

K9YA Telegraph

Robert F. Heytow Memorial Radio Club

Volume 12, Issue 9 September 2015



Amateur Radio USSR

Box 88, Moscow - Part II

Philip Cala-Lazar, K9PL

Short Wave, VHF and UHF

The USSR opened the short wave radio spectrum to amateur use in 1926. One of its several stated roles (as in the US) was to serve as a “reserve radio system for military communications.” Despite tight Soviet surveillance of

short wave radio, the amateur service was actively encouraged. General-Lieutenant Melnik, Deputy Chairman of the DOSAAF Central Committee, noted, “Soviet short wave amateurs made more than 500,000 two-way radio contacts with amateurs in 250 countries in a period of 18 months in 1957-1958.”

By the early 1960s the DOSAAF was pushing development of the lightly populated vhf/uhf bands. For example, in 1953, in the Moscow region, fewer than 10 stations (“ultra-short wave” amateurs) plied that part of the RF spectrum. Unlike HF, these bands, normally reliable for short distance communications only, simplified government monitoring. However, it was noted, Soviet amateurs, “from time to time [established] long range communications on them.”

Television

During the period covered in the monograph, broadcast TV DXing enjoyed some popularity, as did amateur television: *RADIO*, 1965, “...the first two-way long range contact on television by amateurs was accomplished...in the USSR.”

Activities

Contests, titles and awards incentivized amateurs’ skills “to earn distinction in his ‘art’.” During the years 1962-1963 more than 4,000 events were held

by DOSAAF clubs and 600 amateurs earned the title of Master of Sport.

The Federation of Radio Sport was responsible for contests, and set the qualifications for these awards and titles.

1. Master of Sport, USSR, International Class
2. Master of Sport, USSR
3. Candidate Master of Sport
4. First Class Operator
5. Second Class Operator
6. Third Class Operator
7. Junior First Class Operator
8. Junior Second Class Operator

Hedging their bets: “Only those operators who attained one of the first four rank, that is, First Class and above, are allowed to participate in international

amateur radio contests.” [Therefore it] “...is somewhat unrepresentative since the limitations imposed on Soviet participation, i.e., that only the best hams are allowed to compete internationally, are designed to ensure maximum skill and performance on these representatives of the Soviet Union.”

CONTINUED - AMATEUR RADIO USSR ON PAGE 7

“Master of Sport”

Philip Cala-Lazar, K9PL
Editor

Mike Dinelli, N9BOR
Layout

Dick Sylvan, W9CBT
Staff Cartoonist

Rod Newkirk, VA3ZBB (SK)
Contributing Editor
2004 - 2012



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

Inside This Issue...

<i>Amateur Radio USSR - Part II</i>	Page 1
<i>The Nalder Brothers Cable Key Lives</i>	Page 2
<i>Can You Hear Me Now?</i>	Page 4
<i>Rose - Part VI</i>	Page 5
<i>Amateur Radio at the Movies</i>	Page 6

The Nalder Brothers Cable Key Lives

An Adventure in Telegraphy

Ted Holland, WB3AVD



Ted, WB3AVD's Replica of the London Cable Key

I first ran into this key while perusing Dave Ingram's *World of Keys* several years ago, where I found its massive and unusual design to be appealing. An early style of double-lever "cricket," its mechanism was elevated atop high pedestals which apparently isolated and insulated the key's voltages from its base—a necessity in the days (a century ago and more) when high voltages were needed to traverse messages across lengthy land or

sea cables. The key looked like a miniature electrical substation (!), which I suppose appealed to this fellow who still fondly remembers his first Erector set a half-century ago! It just seemed to "mean business."

I purchased a miniature desktop metal lathe about three years ago, and very quickly became obsessed with building my own telegraph keys (there must be a term for this affliction!). It was only a matter of time before I decided I just had to have one of those weighty cable keys to hold down one of my QRP radios. I enlarged the photo of the Nalder Brothers London Cable Key shown in Ingram's book to serve as a receptacle for notes and ideas, as well as to study how the key worked (I'm now expert on these things!).

