K9YA Telegraph

Robert F. Heytow Memorial Radio Club

Volume 7, Issue 1, January 2010

Laid-Back Fun

Lose the Dead Band Doldrums

Philip Cala-Lazar, K9PL

It's no secret our HF bands are pretty dead, nearly as dead as the Norwegian Blue parrot in the classic Monty Python skit. However, despite old Sol's stubborn refusal to turn a freckled face our way, on any given day it seems there's just enough propagation to support a trickle of QRN- and QSB-beset QSOs. Confoundingly, on contest weekends, these same meager conditions miraculously host the alchemy of chockablock ops vying band edge-to-edge for the best calling frequency.

"…sometimes it helps to be a joiner…"

What's a brasspounder like me who's also a part-time QRP op to do? What can be done to keep the fist agile and the low-power signals plentiful? Let's throw in an additional parameter: busy weekends mean I'm a mostly weekday night operator.

Well, sometimes it helps to be a joiner and look for groups whose members share my interests, i.e., CW op, ragchewer and occasional QRP'er looking for a smidgen of non-frenetic contesting. That said, conditions permitting, I'm more than happy to join DX pileups to fill the gaps in my DXCC countries list, relish working special event stations and will haunt the occasional state QSO party for the pure joy of hunting and pouncing.

Recommended

Before naming names, I want to mention that thanks solely to the devoted and hard working volunteers at these clubs we amateur radio operators enjoy these fruits of their labor at no, or nominal cost: awards, contests, certificates, newsletters, members roster, technical support, Web sites, forums, QSL bureaus and elmering programs. These individuals are too rarely honored for their many services to the ham radio community.

I'm a longtime member (#6753) of FISTS CW Club. The FISTS group comprises a great mix of CW ops ranging from the oldest of old timers to the greenest of newcomers. The K9PL logbook records over 1,200 FISTS members worked. The preponderance of those log entries were ragchews with members in North and South America, the Caribbean, Europe and Oceania. Of course, FISTS offers a wide variety of on-air events and a multitude of achievement awards. (*K9YA Telegraph*, September 2005) http://www.fists.org/

I cannot too highly praise the Straight Key Century Club (*K9YA Telegraph*, April 2006 & December 2009) and the North American QRP CW Club (*K9YA Telegraph*, November 2005 & May 2009) for their comprehensive programs of member benefits, services and operating events. They too feature as FB a gathering of operators as you'll find

Continued - LAID-BACK FUN on Page 8

Inside This Issue...

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The Old Man and the Paperboy

Part III

Scott B. Laughlin, N7NET

Jack was not impressed with the Secret Code Ring. And Jim sensed that winning Jack's confidence would not be easy. He would have to try harder.

He knew fewer Morse characters than he'd thought. But Jack's teaching method made it come easy. Theory, however, was difficult. There were frequencies and band plans he had to memorize, and some of the math was beyond his comprehension.

"Jim, you're going to be ready for your Novice test next week, and I have every reason to believe you'll pass it with flying colors."

"Really?"

"Absolutely. You've done well and I think the two of us should have a small celebration. Ask your mother if she would object to the two of us going to a donut shop Saturday morning before you begin your paper route."

"She wouldn't care," said Jim, his eyes gleaming.

"Well, I don't know that for sure. I don't want to get us into trouble. You ask her anyway."

That evening Jim stopped by on his way home from school for code practice. Before they began he said, "Mom wants to know which donut shop."

"Tell her we'll got to Nancy's Bakery a few blocks from your house. I'll pick you up a half hour before you have to start your paper delivery."

"I spoke with Jim's mother at the book club meeting yesterday," said Millie at breakfast. "She said that since this radio business started she seldom sees her son. If he's not doing homework, he's at school, on his paper route, or on the radio. "Do you suppose we're becoming too involved?"

"I don't think so. What would you do different?"

"We're not strapped, you know. We could find a way to help financially so he wouldn't have to deliver papers."

Jack shook his head. "No. He needs the paper route.

"It's not easy for his mother to make ends meet, you know."

"I don't suppose it is, but a polished apple is sweeter," said Jack

Millie didn't argue, but Jack could see that she wasn't totally convinced.

