G. MARTIN 2,228,470

SEMIAUTOMATIC TELEGRAPHIC SENDING MACHINE

Filed May 11, 1940 2 Sheets-Sheet 1

Fig. 1.

Fig. 2.

Fig. 6.

INVENTOR

BY Horace G. Martin

ATTORNEY

H. G. MARTIN 1941 SENDING MACHINE PATENT 2228470

Keyer design during the period of 1939 through 1942 was focused on motorized automatic keyers. Examples include Howard Mason's Moto-Key (reviewed in April 1939 QST) and the Starkens "Equable" motorized bug. (described in a March 1942 QST article). In a May 11, 1940 patent application for a "semiautomatic telegraphic sending machine" Horace G. Martin described a motorized semi-automatic key with similarities to both the Mason Moto-Key and the Starkens Equable motorized bug. Martin's patent issued on January 14, 1941 (patent #2228470), and seems to have been overlooked by many historians.

The Rotoplex (patent #2228469) is frequently described as the last production key Martin designed. However, it is the author's opinion that the 1941 sending machine as described in patent 2228470 is actually the last key Martin designed, at least based on patent filing dates. It is easy to speculate on why this key was apparently never developed, with emerging fully electronic keyer designs that were being concurrently developed being a possible reason. Did Martin ever build this key or even fabricate a prototype? The key is described as semi-automatic, but text in the patent describes the key as usable for transmitting dots, or dashes, or both. Patent drawings appear to show the device being capable of fully automatic operation. Why was there never more attention given this fully-automatic key design that should have had a more prominent place in key history?

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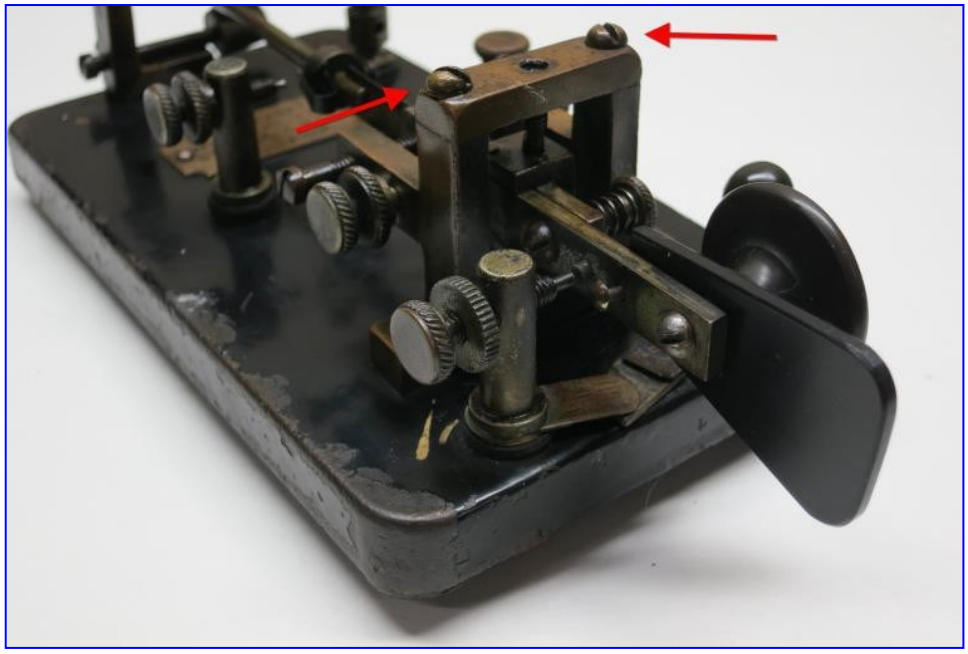
Telegraph Key Mysteries (cont.)

VIBROPLEX ORIGINAL WITH TWO-PIECE FRAME

A 1905 Vibroplex Original is a very rare and special key. The Original. seen at left, which is serial number 867, is even more special. Serial 867 uses a two-piece mainframe, which knowledgeable collectors have never seen on this early key. Two screws hold the top piece to the bottom part of the mainframe (see the red arrows in second image). No other 1905 Originals known exhibit this two-piece mainframe, and that is the essence of this mystery. Was it designed that way? As an experiment? Could we be looking at a repaired device?

