K9YA Telegraph

Robert F. Heytow Memorial Radio Club

Volume 2, Issue 3, March 2005

Jump in! The Water's Fine!

Hesitation and the Art of Radiotelegraphy

Philip Cala-Lazar, K9PL

As a subscriber to several Internet CW mailing lists I read a large number of posts every week covering a wide range of topics. The posters to these lists profess an array of Ham Radio experience from tyro to decades' long. Over time, it becomes apparent that some discussion topics consistently recur via cross-postings and sheer dogged survival; perhaps the most recurrent is, "How do I get on the air?" also known as the "Thread That Will Not Die," and its corollaries including the ever popular, "What's the best key?"

...the "Thread That Will Not Die."

This particular genre of queries inevitably launches an avalanche of replies that can go on for weeks. The exchanges they generate pass back and forth in various permutations and combinations until, finally, the topic consumes itself. Wait a week or two, and like the phoenix, the topic is reborn with full vigor when a new, forgetful or tentative subscriber again posts the question: "How do I get on the air?" and "What's the best (fill in the blank)?"

Questions of what is the best whatever, I believe, are posted in the fervent and generous conviction that buying the best, and likely most expensive piece of gear will help ease the transition from CW-intentioned-operator to CW operator. This ignores the fact that the shack's only essential Morse instrument is an enthusiastic and dedicated Ham. The homeliest phenolic and stamped steel straight key will send beautiful, well-timed code, fast or slow, when its lever is pumped by an operator who regularly gets on the air and imperceptibly, through practice, improves his skills. No finely polished and balanced, gold-plate and rosewood apparatus, no matter its cost and impeccable reputation, will get the job done while enthroned and unused under its Plexiglas dust cover.

Remember, it was in good faith, that the original posters of these questions, sometime at the dawn of the Internet, and their quizzical descendants, to this day, requested help to get them on the air where they could practice Morse or make their first CW QSO. Too often this fact is lost in the shuffle of exchanges concerning the "best:" keys, rigs, keyers, computer practice software, filters, DSP units, speakers, headphones and a host of other Ham gear that have little or no bearing on the reality of actually getting on the air and gaining experience and confidence.

All this extended discussion of merchandise yields is a catalog of yet more doubts, and further delays their inevitable entry into the best classroom ever devised for improving Morse skills–Amateur Radio's HF bands. There, one encounters good operators and poor; fast ops and slow; OTs and newbies; cranks, lids and saints; QRM; QRN; and QSB, but mostly, a great experience and fun. Really, isn't that why we all worked toward earning our licenses: to get on the air, meet people, acquire and improve personal skills and have a lot of fun?

That said, these lists do supply a valuable adjunct to the Ham Radio community where we can find peer support; they offer a venue for sked and elmer requests; and they

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Echolink Opens Doors for New Hams

Another Success Story from the Trinity High School Amateur Radio Club

Sia Mallios, KB3LRB

Sia Mallios, KB3LRB

Hello, my name is Sia Mallios and I am a senior at Trinity High School in Camp Hill, Pennsylvania. I arrived at my physics class on the first day of school and Mr. Barnes, our teacher, informed us that Amateur Radio was now included in our curriculum for the first semester. When I learned I was going to be doing Amateur Radio as part of my physics class, and actually earning my license, I was a little less than enthused. This was something I had never aspired to. Of course, I was totally clueless as to what Amateur Radio even was.

Over the next few months we learned some of the physics behind Amateur Radio, and after receiving my license in November, I realized it had not been as difficult as I had originally perceived. It did not involve that much work and I was proud to accomplish it. Our first assignment, as new amateurs, was to complete 30 contacts. We were given guides to assist us that suggested questions to ask the people we contacted. All contacts, except for two, could be done on Echolink. At least two were to be done with a real radio. Our school has a great Ham shack with an assortment of nice equipment, but I was not ready to use it. I did not even know how to turn the rigs on or what frequencies I should go to. Echolink was much less intimidating. I downloaded it at home and found it easy to operate. I was not, by any means, afraid to use it. There were not as many rules to think about for a nervous beginner. Once I made a few contacts, to some very nice people, I was really enjoying Echolink. As I used it more frequently I became more comfortable and knowledgeable about radios. I acquired some great advice and made a few new friends.