That evening two radio operators arrived and administered Jim's Novice test. When it was finished, Jim had only to await the arrival of his license before he could start operating with his own call.

"Had you thought about how you could give back for the amateur radio privileges you now enjoy?"

"I don't have anything to give."

"Yes, you do. You have time. One evening each week you could give an hour to a traffic net, maybe even become a net control operator."

Jim listened but made no comment, so Jack didn't press the issue.

"SOS SOS DE SALLY DEE"

Saturday morning Jim was alone in the radio room when Millie called up the stairway announcing that she and Jack would be out for a time checking on a rental house they owned. They'd left him unsupervised several times before and everyone was comfortable with it, but she called up the stairway with a reminder, just the same: "If you decide to leave be sure to turn the power off and lock the front door behind you."

"Okay."

The house was quiet and Jim began tuning across the Novice portion of the 40-meter band when he came across someone sending a weak distress signal. *SOS SOS SOS DE SALLY DEE SOS SOS SOS.* Rotating his antenna, he determined that the signal was originating in the north, but he had no idea how far away. He brought the transmitter on frequency and adjusted the

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maximum power his Novice license allowed. When the station paused Jim responded with his call, but after he stopped sending he discovered they had not heard him. He'd watched Jack adjust the power. But doing so would exceed his power limitations. He knew that would be okay if he were the one in trouble, but he wasn't sure if answering the call justified boosting the power. He decided to take a chance and increased his output another twenty watts. But it did no good. Then he remembered a list of telephone numbers taped to the side of the desk. He found a number for the Coast Guard and dialed it.

"United States Coast Guard," said a voice over the phone.

"Is this where I report a SOS signal?"

"Standby."

While Jim waited he could hear voices in the background and then footsteps.

"This is Ensign Bradley. Give me your name and the phone number from which you're calling and then tell me about the signal you monitored."

After Jim reported what he knew, Ensign Bradley assured him that someone was already on the frequency. When their conversation was concluded Jim turned his attention back to the radio and tried to copy the exchange, but the code was much too fast and he recognized only a few characters. Eventually, he shut down the power and went home.

"It's the Coast Guard."

"Hello," said Jack, pressing the telephone receiver to his ear the following afternoon.

"Hi, this is Ensign Bradley of the United States Coast Guard." After he'd verified the number he asked if Jim Cornwell was in.

"No, I imagine he's still in school. Is there something I can help you with?"

"Well, I thought he might like to know the outcome of yesterday's episode."

"What episode are you referring to?"

"Oh. I thought you knew about the distress signal he reported to us yesterday. His prompt action may have saved the lives of three men in a disabled fishing boat off the coast of Alaska."

"Let me get this straight. You're talking about young Jim Cornwell, the amateur radio operator?"

"Yes, I am. The boat initiating the call had lost power and it was dead in the water. They were on battery power and who knows how long that might have lasted?"

"And Jim notified you folks?"

"That he did. You should be proud of your son?"

"Actually, he's my paperboy."

"Oh, well, however he fits in there, he did a superb job."

"Would you mind calling again about a quarter after five and speaking to him personally? He'll be here by then and I want him to hear this from you," said Jack.

"I'll be glad to do that."

Jack headed into the kitchen to bring Millie up to date.

She smiled.

"Last week I mentioned that he should consider some sort of public service as payback for his privilege of using the bands. But he was reluctant, so I let it drop."

"Maybe he's a little overwhelmed and feels unqualified," suggested Millie.

"That might be the case, but he certainly handled this situation like a pro."

A knock at the door sounded and Millie went through the living room to let Jim in. He joined them at the table and Jack could see by his somber expression that something on his mind. Before Jim could speak the telephone rang.

"Hello," said Jack. "Yes, he's right here. It's for you, Jim."

"Me?"

"It's the Coast Guard."

Jim froze. Who had told them that he had violated the conditions of his license by exceeding his power limit, he wondered? Reluctantly, he took the phone.