Perusing this photo, as well as a few similar keys in Perera's *Telegraph Collectors Reference* CD, led to some initial decisions. The originals appeared to use two entirely separate circuits (to send dashes on one wire, and dots on another), given the propagation delays and time constants of the lengthy land or sea cables they were employed on. The modern amateur radio CW op does not have this concern; thus the "resurrected" key would require only three binding posts to connect it up, and not the four typically seen on cable keys from a century ago. Electrically, the key could now be implemented to function identically to any modern iambic or double-lever paddle: three

wires connected to a 1/8" phono plug would insert into the "paddle" plug of any modern transceiver—one wire servicing one lever for dits, another servicing the second lever for dahs, and a third wire for the "common" which both levers would share.

As well, one notes on the original photo what appears to be a second set of contacts below the "T" which sits in the center of the key above the levers; presumably make-and-break circuitry, which the modern CW op no longer requires. Thus these mechanisms were retasked with adjustable magnets affording repulsion against the levers immediately below. Nor did the large "beehive" pedestals have to function as high voltage insulators. Thus metals could be more freely used in the construction of the modern version.

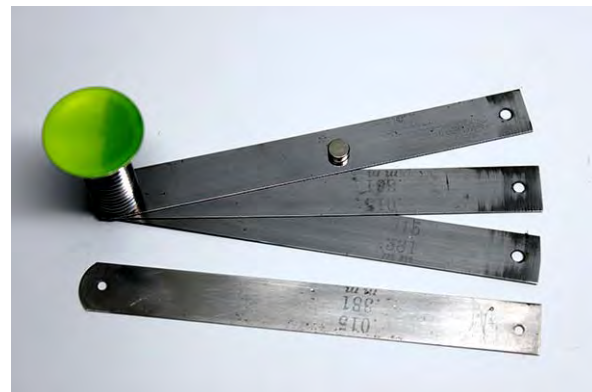
Let's take a tour.

The pedestals, which sit on the base, were cut from inch-thick aluminum rods to cone shapes which approximated the original. Grooves were then cut with a 60-degree v-tool to yield the beehive appearance. Where insulation between the posts and the base was desired, slips of black acetyl delrin (a hard plastic) were cut.

The view from the rear of the key (see photo) shows the three brass "funnels" which serve as the binding posts for connecting the key up. Again, we have

not wandered stylistically too far from the original. A standard three-conductor plug has been attached to allow use of the key with any modern ham transceiver.

"Let's Take a Tour."



Shows One of the Two Levers Built From a Stack of Feeler Gages



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

er. The two binding posts in the rear electrify their respective levers only, while the one in the center provides their shared “common” which electrically constitutes all of the rest of the key’s componentry.

The two levers themselves are each composed of a stack of three ½-inch wide pieces of feeler gage stock (see photo)—which just happens to be what I had on hand to work with. The original appears to have used a single piece of brass. In either case, the entire lever bends, and, in essence, affords its own tension. Here, the stack of feeler gage stock yielded an interesting ramification—the tension expressed by the lever can be easily and significantly increased or decreased by either adding or subtracting one or more of the “leafs” which comprise each lever. This is easily accomplished without tools.

We see the upper “T” which, on the original, appears to have carried a separate set of contacts, presumably for the “make-and-break” demanded by landline telegraphy. As we didn’t need that, I replaced what were probably contact gap adjustments with a hollow tube (grooved similar to the pedestals) in which a magnet rides up and down on a screw, affording adjustable repulsion against a magnet attached to the top of each lever. Think of this as a way to pre-tension the levers a bit! The knurled lock washer and brass cap immediately above each grooved tube sets and holds the height of the magnet above each lever.

In another photo can be seen my favorite part: each lever has a large eccentric wheel mounted above it, which is rotated by twisting the knob which sits atop the side-most pillar. In some of the original photographs of these types of keys, it appears these eccentrics were used to lock the levers down and closed (presumably to maintain line continuity so other telegraphers could use the cable).



Eccentric Wheel

*“...lots of
‘clacking.’”*

Here, we use these rolling eccentrics to adjust the gap spacing. Turning the knobs causes the eccentric wheels to impinge against the levers, thus driving them down, or letting them rise depending on where in the wheel’s turning cycle you are. This obviously changes the tension of the lever somewhat, but also affords quick and easy gap adjustment between the contacts. Both tension and gap adjustments are joint functions of adjusting both the repelling magnets and the eccentric wheels.