> *"...Amateur Radio was now included in our curriculum..."*

My first contact was with Rich in Hawaii. He was really nice and a very easy guy to talk to. He told me about all the places he had lived and wished me the best of luck with my new hobby. Then, two young paramedics from Wales in the U.K. contacted me. These guys were great to talk to because they were young like me, and also new to the hobby. There was another thing I had in common with them, our favorite football team, Manchester United. Next, I spoke with Karl, who lives in south Australia. He was very interesting to talk to given the fact he had some of the best stories. One of the stories he told me was how he had witnessed the explosion of two atomic bombs when he worked on long-range weapons. Karl was born in 1910. To confirm our QSOs we asked our contacts to send us a brief e-mail. I received great e-mails, some with cool pictures, over the course of the project. I contacted more than five countries, which was a lot of fun.

In mid-December my teacher, Mr. Barnes, presented the class with the idea of us participating in the High School Roundup. This is a contest among high schools around the country during the beginning of February. To participate in this contest, however, you must have your General Class license. We took quizzes on Morse code in class to help us learn. This was the thing I found most difficult about Amateur Radio, as did many of my classmates. I did not obtain my General license with the Morse code, but it is something I hope to do in the future.

Echolink creates a great foundation for radio communications. It lays the track for the train, you might say, and can be an excellent tool for learning. There is so much you can find out from other Hams and there is a lot you can offer as well. I know I have learned many new things and Echolink was my means of doing this. I enjoyed this project, as my way of diving into the hobby, and I look forward to many more new things with it. ■

[Ed. Additional information on Echolink can be obtained at http://www.echolink.org/]

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The "Instructograph" Code Instructor

My Non-human Morse Elmer

Dick Sylvan, W9CBT

I was just 14-years-old when I became interested in Ham Radio. It was shortly after WW 2 and Amateur Radio activity was starting to heat up again after a four-year hiatus. At the time, I didn't own a receiver of any kind other than a homebrew crystal set. I found out that to qualify for a Ham license I would have to copy Morse code at 13-wpm and learn some basic radio theory. I bought a copy of the *ARRL License Manual* which listed probable questions and their answers. That gave me jump start on electronic theory, but I was stymied on learning to copy code.

I purchased a Hallicrafters S-38 which was not a very good receiver, but it was inexpensive and satisfactory for a beginner. I listened on the Ham bands and dreamt of the day I could join in on the fun. I went down to Allied Radio, which was mecca for Hams, and purchased a copy of *QST* magazine. I scoured the ads in the back section and found one for an interesting product called the "Instructograph" that promised to teach me to copy code. Best of all, the company was located in Chicago, and on the north side of town! There were other methods available for learning code, but they tended to be too expensive, too clumsy, or ineffective.

> *"He led me into the inner sanctum..."*

I decided to go to the Instructograph factory on Sheridan Road and purchase my unit. Money in hand, I jumped on the Lawrence Avenue streetcar and rode it to the end of the line. I was able to walk to the nearby factory from there and found a dingy looking old building with a small sign on the door that read, "Instructograph Company." Walking up a long flight of dark stairs, I banged on the locked door until someone finally answered and let me in. I told him I wanted to buy an Instructograph machine. He led me into the inner sanctum and asked if I wanted an electric model or the version you had to wind up with a crank (like the cheaper phonographs of the time). I asked the prices and quickly decided to take the cheaper crank version. It came with about 10 rolls of perforated paper tapes and an instruction booklet written by O.B. Kirkpatrick that described what was on each tape. I paid my $12.50 and happily left for home.

Later, I found I would need to add an oscillator to make the code audible, so I built a simple one and hooked it up to the proper terminals. That, plus the required pair of headphones, a key to practice sending, and I had the unit operational.

The Instructograph

Sometimes, I would send in synchronization with what was being sent on the tapes—using the instruction book. Before I could copy anything, I had to memorize the dits and dahs that made up the alphabet, numbers and a few symbols. A 14-years-old's memory works pretty well, some homemade flash cards made it easier, and it didn't take long to memorize all the letters and numbers. I would worry about learning the symbols later.

I started with tape number one, which was quite slow—it got even slower as the spring motor ran down—so, I frequently had to re-wind the motor. It wasn't long before I could copy slow code. I gradually worked my way up through the tapes and watched my speed build up. The code requirements, at the time, for a license was 13-wpm for the class B license, so I figured as soon as I could copy 15-wpm I would go down for my exam. The tapes had a lot of mixed code groups of five numbers and letters each, as well as plain language. The machine did a good job of teaching me to copy code. In the meantime, I studied the license manual every day and learned to draw circuit diagrams, read resistor color codes and learn the rules and regulations of Amateur Radio operating.