Perhaps this key is a Vibroplex prototype? Because of the way the top piece is beveled, the fact that the metal "grain" marks line up between the two pieces, and the overall coloring of the metal pieces, it is felt that this key represents a modification or repair done at Vibroplex. According to Fred Maas KT5X, Vibroplex (before 1925) had a very liberal buy-back policy, where they offered a $6 trade-in allowance for repairable keys. Vibroplex also offered refurbished keys for sale. If serial number 867 is indeed a repaired model, adding to the complexity of a frame repair was the need for a shorter trunnion pin. Could it be that the designer wanted to see how the shorter trunnion pin affected the overall feel of the bug during use? Why wasn't the key repaired by simply replacing what might have been a damaged frame with a new stock frame? We may never know with certainty why this bug uses the two-piece mainframe, but it is fun to speculate.



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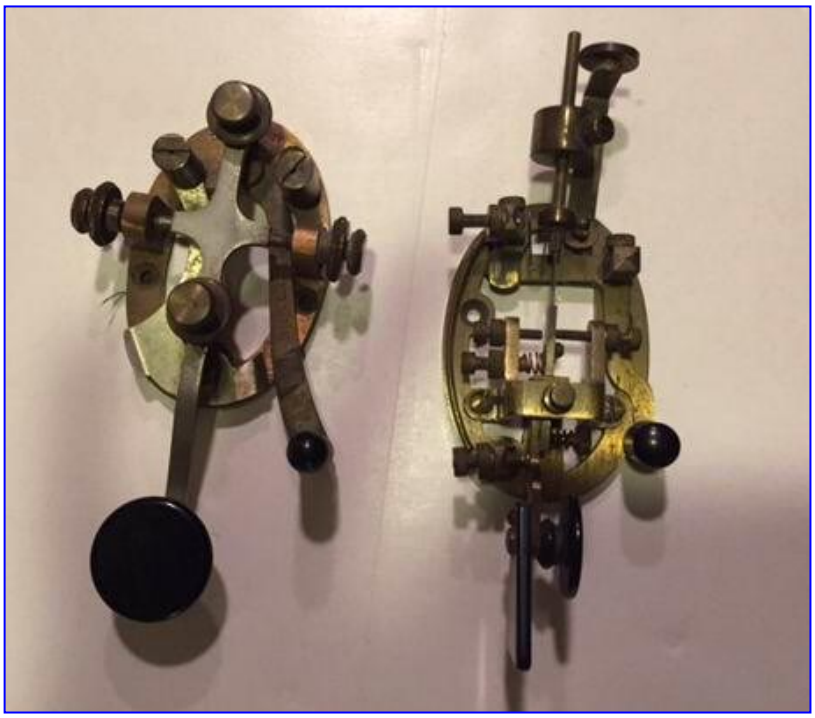
Telegraph Key Mysteries (cont.)

WESTERN ELECTRIC PROTOTYPE



Lack of any identifying marks or name on the unique key shown below (with a standard hand key for comparison) has led me to call it the "Western Electric Prototype." The key appears to be some sort of modified hand key, and belongs to Jack Reichert, N4RV. Jack states the small bug may be a West- ern Electric or Bell Labs prototype. Many years ago, Jack's father, who worked for AT&T in their Telegraph Department, obtained this key from one of his older employees, an original old time telegrapher. Was this key someone's basement project, or does it represent a unique prototype by a company intending to produce keys? Do any collectors have another onelike it?

To summarize, here are eight unusual Morse-related devices with lots of unknown history still to be learned. Can any readers add some knowledge that will help clear up these key mysteries? Perhaps the best benefit to understanding the stories behind our CW ancestors' inventions is that we can come to appreciate the love they had for the CW mode and how that love has been passed

Pioneers of Physics, Mathematics, and Electronics

We are continuing our historical series by checking up on ***Stephen Gray*** *(December 1666 – 7 February 1736) . Does this make you think about how far we have come in just 350 years?*

Stephen Gray was an English dyer and astronomer who was the first to systematically experiment with electrical conduction. Until his work in 1729 the emphasis had been on the simple generation of static charges and investigations of the static phenomena (electric shocks, plasma glows, etc.). He also first made the distinction between conduction and insulation, and discovered the action-at-a-distance phenomenon of electrostatic induction.