Finally, we see the contacts on the shorter pillars up front. I’ve placed the contacts on screw posts, so that by rotating the brass ring at the top, they have some range of motion up and down,

To finish the key, most of the metal surfaces (brass, aluminum, and steel) were simply buffed and polished. A matte black powder coat was applied to the base, and the tops of each paddle were powder coated with a glowing yellow green which works nicely with the rest of the key’s colors. (Powder coating was accomplished in a little toaster oven.)

So, how does it play? (I’ll admit to having turned out a few “experiments” which had a little more “personality” than I would have preferred!) I made several hundred contacts in a recent CW contest, and found it to be very easy and forgiving to use at moderate speeds. You could run it at, say, 25 wpm with a fairly wide gap spacing, and enjoy plenty of tactile feedback with lots of “clacking.” Or you could close the gaps nearly to closure, when only the lightest tapping on the paddles would reliably send at 40 wpm. That’s about its reasonable speed limit, I think, but to be honest, I’ve rarely needed more! Naturally, given its height, it is more suitable for a keying style wherein the forearm is held off the table (like using a British-style top hat). The layered leaf-spring construction-style of the levers also presents a slight amount of twist, if the paddles are not keyed directly up and down. This didn’t present a problem, though, and I enjoyed being on the air with this key as much as anything I’ve used over the last several years. I’m guessing its size and “looks” has something to do with that assessment! ■



Note The “T” Above the Levers at the Center of the Key. This Holds Two Barrels, Which House Magnets, Which Move Up and Down, Providing Some of The Lever Tension.

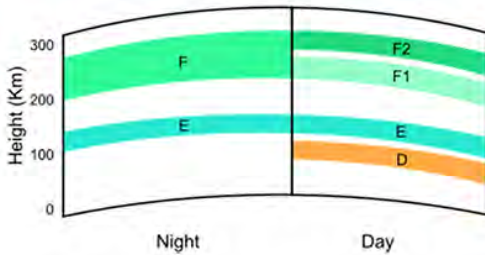


Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

Can You Hear Me Now?

Paul W. Ross, W3FIS



This article was prompted by some events a few days ago when I was running wsrnet, the HF beaconing program. For those not familiar with wsrnet (Weak Signal Reporting Network), you transmit a signal *very* slowly on a *very* narrow channel for a couple of minutes, then listen for any similar signals for a longer period. You have the option of telling a central database at <http://wsrnet.org> of any “spots,” and other reporters post their spottings of you.

In addition, a global map of spots is generated with information on who is hearing you, and who you hear. This is especially helpful for assessing overall band conditions, as you can select frequency “slots” for any of the amateur bands.

I find a great deal of difference in conditions from day to day, and over the period of a day. Propagation conditions vary substantially by band (frequency), time of day, sunspot activity, time of year, and host of other imponderables. For me, it seems to correlate with what I had for breakfast?

We all live with these issues, but it is helpful to explore just what is going on. The diurnal, or “daily” cycle in propagation conditions is most apparent. For example, I often log into the ECARS—East Coast Amateur Radio Service net on 40-meters in the morning. By noon, the net shuts down due to changing propagation conditions on 40-meters. Satisfactory propagation on 40-meters for me does not pick up again until nightfall.

To understand the diurnal cycle of propagation, we need to understand how the upper atmosphere enters into the picture. At the heart of this cycle is the effect of the sun’s radiation on the upper atmosphere. The sun’s light causes atoms in the upper atmosphere to become ionized—electrons are stripped off. These ions (in the ionosphere) then can refract, or bend, radio waves.

There are four principal ionized regions during the day in the upper atmosphere:

- D - 30 to 55 miles
- E - 55 to 87 miles
- F1 - 87 to 130 miles
- F2 - 130 miles and above

The F2 region is of most importance to amateur radio operators, as it is present 24 hours a day and usually refracts the highest frequencies in the HF range. As the sun’s rays cease to impinge on the F2 region, the electrons that were knocked loose tend to recombine with the ions that were produced, but persist long enough to be useful. The typical lifetime of free electrons, before recombination in the F2 layer, is on the order of 20 minutes. This is comparable to the concept of “half-life” in radioactive decay. With a “half-life” of 20 minutes, it is going to take some time for all the electrons to recombine,

hence the persistence of the F2 layer. Do note that the level of ionization will increase until a given point comes back into sunlight to receive ultraviolet radiation. Actually, during the night, the F1 and F2 layers combine.