The Instructograph machines date back to the 1920s and were around until about 1983. The Omnigraph and the Natrometer were the predecessors of the Instructograph. You can look at almost any *QST* magazine from those early years and find an Instructograph ad. The machine used a roll of punched paper tape drawn across a contact point. A very simple concept and very successful. It taught me Morse code, as well as proper

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Build This D-104 Mic Lamp!

Bask in the Glow of Bygone Ham Radio!

Dick Sylvan, W9CBT

Astatic D-104 Lamp with Pixie

I have always admired the appearance of the old Astatic D-104 microphone with the push-to-talk stand. Until recently, I never owned one, but decided to look around to see if I could find an old one that didn't work to fashion into a lamp for my Ham shack. It wasn't easy, but I was finally able to get one in fairly decent physical shape that was inoperable. These show up occasionally at Hamfests and some Hams have one they no longer use or want.

First, dismantle the microphone and remove all its components. I removed the cartridge, an on/off switch inside the upright and a preamp in the base; its not too bad a job.

Now you are ready to drill out the round microphone portion. Put the mic in a vise with the neck up (be careful not to scratch the chrome, so wrap it in cloth) and drill down through the neck with a drill bit that just fits the hole in the neck. The hole gets a bit narrower about a half-inch down; you have to ream it out for the threaded tube to pass through. Then, continue drilling right through the top of the mic; which is mounted upside down in the vise. This is probably the hardest part of the project.

"We're now ready to wire the lamp"

The base of my mic was scratched up pretty badly, so I refinished it with a couple of coats of medium-gray spray paint. After it dried, I rubbed it down with #00 steel wool that gave it a nice satin-gray finish almost like the original.

Next, purchase a length of the threaded brass tube (about 3/8-inch diameter) that is used inside lamps. Don't cut the tube to length until you locate a light bulb socket with a switch. I wanted a chrome finish light socket. That was easier said than done. None of the major DIY outlets carry a silver-color socket—only brass. I finally located one at a lamp shade store. A black plastic one would work fine, too.

You will need a small spacer section of chrome tubing (about one inch long) to slip over the threaded tube where it comes through the top of the mic. I couldn't find any, so I cannibalized an old chrome mic plug that worked nicely.

Screw the light socket onto the threaded tube. Then, slip the chrome spacer on the threaded tube. Insert the threaded tube (from the top of the mic down through the stand and insert a large washer at the bottom. The tube can then be measured for proper length. Cut the tube to length and reassemble the socket and spacer tube; it is locked onto the mic with the washer and hex nut that fits the threaded tube.

We're now ready to wire the lamp. I used about six feet of black zip cord to resemble the vintage mic cord, and threaded it through from the base of the mic stand. I used the original chrome, strain-relief spring that came with the mic; it adds a nice touch. The wire goes up through the tube and is wired into the socket.

That's all there is to it! I have been enjoying the D-104 lamp glowing in my Ham shack, reliving the bygone days of AM Ham radio. ■

Sources

- Threaded brass tube to go inside D-104 (hardware store or home center)
- Chrome finish light socket (lamp shade shop)
- Clip-on lampshade 8"x 10" (Home Center)
- 3/4" black adhesive letters for applying call letters to shade. (Office Depot or art supply store)
- Gray spray paint (Ace Hardware)
- Chrome sleeve just above top of mike (I cannibalized an old mic plug.)

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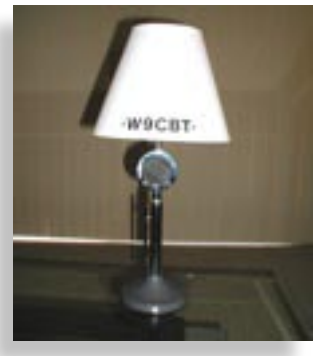