One night, in his Charterhouse rooms, he noticed that the cork at the end of his tube (needed to keep moisture and dust out) generated an attractive force on small pieces of paper and chaff when the tube was rubbed. Normally the cork would not have carried an electrical charge, but climatic conditions and variations in the materials meant that the cork was accumulating charge. When he extended the cork by inserting a small stick of fir, the charge manifested itself at the end of the stick, and then on an ivory ball (perforated with a hole), he had stuck on the end. he tried longer sticks, and finally added a length of an oily hemp pack-thread connected to the ivory ball. In the process, he had discovered that the "electric virtue" was not just a 'static' phenomenon (like a local pin-prick), but rather a fluid-like substance that would carry over distance. The terminating ivory ball would still act to attract light objects in the same way as the electrified glass tube.

Over the next few days, he extended the reach of his thread-wire (he only had a short piece of wire, and did not understand the significance of metal as a conductor) and found that it would carry from his balcony down into the courtyard below. He discovered that electricity would travel around bends in the thread and that it appeared unaffected by gravity. He was also able to transmit charges to metal objects (poker, tongs, kettle, etc.) which were generally regarded in those days as 'non-electrics' because they couldn't generate or hold a static charge. He also discovered that silk would not carry the 'virtue', while the thicker pack-thread and wire could.

Then between 30 June and 2 July 1729 while in Kent he extended this first electrical network and made many new discoveries. On a visit to the Reverend Granville Wheler, a wealthy friend, member of the Royal Society and Famsteed's relative, the two men extended the conduction experiments through pack-thread laced up and down the length of a large gallery in Wheler's manor house, Otterden Place in Kent. In the process, Gray and Wheler discovered the importance of insulating their thread 'conductor' from earth contact (the wall of the house) by using silk for suspension. They noticed that if a wire was used to support the pack-thread, all the 'electrical virtue' leaked away.

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Pioneers of Physics, Mathematics, and Electronics (cont.)

Initially, they thought the difference was due to the relative thicknesses of the silk, thread and wire, but later they realised that silk itself was much less conducting than the wire—so they used only silk to support (and thereby insulate) the hemp pack-thread used as their main conductor. The next day they dropped the thread from the house tower to the garden and then extended it out across a paddock to a distance of 800 feet using paired garden-stakes with short spans of silk to keep the pack-thread from touching the ground.[2][3]: 242–247 Wheler reported this to many of his Royal Society friends, and Gray wrote the full details in a letter to Desaguliers.

From these experiments came an understanding of the role played by conductors and insulators (names applied by Desaguliers). Two French scientists, Abbe Nollet and C.F. du Fay, visited Gray and Wheler in 1732, saw the experiment, and returned to France where du Fay formulated the first comprehensive theory of electricity called the "two-fluid" theory. This theory was championed by Nollet and accepted by most experimenters in Europe for a time; later it was refined and then superseded by the ideas of the English experimenters John Bevis and William Watson, who was in correspondence with Benjamin Franklin's group in Philadelphia. They jointly devised a theory of a single-fluid/two-state: virtually, the super-abundance or absence of one fluid, which Watson later termed positive and negative. These ideas fitted the facts slightly better than the two-fluid concept, especially after the invention of the Leyden Jar, and this single-fluid theory eventually prevailed. We now know that both were almost equally incorrect.