It is interesting to note that in the days of Guglielmo Marconi and the early days of “wireless,” the behavior of the ionosphere for radio propagation was

unknown. In fact, it was proposed that radio waves would not travel beyond the horizon, and long distance communications would be impossible. To explain the observation that long-distance propagation did occur, physicists O. Heaviside, A. Kennelly and K. Nagaoka suggested it could be explained by an electrically conductive layer in the upper atmosphere. This led to considerable experimentation, quite a bit of it being done by amateur radio operators.

As an example, when I was a young man working as a part-time transmitter engineer with WELI in New Haven, Connecticut, we had to reduce our power at sundown due to the possibility of interfering with a station on the same frequency in northern New Jersey.

CONTINUED - CAN YOU HEAR ME NOW? ON PAGE 6

Ionosphere Layers



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

K9YA Telegraph

Scott B. Laughlin, N7NET

The colors and the imaginative designs featured on some of Charlie's QSL cards fascinated Rose. Many were the products of print shops, while others were definitely the creations of skilled hands and gifted artists. In addition, many of the countries represented in these QSLs were from countries she'd always believed were backward, perhaps incapable of such creations.

By the time Charlie had finished the pickup she had one card she wanted more detail about.

"This one," she said, passing a card to him that pictured a radio sitting on a grass mat in what appeared to be a developing nation. "Is this for real?"

"Yes, I remember this one. He and I have QSO'd several times. He's a civil engineer. He earned his degree in the United States. His countrymen financed his education. He returned to his homeland to help engineer roads, bridges and buildings."

"How interesting," she remarked, studying the card again. "I should go home. My folks will be worried about me."

"You haven't had lunch, have you?" he asked.

"No, I'll eat at home."

"May I take you to lunch at May's?"

"I don't know if my father would approve. You and I haven't known each other very long, you know."

"There's a phone on the wall. Call them," he suggested.

She was hesitant. He wondered if that hesitation was because she didn't want to have lunch with him.

"If you'd rather not have lunch, I understand."

She went to the phone and Charlie stepped outside so she could talk privately.

"Mother said it would be okay," she said, joining him on the sidewalk.

"And your father, how does he feel?"

"Well, he's a little over protective. I'm his little girl, you know. But Mother said it would be okay."

"Artie, I'll be at May's if something comes up." Charlie shouted across the shop.

Virgil didn't mend any fences, nor did he fix the flat tire on the wheat drill after returning home. Instead, he headed for his favorite chair, which gave him a view of the lane leading to the house as well as the kitchen clock.

Anne knew his was stressed, but she offered no comfort. Instead, she brewed a pot of coffee.

Then the phone rang.

Virgil heard enough of the conversation to know that Anne was consenting to her having lunch with that guy running the shop. He thought she must be out of her head. But he held his tongue. He knew he was over protective. It was tough turning loose. Even worse, he knew the day was coming when all this would be beyond his control. His stomach turned at the thought.

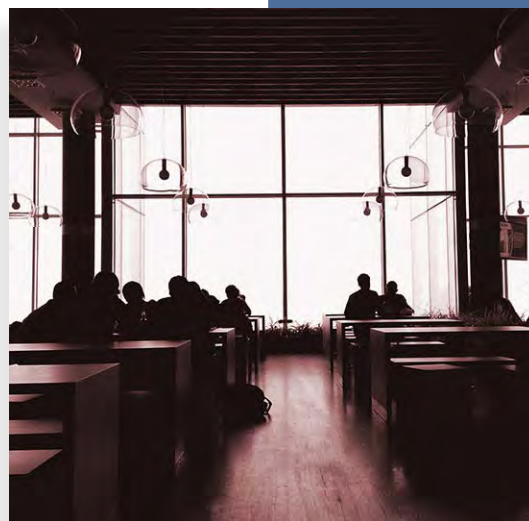
At last, the pickup came into view. As badly as he wanted rush out to meet his daughter in the drive with a thousand questions, he kept his seat and waited.