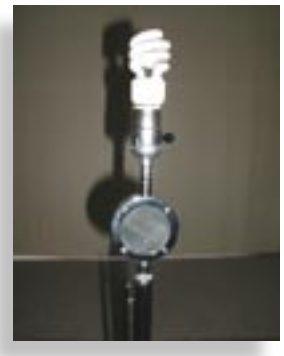

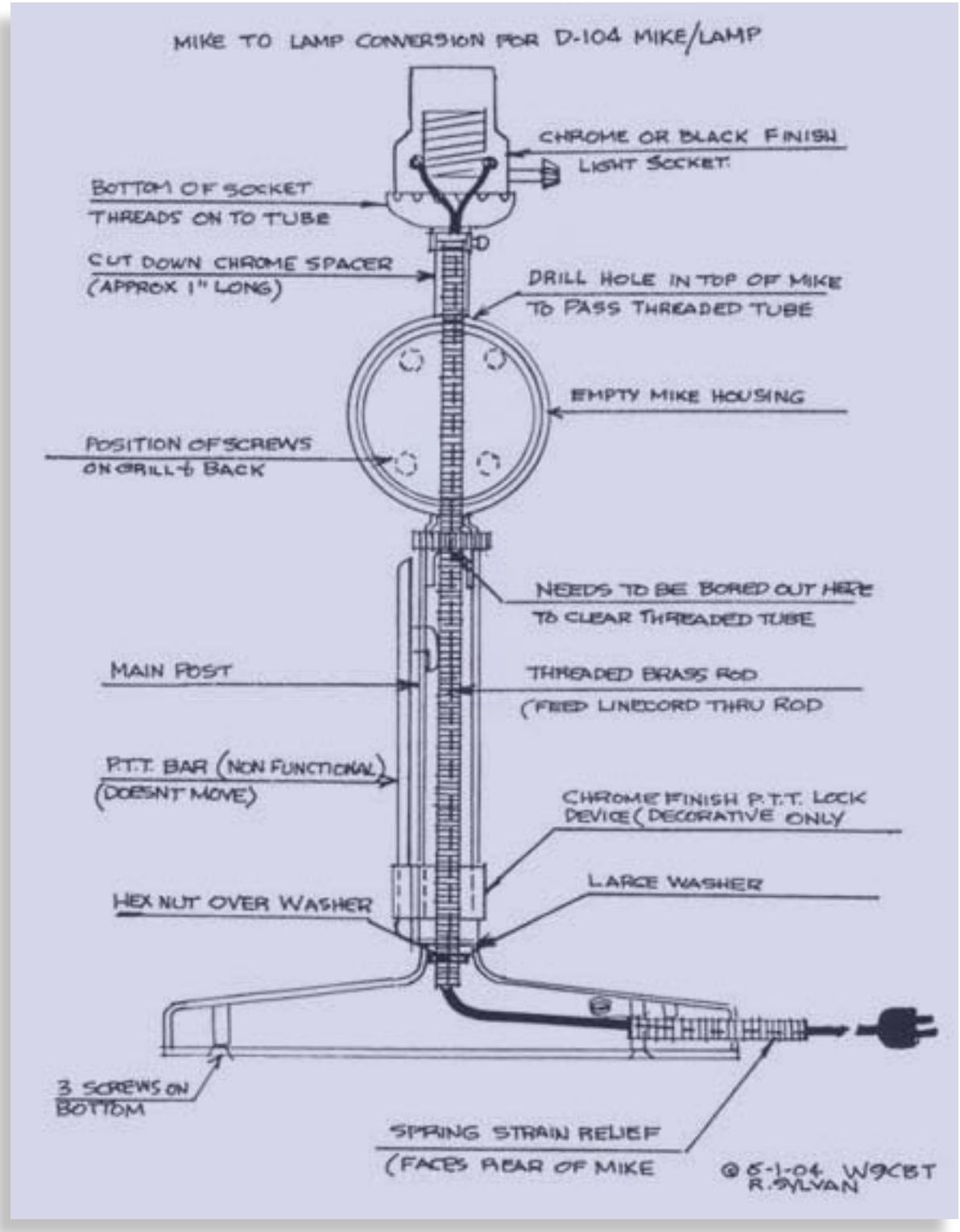

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Tinkering for Idiots

Read the Fine Print Dummies!

Rod Newkirk, VA3ZBB/W9BRD

Vintage O'Hare Airport Postcard

A recent news story about a New Jersey hobbyist disturbing aircraft with his toy laser reminded me of an incident at W9BRD in the early '70s.

Son Dave, later to become W9VES, and I were trying out simple circuits from the *ARRL Handbook*. A 6C4-6AQ5 superregenerative receiver looked like fun. I hadn't played with a rushbox since the 1930s when the Abbot TR4 was hot stuff on VHF bands. I had also forgotten its main shortcoming.