Gray went on to make more electrical discoveries, the most noticeable being electrical induction (creating an electrical charge in a suspended object without contact). This experiment was widely celebrated around Europe as the famous "Flying Boy" demonstration: a boy was suspended on silk cords, and then charged by Gray bringing his rubbed tube (static electric generator) close to the boy's feet, but without touching.[4] Gray showed that the boy's face and hands still attracted the chaff, paper and other materials.[5] Gray certainly realised that the phenomenon of 'electric virtue' was the same as lightning (as did most experimenters), many years before Franklin "flew his kite" and the French experimenters Dilibard and Delor captured a charge from lightning in a Leyen Jar.

https://en.wikipedia.org/wiki/Stephen_Gray_(scientist)

The Good Old Days...A look back at the early 1960s

by Edward Rule—G3FEW

The Radio Amateur Old Timers' Association, a group in the RSGB, has an excellent monthly newsletter and the editor, David, G3ZPF, has graciously allowed me to reprint this article.You can visit this group at http://www.raota.org/

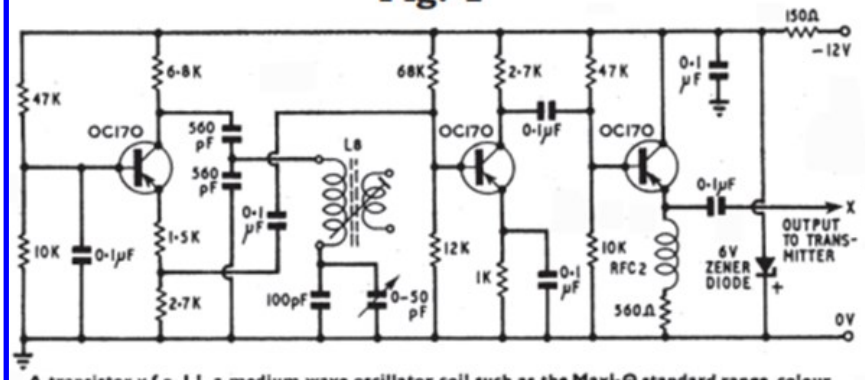
We tend to take our sophisticated modern equipment for granted these days, but way back in the 1960s it was different. Most equipment was home brewed and often breaking new ground. For example, in 1963, I built one of the first Transistor Transmitters. The Transistors available were mainly Germanium and only just been developed to reach a frequency of around 2.5 MHz with any power. I had managed to obtain a pair of AUYl0s which would give around 6 watts output on 160 meters. So, I decided to build a Transistor Transmitter for Mobile use in my Mini Cooper car.

The Circuit

The circuit I developed, Fig. 1, shows the VFO circuit used. It consists of Oscillator, Buffer and Amplifier. The VFO was very stable for the times, but remember this was AM, (Amplitude Modulation) and we used a bandwidth of around 5 / 6 kHz.

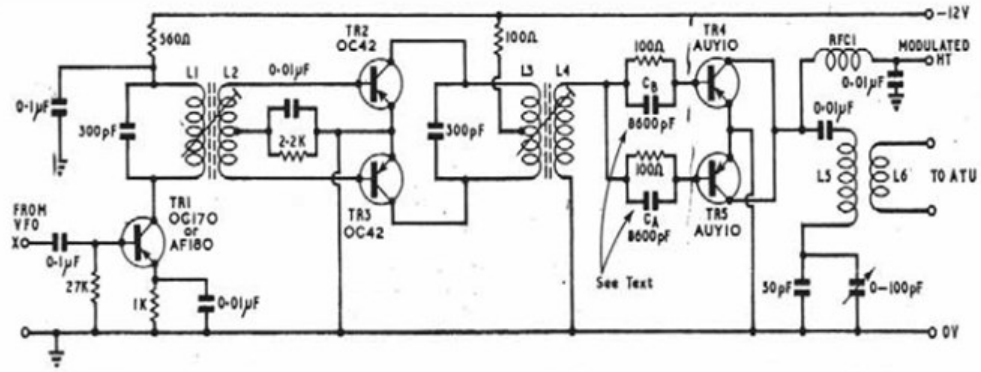
Fig. 2. Shows the P.A. Stage and drivers. Final driver stage used a push/pull transistor amplifier to drive the P.A. Stage. This used two AUYlO Germanium Transistors in parallel. Modulation was applied to the Collectors of the AUYlOs.