While he was on the phone Jack and Millie went to their bedroom and fetched a key. Then they moved to the living room and took a seat on the sofa. After

CONTINUED - PAPERBOY ON PAGE 8

Robert F. Heytow Memorial Radio Club

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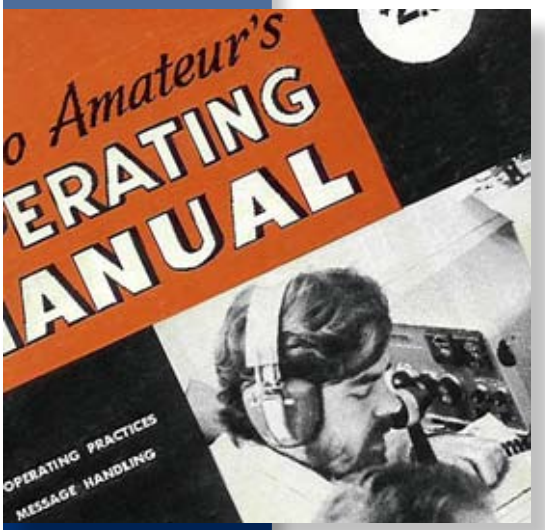
Volume 7, Issue 1

Station I.D. and Good Operating

An Editorial

Cliff Cheng, Ph.D., AC6C



The Radio Amateur's Operating Manual, 3rd Ed.

Most recently, at two separate ham radio events, I saw and/or heard some disturbing behavior that led to my researching and writing this article. In it I discuss behavior that actually happened and is still happening. The reader is free to generalize this behavior to a wider level–if they wish. The first incident was a class and VE session for new Technician class hams. The instructor said the FCC does not require identification at the start of a QSO. "It's okay to just start talking. You don't have to ID for 10 minutes." I pointed out this was poor operating procedure.

The following night on a net that I regularly check into as a "Guest," another ham, a member of the net (who lives in the city where the net originates), pointed out their net is not following FCC regulations by not using full callsigns. Another member concurred. Many of those hams tend to use only their suffixes; check in and leave without ever giving their FCC assigned callsign. They assume "everyone knows who they are"; after all it's their city and their net. Net control leads this behavior. One old timer responded that he should know better but was getting sloppy (using only his suffix) because of his old age. He then argued that the FCC does not require ID at the beginning of a QSO. The following week, the leader of this group served as net control and instructed stations to ONLY give their suffixes when checking in. About a fourth of the stations followed their leader and used suffixes only, including the old timer from the previous week.

I was disturbed by these incidents. Back in the mid-1970s when I started out, my elmers taught me to be a courteous operator and use good operating procedure; not just merely follow the law. I researched station identification and communicated with:

- Paul Danzer, N1II, former editor, *ARRL Operating Manual*;
- Perry Green, WY1O, assistant VEC, ARRL;
- Norm Goodkin, K6YXH, the most prolific licensing instructor and VE here in Los Angeles;
- John Johnston, W3BE, former FCC wireless bureau chief, former QCWA president, former ARRL vice president, rules and regulations columnist, *QCWA Journal*; and
- Gordon West, WB6NOA, author of the most popular licensing guides and prolific teacher.

While I conferred with this group, I do not claim they or their organizations endorse this article. They all agree that while legal, not ID'ing at the start of a QSO is very bad operating practice!

Here is the applicable FCC regulation - §97.119 Station identification.

> *"…use good operating procedure…"*

Each amateur station, except a space station or telecommand station, must transmit its assigned call sign on its transmitting channel at the end of each communication, and at least every ten minutes during a communication, for the purpose of clearly making the source of the transmissions from the station known to those receiving the transmissions. No station may transmit unidentified communications or signals, or transmit as the station call sign, any call sign not authorized to the station.

Much of the time when a law is written, the intent is not written into the code. Unless other documentation is accessible, the code can be misinterpreted and even manipulated. However, Section 97.119 has its intent written in – "the purpose of clearly making the source of the transmissions from the station known to those receiving the transmissions." *It is very clear; the FCC wants anyone hearing the transmission to know where it came from.* Yet there is a flaw in not requiring ID'ing at the start of a QSO. However, most hams believe they are required to ID at the start of a QSO.