"How does the pickup run?" he asked as she entered the living room.

"It runs good, Daddy, better than it ever has since I started driving. And the clutch doesn't chatter," she replied, dropping her purse on the sofa and then taking a seat across the room from him, waiting for the questions. She saw him glance at her mother and then noticed the stern set of her mouth. She knew he'd been warned to keep his trap shut.

"Did you learn some geography, Rose?"

"Yes," she said, describing the array of artwork and photos she'd seen. "I'll never look at overseas countries the same way again." ■



"Is this for real?"



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

One would think that your nice HF signal goes up, hits the F2 layer, refracts, is absorbed, or passes on through. The fly in the ointment is that D layer, which is present only during the day. It has the nasty property of absorbing frequencies nicely from the 60-meter band on down! This accounts for the “after dark” issue—especially obvious with the MW broadcast band. I am a night “talk radio” buff, and after dark, I can pick up stations from most of the country, at least as far west as Chicago from where I live on the Atlantic Ocean in southern Delaware. Worse yet, during the diurnal cycle at night, the refractive capabilities of the F layers drop off—remember those combining electrons and ions? This means that signals may be refracted only weakly, especially those at higher frequencies, such as

the 20-meter band and above.

However, there are other factors at work in their influence on the ionosphere which are important to note. In no particular order, they are :

- **Solar cycle variation** - when sunspots are active, we receive additional ionizing radiation from the sun.
- **Seasonal variation** - In the northern hemisphere, the earth is tipped away from the sun, so the ionosphere receives less radiation, but the ion recombination rate is lower, known as the winter anomaly. This is why bands like 160-meters “open up” in the winter.
- **Variations with latitude** - This is due to the earth’s own magnetic field, which pushed additional ionization up into the F layers about +/- 20 degrees latitude.

If you want to explore propagation issues in more detail, check out the VOACAP propagation HF propagation site at <http://www.voacap.com/>. Happy hunting!

The solar cycle varies over a period of from nine to fourteen years. At the solar minimum, the ionization factor is reduced, and HF propagation conditions are poor, to say the least. We just have to pack away our 15- and 10-meter gear and hope for better times! ■

Image Credits:

Image 1: “Ionosphere Layers en” by: Naval Postgraduate School derivative work: Phirosiberia (talk). Licensed under CC BY-SA 3.0 via Wikimedia Commons.

Image 2: NASA (public domain).

Amateur Radio at the Movies

Bob Cashdollar, NR8U

The Anderson Tapes, 1971, Rated PG 1hr, 39 min.

The Anderson Tapes is a cops and robbers movie with a paranoid twist. A con, Sean Connery, fresh out of prison, gets the idea to rob a whole building.

The only problem is all the public safety agencies; from the Internal Revenue to the local New York police have the building under audio and video surveillance because of the building’s various inhabitants.

Wherever Duke, Connery’s character goes, some agency is watching.

Amateur Radio In The Movie

In one of the apartments the robbers enter is a boy who is an asthmatic and paraplegic. The boy convinces the robbers that he could not be a threat to them and they leave him alone in his room.

As soon as the robbers leave, the boy scoots out of bed and gets in a wheelchair to get to a closet in his room.

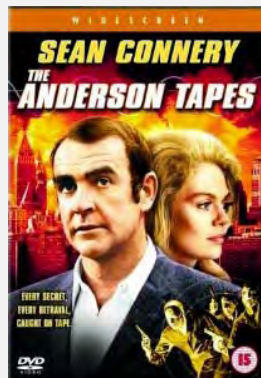
In the closet is a 1971 or so vintage Heathkit transceiver with a microphone.

Using the callsign WA2UYC he broadcasts blindly that someone is robbing his building. (WA2UYC is not in the QRZ database)

Later in the movie, a ham from Wichita Falls, Kansas calls the New York police department to report the robbery. Still later another ham is reported calling the police from Portland, Maine.

Nothing in the credits mentions any ham radio involvement in the production.

The movie “introduces” Christopher Walken in possibly his first movie role and if you look real close you will see the “Wicked Witch of the West” in one of the apartment scenes. The movie also features a group of other recognizable actors in various roles as cops or robbers.