Fig. 1



A transistor v.f.o. L1, a medium wave oscillator coil such as the Maxi-Q standard range, colour coded red.

FIG 2.



The G3FEW transistor transmitter. L1, 30 turns; L2, 5 + 5 turns; L3, 15 + 15 turns, L4, 4 turns. L1-4 are wound with 28 s.w.g. enam. copper wire on ¼ in. diameter slug-tuned formers. L5, 100 turns, 20 s.w.g. enam., ¼ in. diameter with iron dust core; L6, 40 turns, 20 s.w.g. enam. and L7, 4 turns, 20 s.w.g. enam. on 1¼ in. diameter ribbed former.

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The Good Old Days...A look back at the early 1960s (cont.)

Modulator

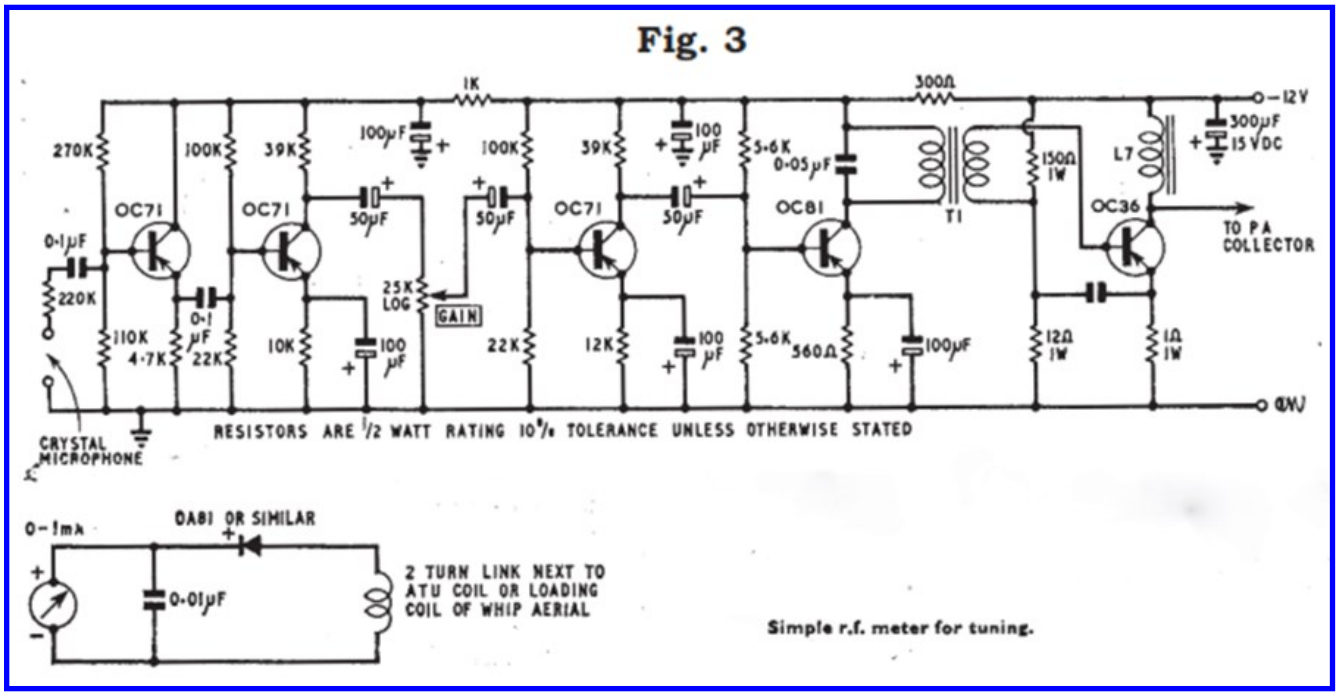

Fig. 3. Shows the modulator circuit. This had a four-stage amplifier into an OC36 power transistor modulating the AUYlOs in the transmitter P.A. Stage. It also shows a simple RF meter used for tuning.