For the sake of clarity, a system of callsigns was enacted by international treaty at the Washington

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Conference of 1927. Our American callsigns fall within the parameters of this treaty and its amendments. A callsign is supposed to tell the world one is an American ham. Using suffixes of one to three letters, such as on the net in question, is not a valid ID. Prior to deregulation in 1978, we could also tell through the call district and modifiers such as portable or mobile followed by a call district number, the geographical location of a station. By just picking up a mic and talking without identification or merely using the suffix part of a callsign does not follow the law's intent of "clearly making the source of the transmissions from the station known to those receiving the transmissions."

Does any experienced ham really think not giving one's call at the beginning of a QSO is clear identification? Personally I would not have a QSO with someone who just started talking on the radio. How do I know this person is not a bootlegger unless they give their callsign at the start of transmission? Would the ham advocates for not ID'ing for 10 minutes also advocate sending 10 minutes of CQs before ID'ing?

There should be no dispute that the *assigned callsign* is what appears on one's license. Anything but the callsign as issued by the FCC does not meet the definition of *assigned callsign*. Here in California, in 2007-2008, a popular uprising against the Department of Motor Vehicles occurred when they arbitrarily inserted a space in our assigned FCC callsigns on our callsign license plates (http://www.nospacehamplates.blogspot.com/). The California episode shows hams are passionate that their assigned callsigns are not messed with. Obviously, *a suffix in and by itself is not the licensee's assigned call sign*. If a licensee is not transmitting an assigned callsign, then s/he is likely violating Section 97.119. The ID'ing regulations do not make an exception for tactical callsigns, even if they are being used by a RACES group sponsored by a government agency. If tactical callsigns are used, Section 97.119 still requires using *assigned callsigns* at the very minimum ID'ing at the end of the transmission and every 10 minutes. The ARRL's National Traffic System Methods and Practices Guideline says, "Stations use their full callsigns when first checking in" to nets (9.1.3, 9.1.4, 9.3). http://www.arrl.org/FandES/field/nts-mpg/pdf/MPG904A.pdf

"…a popular uprising…"

Here is the sub-sub-section from the current Technician class question pool on station identification. The wrong answers have been omitted to save space:

T2B - Basic identification requirements, repeater ID standards, identification for non-voice modes, identification requirements for mobile and portable operation – 1 exam question

What must you transmit to identify your amateur station? **Your call sign.**

What is a transmission called that does not contain a station identification?

Unidentified communications or signals.

How often must an amateur station transmit the assigned call sign?

Every 10 minutes during communications and at the end of each communication

What is an acceptable method of transmitting a repeater station identification?

By phone using the English language.

By video image conforming to applicable standards.

By Morse code at a speed not to exceed 20 words per minute.

All of these answers are correct.

What identification is required when two amateur stations end communications? **Each station must transmit its own call sign.**

What is the longest period of time an amateur station can operate without transmitting its call sign? **10 minutes.**

What is a permissible way to identify your station when you are speaking to another amateur operator using a language other than English? **You must identify using the English language.**

How often must you identify using your assigned call sign when operating while using a special event call sign? **Once per hour.**

What is required when using one or more self-assigned indicators with your assigned call sign? **The indicator must not conflict with an indicator specified by FCC rules or with a prefix assigned to another country.**

What is the correct way to identify when visiting a station if you hold a higher-class license than that of

CONTINUED - IDENTIFICATION ON PAGE 7

The ARRL FCC Rule Book, 13th Ed.

Robert F. Heytow Memorial Radio Club

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Volume 7, Issue 1

Gridless Gammatron

Norman Wilson, N6JV

Prototype Gridless Gammatron. Perhaps 5 or 6 known to still exist. (Fig. 1)

The year 1929 is best known for the stock market crash and the start of the Great Depression. This period was also an exciting time in the history of communications. Decisions were made, opportunities were lost and new products were developed that would shape things to come for many years.

Spark transmissions had finally been banned and the high power commercial transmitters as well as a few hams had been converting over to large tube transmitters. These transmitters were often Hartley oscillators with little or no DC filtering. With a 3-phase power supply, the CW note would be modulated with a nice 350-cycle whine—great for cutting through static.