We put the thing together quickly from our junkbox on a coffee can chassis. Its antenna was just a three-foot piece of wire. Audio quality on the FM broadcast band was amazing. Likewise the sensitivity, all with a mere handful of parts.

The thing was just as fantastic on AM. Performance on the 120 MHz aircraft band was outstanding. Our QTH wasn't far from O'Hare International Airport, so sky and tower traffic was fascinating.

During a week of heavy listening we heard a few aircraft complain about radio noise. "There's that hash again." That didn't impress us. The planes were loud and clear in our shack.

One evening the receiver was off while the family sat at dinner. Out of the corner of my eye through the back window I noticed a slowly cruising panel truck, its roof topped by a direction-finding loop antenna.

It took me about two minutes to put two and two together—by that time the DF truck was gone—so was our rushbox. The *Handbook* text, on recheck, clearly stated superregens could generate objectionable interference.

We seriously considered calling O'Hare, identifying ourselves, and assuring them the QRM wouldn't happen again. On the other hand, since we had learned our lesson well, we thought it best to let the matter drop.

Those seductively simple superregenerative circuits no longer appear in the updated literature. Now you know why. ■

MORSE TIPS & QUIPS

LEARN TO COPY "BEHIND" TO IMPROVE YOUR MORSE CODE SKILLS!

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provide a forum where we can post questions and answers, state opinion and tender equipment reviews. However, they were never meant to, nor should they, supplant radio communication by any mode authorized to the Amateur Radio Service.

The Inside Story

Ask any experienced CW op and he will assure you we all sweated our first few (dozen) QSOs; doubted our sending and receiving abilities; were unsure of correct procedure; wondered what to send first: RST, QTH or NAME; and what to say after the first exchange—while the other op listened expectantly.

We were sure we would quickly earn the title, "lid." It didn't happen and it won't happen to you. Despite pools of sweat that threatened to dislodge our fingers from the key knob and butterflies that fluttered when it was our turn to copy. So, use mailing lists wisely and sparingly, then get on the air and see what all the happy fuss and bother is about. ■

Continued - Instructograph from page 3

spacing and timing—very important elements of learning Morse code—without outside help, and prevented a lot of problems later on. I wish I could have been this successful with my golf game.

There were a number of variations of the Instructograph over time. They made some all-electric models with a built-in oscillator and motor speed control.

The cases were constructed of wood with a proxylyn covering; a kind of a paper cloth, typical of the way most luggage was made back then. My version had a sliding bar speed control that changed the speed of the spring motor.

The advantage of the spring-powered model was that you could use it anywhere without worrying where to plug it in. My oscillator was battery powered, so I had complete portability.

About six months after commencing my studies, I went to the courthouse in downtown Chicago where they gave the Ham exams and passed the first time.

Thanks to the Instructograph code instructor, my non-human CW elmer, for teaching me to copy Morse code. The skills served me well when, as a Navy shipboard radio operator during the Korean conflict, I worked as a CW operator on Navy nets.

I still own a working Instructograph that I keep around for sentimental reasons. It's drawing Social Security now, and is in full retirement. ■

Mailbag

I enjoyed your Simpsons article in the February *K9YA Telegraph*. I had to laugh because I was thinking about writing a similar article! Here are a few more examples I noticed:

When the Simpsons are in the 1890 house, Bart "prank telegraphs" Moe, and Moe sends back, "I'm gonna drive a golden spike where your Union meets your Central Pacific."

In the episode with "little Timmy down the well," the ad says, "Throw away your bulky transmitters (boat-anchors), and broadcasting towers."

When Homer buys his first computer, he picks up the mouse like a microphone and speaks into it.

Funny isn't it?

I was also watching the movie, "The Royal Tenenbaums," in which one of the young Tenenbaum children is talking on a nice Heathkit HW-100.

Thank you for a wonderful publication, I have enjoyed every copy.

73,

Anthony Mach, AB9IO
Menasha, Wisconsin

I subscribe to the *K9YA Telegraph* newsletter. I "own" the company library where I work, and have been using the *K9YA Telegraph* as an example of what I consider a well-formatted newsletter set up to attract one's attention. I enjoy the topics, too.

Thanks again for the bandwidth and your time. I, too, volunteer for a number of organizations—sometimes I know my XYL thinks I volunteer at work too—HI, HI.

73,

John Arnold, WA6YSY
Monterey, California

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