Power supply

When Mobile, the system used the car battery, but at home I used a 12-volt power supply, Fig. 4. This was stabilized at 12 volts by a zener diode and an OC81 feeding an OC36 emitter follower. Note: with germanium transistors all power supplies are Negative (positive ground). By today's standards, the circuits may seem crude, but back in the 6Os they were considered "state of the art!". A close friend, Fred Judd (G2BCX) had also developed a transistor transmitter about the same time.

G2BCX Fred Judd

Well known as the inventor of the "Slim Jim Aerial" and "ZL Special" two and twelve element two-meter beams. He was also well known for his demonstration table of various Aerials. These were scaled down models for demonstrating (at UHF) the Polar diagrams and gain. He visited various Radio Clubs and these demonstrations were very popular. Today we would use a computer!

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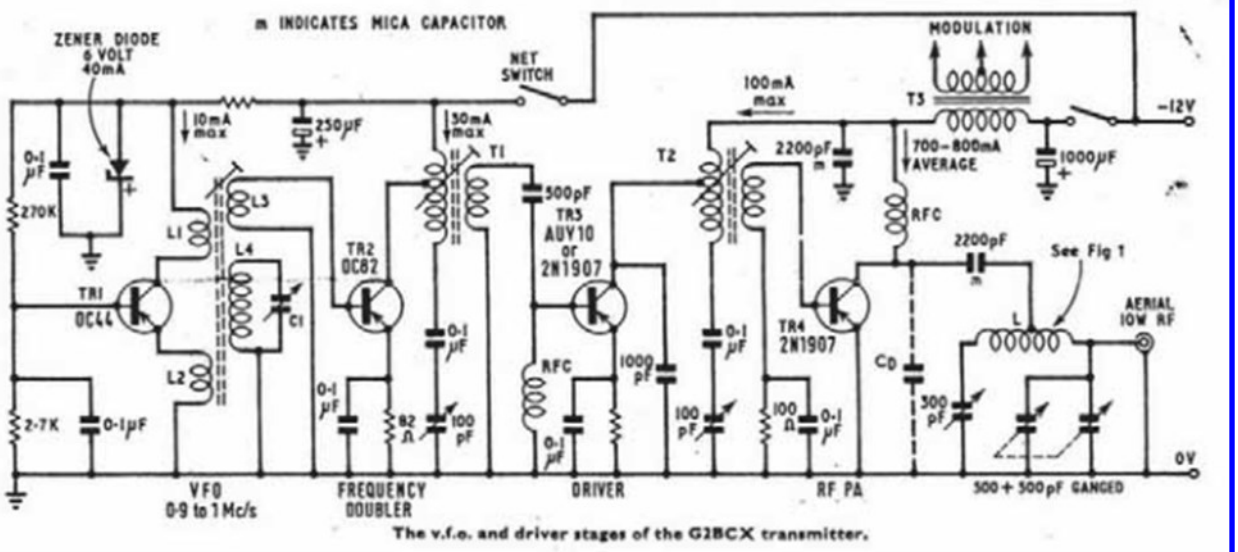
The Good Old Days...A look back at the early 1960s (cont.)

Fred lived only a few miles away in South Woodford and I was in South Chingford, North East London. So, we were able to compare notes as we developed our circuits. Fred's circuit was different to mine and Fig, 5. Shows his complete RF circuit.

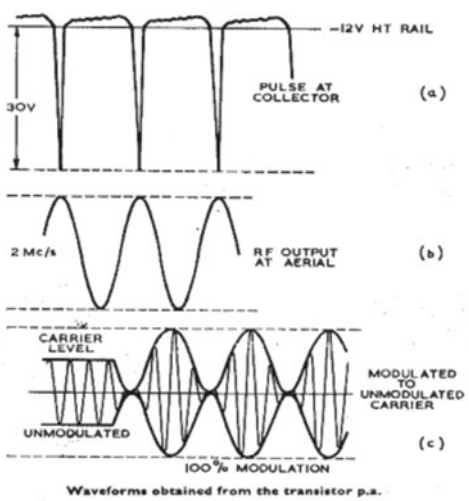
Fig. 5.



The v.f.o. and driver stages of the G2BCX transmitter.