The Dollar Steamship Company wanted to install powerful transmitters on all their ships and land stations. They approached Ralph Heintz, W6RH, to research circuits that wouldn't infringe on the existing oscillator patents. Heintz and his partner, Jack Kaufman, had formed Heintz and Kaufman in 1924. Dollar had possession of a patent for a "Simpson" oscillator through their acquisition of the Simpson Radio Co. The circuit worked, but RCA refused to sell them tubes. Heintz and other young engineers from UC Berkeley and Stanford began research on a different type of tube that wouldn't infringe on the patents for the triode, the getter, the thoriated tungsten filament and the internal insulator. They explored the work done by Goddard, of rocket fame, and decided to build prototype tubes based on this research.

The new tube was to be much like a full-wave rectifier with two large plates and a single filament. The filament was mounted very close to one plate they called a "gamma" plate. A conventional triode used a grid between the filament and plate to control the electron flow, but this tube utilized the gamma plate that had a high potential and created a field around it and the filament. Modulation or switching of the field would release electrons towards the plate. Both anodes were to be made from tantalum metal that had the nature of absorbing gas when operated at high temperatures. A pure tungsten filament and no internal insulators should solve the patent problems.

Heintz had hired two young hams to build their prototype tubes and they set up shop in South San Francisco. They chose the commonly available "250" watt envelope from Corning Glass and produced their first tubes. (Fig. 1) They worked, but the amplification factor was only 2 or 3 at best. Not a problem in a free-running oscillator. The new tubes were a great success and could be run red hot, but were still underpowered for their intended application. They called their new tubes "Gridless Gammatrons." They made a few larger versions and eventually produced 1 KW transmitters for all of Dollar's ship and shore stations mostly using a tube named the HK-255. These tubes worked well at 1 KW with 5,000 volts on the plate. None of these tubes were intended for public sale.

RCA was not pleased and quickly sued H&K. Seven RCA lawyers showed up for the trial, but Heintz had built an excellent set of demonstrations for this technology and before the trial started, they dropped the suit.

As the depression went on, the finances of Dollar slumped so Heintz convinced the company to start selling tubes to the public and make some money. RCA was found to be running a monopoly and so required to allow others to make gridded tubes. By 1934 they produced an excellent tube designated the HK-354 and sales looked promising, but Dollar's financial problems forced staff reductions.

Continued - GAMMATRON on Page 7

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CONTINUED - GAMMATRON FROM PAGE 6

The two young hams Heintz hired to help set up tube manufacturing could see little future working for H&K so they started their own tube making company. They were Bill Eitel, W6UF, and Jack McCullough, W6CHE, and their new company was called Eimac.

Heintz and Kaufman went on to make a variety of tubes through World War II under the "Gammatron" brand name. Eimac became a giant in the tube making business. Their first tube in 1934, the 150T (Fig. 2, center page 6) was a great success. This type of high-voltage, high frequency tube would be modified into a variety of products needed for many of the high power RADARs used in the war.

Few remember the Dollar Steamship Line today, but Eimac lives on along with many Silicon Valley companies who got their start in the tube business. They were on the ground floor, but lost opportunities for great wealth when the accountants won over enterprise and imagination.

The Tube Collectors Association (TCA) is an international group of tube collectors and historians. We always enjoy hearing from others who see art and history in a vacuum tube. Visit us at http://tubecollectors.org.

The author's Web site and transmitting tube museum can be viewed at: http://n6jv.com ■

Ham Lingo

DICK SYLVAN, W9CBT

A "TUNED" RF STAGE

CONTINUED - IDENTIFICATION FROM PAGE 5

the station licensee and you are using a frequency not authorized to his class of license? **Send his call sign first, followed by your call sign.**

When exercising the operating privileges earned by examination upgrade of a license what is meant by use of the indicator "/AG"? **Authorized General.**

The question pool supports the regulation as written. The FCC has stated in Section 97.119 is want clear identification yet it omitted requiring identification at the beginning of a transmission. Gordo deals with the flaw of the FCC omission by stating in his Technician guide that one ought to ID at the beginning of a transmission as a matter of good operating practice. The new instructor's tangent on this matter had nothing to do with preparing students to take the Technician licensing exam. It was not only confusing the students, it encourages them to use bad operating practice.