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

K9YA Telegraph

Traditionally, there was a “Champion of DOSAAF,” who achieved top transmitting and receiving speed: “Diplomas or awards are given for the amount of contacts attained over a certain time period.”

Some Major Awards

1. Worked the Fifteen Republics of the USSR (R-15-R) [Worked in less than 24 hours.]
2. Heard the Fifteen Republics (S-15-R)
3. Worked 100 Oblasts [administrative divisions or regions] (R-100-O) Work 100 oblasts, or more, in one year
4. Worked 10 Raioni [Regions] (R-10-R) Work 10 regions in less than 24 hours
5. Worked Six Continents—Europe, Africa, Asia, North America, South America, European and Asiatic republics of the USSR
6. Worked 150 Countries (P-150-C), two-way contacts with 150 countries including Soviet republics (Each of the above offers an equivalent SWL “S” – “Heard” award.)

Three Popular Contests

The venerable Popov Memorial contest was held annually on or around May 7 to honor A. Popov, the Russian inventor of radio. Most recently, the event was held March 21, 2015.

Field Day (*Polavoi Dyan*): Initiated nationally in 1956 among vhf/uhf operators. DOSAAF Field Day, like FDs elsewhere, entailed working from temporary stations using only emergency power sources—stipulated outdoors only, “no home or other building” operation. The exercise offered practical experience potentially useful in military situations.

By 1961 686 stations from 96 DOSAAF clubs participated in Field Day: longest 145 Mc contact, 315 km; longest 425 Mc contact, 207 km.

Fox Hunting: “This form of competition is taken very seriously by Soviet hams who invariably win European competitions...[i]t contains two qualities which Soviets consider most desirable; technical skill and physical fitness.”

Artificial Earth Satellites

“In 1957, several months before the launching of Sputnik I, articles began to appear in the journal *RADIO* dealing with the observation and tracking artificial earth satellites by radio amateurs.” Articles detailed the basics of satellite science and tracking and provided plans to build a receiver and direction-

finding attachment. Reception reports were sent to “K-9, Mokhovaya Street, 11, Institute of Radio Engineering and Electronics of the Academy of Sciences, USSR.” (See: *K9YA Telegraph* Sept. 2007 and March, April 2013)

Military Significance

His skill [amateur radio operators] at satellite tracking would serve the armed forces well. Other uses of amateurs during military situations include their acting as liaison communications between various detachments of the Red Army, and informing the Army of the location and strengths of enemy troops.

Amateur training was considered “invaluable to the army.” *Indications are the non-amateur has a much more difficult and lengthy experience in becoming a good army radio communicator than does the former “ham.” Such competitions as Field Day are designed to maximize experience in situations most helpful in military communications.*



“...technical skills and physical fitness.”

Radio Equipment

In post-WWII USSR, owing to wartime confiscation, privately owned radio gear was scarce. Therefore, amateur equipment was home-brewed or consisted of modified “long and medium wave receivers to receive short wave broadcasting.” Twenty years on, 1965, “Today, when sets capable of receiving below the 25 metre band are simply not available, much of this ‘doctoring’ [still] takes place.”

In 1954, some two years before the Soviet government encouraged the growth of private stations, the supply situation eased somewhat for long and medium wave receivers, just the sort of receivers being “doctored” by hams 10 years later. *Because commercial radio equipment is comparatively expensive and scarce in the Soviet Union, most ham equipment is made by the amateurs themselves.*

Thus, because few “composite kits” were available and parts frequently sourced from a number of suppliers, the six-month transmitter construction time allotted to new operators was rendered “less generous” than it first appeared.



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org

CONTINUED - AMATEUR RADIO USSR ON PAGE 8

DOSAAF was the major supplier of parts and gear, and was primarily sourced from the Soviet armed forces and the Ministry of Communications. At the club level, equipment was distributed by supply committees or “senior operators” who chose their recipients by seniority and need. Though some trade existed between individuals, it was “largely limited to the receiver section.”