Fred had managed to get a 2N1907 RF power transistor and could get up to 10 watts output on 160 meters. He modulated both the P.A. and two driver stages. This was unusual and produced the resulting waveforms shown in Fig. 6.

Fig. 6.



Waveforms obtained from the transistor p.a.

This shows the pulse at the P.A. Collector and also the sine wave at the Aerial. It also shows the final modulated waveform.

Experiences while operating

My installed rig is shown in Fig. 7. (next page) The Transmitter is on the left, receiver in center and TX/RX/TUNE switch on the right together with aerial loading switch. The AMU is on bottom right. The aerial used was a center loaded whip mounted on the rear bumper. This consisted of a 4 ft. Copper pipe, then a loading coil with a 4 ft. Telescopic whip on top. Both G2BCX and I had many contacts, and we did many tests. Two of these are interesting. The first was when I decided to visit my parents who lived in Worthing, Sussex.

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The Good Old Days...A look back at the early 1960s (cont.)

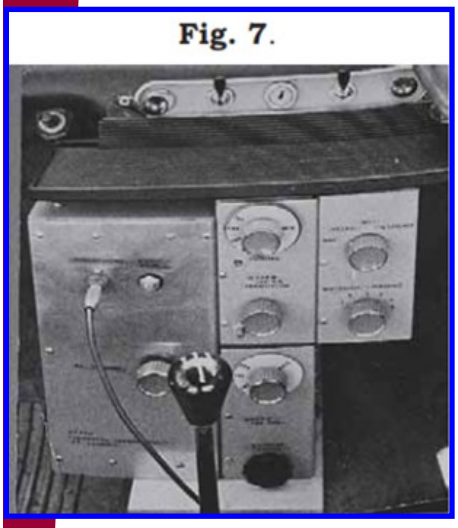
Fig. 7.

I was in contact with Fred as I set out on the trip and he decided to make a pen graph recording of my signal strength during the trip for as far as we could stay in contact. At the start signals were S 9 plus. When I arrived in Worthing (over 100 miles) I drove down onto the beach.

We had been in contact for the whole trip and my signal to Fred was now S 3. Remember this was with 6 watts of AM and in those days, Top Band was not subject to all the digital QRM we have today! In fact, the only background noise was a gentle hiss from the receiver.

When I returned home, Fred showed me the pen recording and, after averaging the signal strength, it completely verified the Inverse Square Law.

The second interesting trip was when we had been to a South London mobile rally. On the way back home, we had to go through the Blackwall Tunnel. We were only about three car lengths apart, but as we entered the tunnel, our signals completely disappeared. Even although I could see Fred a few yards ahead, we could not make contact again until we emerged from the other end of the tunnel. I have no explanation for this effect.

On a third occasion I was going down to Newquay in Cornwall on holiday, with two friends. Both were also mobile using valve equipment and were also travelling to the same destination. We were all working on Top Band. We set out in the late evening so we could travel overnight and arranged to stay in contact for the duration of the trip. At the start signals were very strong but as the Sun set our signals disappeared and continental signals started to come in very strong. The thing that puzzles us was that our ground wave signal had vanished. We did not reestablish contact again until the Sun rose again in the morning. Why did nighttime conditions effect the ground wave? I still don't know the answer.

Top Band

During the 1950 I 60s Top Band was one of the most popular and there were many local stations within a 30-mile radius of my QTH. To name a few locals, G4GA, G2BCX, G2PX, G8TL, G8BV. G2QL, G3YF, G6HU, G2FSR, G2BRR and a number of new G3s.

We always managed to have QSO's with "Armchair Copy". For those who don't know what that means, it is when you can sit back and enjoy a high-quality audio signal without any other noise!

Those with suitable gardens used mostly end fed Long Wire aerials, some used a half wave dipole, but most used the Inverted L. I used a 240 ft. End Fed Long Wire. G2BCX used a loaded vertical around 30 ft. in height. G4GA used a 132 ft. Inverted L. Almost all used Home Brew Valve Transmitters that they had developed themselves. During the 1950 I 60s, it was a time of trying new ideas and many people contributed to this. It was these (any many others) who laid the foundations that has developed into the equipment we all use today. I like to feel that in some small way I have contributed to this.