Why would someone say only the suffix? Are they too lazy to say the whole callsign? Are they not proud to be a licensed radio amateur? Or are they simply ignorant and don't care. Judges and law enforcement often say–ignorance of the law is no excuse. Each FCC licensee is responsible for lawful operation–and for using good operating procedure. But this was more than an individual problem in the present case. Note: net control led them to violate identification requirements. The problem, in the opinion of this old school ham, extends beyond net control to the dumbing down of ham radio. Some ham radio policymakers are so desperate to save our declining hobby; they have dumbed down the licenses. It is no wonder I observed the behavior discussed in this article. The behavior observed is a symptom of dumbed-down ham licenses. There are no easy answers to the decline of our hobby. Let me, however, say in closing, that if an old school ham looks long and hard enough, s/he will still find niches in which good operating practice, courtesy and technical advancement still exist. ■

The Moment You Knew...

Of course you remember the defining moment when you had to get your ham ticket. Your eyes opened wide and you couldn't soak it in fast enough. Tell us about it—your elmer—your first contact—your first rig, etc.

Send us an e-mail at: telegraph@k9ya.org

7

K9YA Telegraph

Robert F. Heytow Memorial Radio Club

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Volume 7, Issue 1

Continued - LAID-BACK FUN from Page 1

on any amateur radio band while ragchewing, earning awards and contesting.

The SKCC as its name denotes promotes the use of straight keys, bugs and sideswipers, its members helping keep manual keying alive and well. If you want to hear CW keying with personality and individuality monitor SKCC's operating frequencies: 1.820, 3.550, 7.055, 7.120, 10.120, 14.050, 18.080, 21.050, 24.910 and 28.050.

http://www.skccgroup.com/

The NAQCC offers QRP operators a multiplicity of low-power, high-energy events and operating awards. And, quoting the club's Web site: "Encouraging use of CW and helping all hams increase CW speed and proficiency is a top club priority."

http://home.windstream.net/yoel/

If you're ready for some good-natured competition with a super group of ops take a few moments to join. SKCC and NAQCC membership is free and upon application you'll receive your membership number. Although membership is not required to participate in club events, only members are eligible for club awards and certificates.

Though a member of both SKCC (#258T) and NAQCC (#2227) for a number of years, I've only recently started participating in their frequent on-air events. Over the last year or so I've enjoyed earning the SKCC's Centurion and Tribune awards. I've even garnered first place in a monthly NAQCC Sprint–Simple Wire Antenna category.

The great thing about these events is the decorum, friendliness and enthusiasm displayed by the participants in the clubs' sprints and other contests. Almost without fail operators take the few extra seconds to exchange some personalized words and well wishes during every contest exchange. What a refreshing change from the too often cutthroat competition experienced in many of the big contests. For me, at this point in my amateur radio career, I'll gladly forego the big-time 48-hour weekend competitions for a few amiable and rewarding midweek hours—they renew my belief that hams are some of the best folk out there. So, be of good cheer, the QSOs are there for the making. ■

Continued - PAPERBOY from Page 3

a few minutes Jim appeared in the doorway.

"Yesterday, while you were both gone I heard a SOS on 40-meters. It was coming from a boat called the Sally Dee."

"We heard. You did well."

"Really?"

"Absolutely. You conducted yourself in the true spirit of amateur radio. We think you've earned the privileges that would ordinarily be extended only to a grandson," Jack said, reaching into his shirt pocket. "This key is to the front door. Anytime your mother says it's okay, let yourself in whether we're home or not."

"Are you serious?"

"Absolutely."

K9YA/SKN

K9YA Telegraph volunteers will participate in Straight Key Nite—January 1, 0000Z - 2400Z. We look forward to working as many *K9YA Telegraph* readers as we can. Logs due January 31. http://www.arrl.org/contests/

K9YA Staffer Interviewed

Our own Mike Dinelli, N9BOR, was recently interviewed for a feature article on hobbies. The article will appear in the January-February issue of LifeTimes® Newspaper.

The writer, Bob Seidenberg, visited Mike's hamshack for an on-air demonstration. "It's always fun to show ham radio in action," said Dinelli. "He (Seidenberg) asked many interesting questions and appeared to be fascinated with Morse code."

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