The most common type of antenna used by Soviet hams is the ‘quad’ arrangement, which resembles a spider-like figure. The reasons for this are that it is better for high-frequency operation, and the materials for its construction are easier for the Soviet ham to obtain. Since aluminum rodding is next to impossible to get, this structure is built of bamboo supports, which hold the wires and and last for about three or four years under normal weather conditions.

Exhibitions of Amateur-Built Equipment

“Each year dozens of exhibitions prepared by radio amateurs are held in the Soviet Union, some of them showing amateur equipment. These exhibitions are climaxed each year by an All-Union Exhibit sponsored by DOSAAF.”

Foreign Contacts

“The relations which Soviet amateur radio operators have with their Western counterparts takes four main forms. Besides actual contacts via the QSL cards which acknowledge reception transmissions, international radio amateur competition, and visits of foreign hams to the USSR. The last two forms of

contact have been significant only in recent years, and are rather limited in quantity.”

American hams have reported that as a rule, soviet operators are good, their level of technical skill having improved markedly during the last decade. Their contacts as compared with those of other western hams, however, are rather short, due to the rule on content, and they usually initiate the sign-off procedure. Language used is the international radio language based on English. It has been indicated that hams of the Soviet and East European countries tend to Russify their these expressions when speaking among themselves. In converting the code to Russian [Cyrillic alphabet], the five extra Russian letters are never used in international contacts.

Note: At this point in the narrative it is appropriate to fondly recall the raspy CW emitted by many Soviet amateur stations. Western hams attributed that trait to poorly filtered power supplies occasioned by the scarcity of electronics components. Those 1970s, early 1980s, CW tones were so distinctive, that, whether by design or default, they stood out from the crowd in pile-ups and made every CQ a herald’s call.

QSL Cards

Following a brief explanation of QSL cards and QSL’ing as proof of contact for contests and as ham shack decoration: Soviet cards were described as limited to providing minimal personal data and “[They] are often printed on tourist-style postcards or plain cards.” DOSAAF also provided cards through their local clubs.

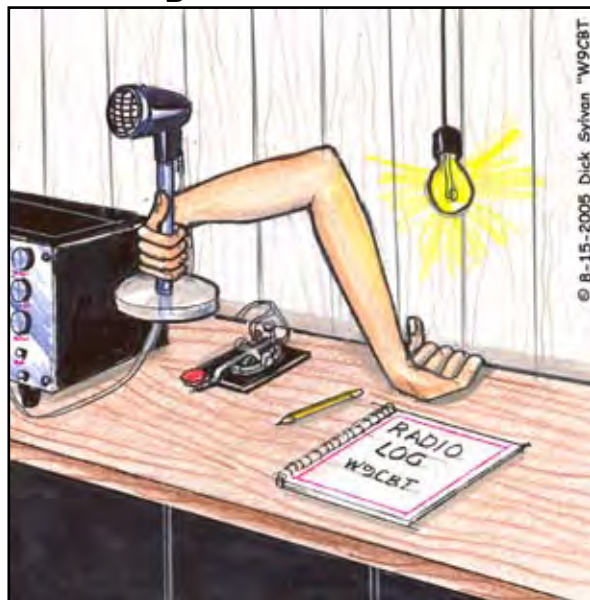
For domestic contacts, and differing from American hams’ practice, “The cards among Soviet hams are mailed through the DOSAAF radio club which authorizes free postage for the purpose. The amateur purchases the envelope for the QSL at the post office then takes it to the radio club to be stamped free postage.”

For DX QSL’ing, “The Soviet ham mails his cards to Box 88 which sends them to the foreign ham [via local QSL bureau], again authorizing free postage.” For the reverse route, foreign hams sent their card to the Central Radio Club, Box 88, Moscow.

Soviet hams could have cards mailed directly to their names and they, in turn, could QSL direct to foreign hams, however, “...since Soviet international mail is closely watched, this is not a particularly advisable procedure, especially if there is anything dubious about the contact.” Foreign cards were subject to censorship, “...cards which are pornographic in nature or those which contain political enclosures (even stamps) are filtered out...” ■

Ham Lingo

DICK SYLVAN, W9CBT



“ADJUSTABLE ARM BOOM MICROPHONE”



Robert F. Heytow
Memorial Radio Club

www.k9ya.org
telegraph@k9ya.org