SouthWest Ohio DX Association (SWODXA)
Club Fact Sheet

Who We Are: *SWODXA* is comprised of active DX'ers and contesters with a deep passion for all aspects of Amateur Radio. We welcome everyone who is interested in joining our club to please contact us. *SWODXA* members are active in all facets of DX and Contesting. We also travel to, and fund various DXpeditions all over the world. *SWODXA* sponsors the annual DX Dinner held on the Friday evening of Hamvention weekend in Dayton, Ohio. In addition, *SWODXA* members moderate the Hamvention DX Forum. *SWODXA* is proud sponsor of the prestigious *DXPedition of the Year Award*.

DX Donation Policy: The policy supports major DXPeditions that meet our requirements for financial sponsorship. Details are available on the website at: https://www.swodxa.org/dxgrant-application/ and elsewhere in this newsletter

Club History: The Southwest Ohio DX Association (SWODXA) is one of the country's premier amateur radio clubs. Though loosely formed in mid-1977, the club had its first formal organizational meeting in August of 1981 where Frank Schwob, W8OK (sk), was elected our first President. While organized primarily as a DX club, SWODXA members are active in all aspects of our hobby.

Requirements for Membership: We welcome all hams who have an interest in DXing. It doesn't matter whether you're a newcomer, or an old-timer to DXing; everyone is welcome! Visit http://swodxa.org/member.htm

Meetings: The club meets on the second Thursday or each month alternating locations between at Marions Piazza on Kingsridge Dr. in Dayton, OH or Marions Piazza in West Chester. (Check the website) Members gather early in the private room for dinner and then a short business agenda at 6:30 PM, followed by a program. If you enjoy a night out on the town with friends, you'll enjoy this get together. Meeting attendance is NOT a requirement for membership.

Club Officers: Four presiding officers and the past president (or past VP) make up the Board of Directors The current roster of officers are: President Tom Inglin, NR8Z; Vice President Kevin Jones, W8KJ; Secretary Mindi Jones, KC8CKW, and Treasurer Mike Suhar, W8RKO.

Website: We maintain websites at www.swodxa.org and www.swodxaevents.org managed by Bill, AJ8B. These sites provide information about a variety of subjects related to the club and DXing.

SouthWest Ohio DX Association (SWODXA)
DX Donation Policy

The mission of SWODXA is to support DXing and major DXpeditions by providing funding. A funding request from the organizers of a planned DXPedition should be directed to the DX committee by filling out an online funding request.
(https://www.swodxa.org/dx-grant-application/)

The DX Grant committee will determine how well the DXPedition plans meet key considerations (see below). If the DX Grant committee recommends supporting the DXPedition in question, a recommended funding amount is determined based on the criteria below. The chairman of the committee will make a recommendation at the general meeting on the donation.

Factors Affecting a DXPedition Funding Request Approval

DXPedition destination	Website with logos of club sponsors
Ranking on the Clublog Most Wanted Survey	QSLs with logos of club sponsors
Online logs and pilot stations	Logistics and transportation costs
Number of operators and their credentials	Number of stations on the air
LoTW log submissions	Bands, modes and duration of operation

H40GC	H44GC	ZL9HR	XX9D	HK0NA	FT4TA
KH1/KH7Z	EP2A	FT5ZM	C21GC	VK9WA	NH8S
K4M	CY9C	VK9MA	PT0S	FT4JA	YJ0X
6O6O	VP6D	TO4E	XR0ZR	VP8STI	VP8SGI
W1AW/KH8	K1N	3D2C	VK0EK	S21ZBB	E30FB
ST0RY	TI9/3Z9DX	VK9MT	K5P	9U4M	TX3X
VU7AB	3Y0Z	3C0L	TX7EU	CE0Z	3C1L
TI9A	3D2CR	3B7A	K9W	VU7RI	6O7O
C21WW	CE0Z	T30GC	T30L	D68CCC	W8KKF/WP5
K5D	3Y0J	T33A		CY9C	