K9YA Telegraph

Robert F. Heytow Memorial Radio Club

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If All the Guys in the World…

Si Tous les Gars du Monde

Philip Cala-Lazar, K9PL

A special peculiarity of the shortwave is that it is sometimes only perceived at a long distance. Day and night amateurs sit at their devices. If suddenly an emergency call comes to them out of the air, then the invisible network animates itself and people of all countries unite to help other people to survive. (From the film's English-subtitled foreword.)

Persistent, but hazy memories of amateur radio depicted in the 1956 French film *If All the Guys in the World…* have pestered me for years. As a schoolboy-age aficionado of foreign films, Chicago's WGN-TV obliged, filling its late night film slots with classic and New Wave foreign films.

"Beware, there be spoilers ahead."

Now, thanks to YouTube, it is available 24-7. YouTube's English-subtitled version is the German-dubbed, *TKX Antwortet Nicht*, German title, same film. Note: the English subtitles often obscure the greater part of the frame. The original French language version is also available on YouTube. Links to both at the foot of this article.*

Beware, there be spoilers ahead.

The Story

French fishing trawler, *Lutéce*, home port Concarneau, Brittany, with a 12-man crew, is two days out from Oslo, on the North Sea. Crew members are consecutively stricken with a mysterious malady knocking them off their feet with delirium, nausea and generalized weakness. Only Mohammed, the vessel's engine tender, is unaffected. Due to the dictates of his religion he eats no pork and is thus saved from the tainted, homemade, smoke-cured ham brought aboard by crewman Jos and generously shared with all the other crew members. However, Mohammed's apparent immunity to the illness has Jos suspecting foul play, thus leading to several assaults, verbal and physical, on the blameless crewman.

Seeking help, the captain fails to raise anyone via the boat's marine radio and soon discovers the transmitter's power transformer has failed. No problem, he shifts to his amateur station installed alongside the marine radio gear. Transmitting an AM signal on 14.300 Mc he eventually raises Alberto, FD8AM (not a valid call), in Tapango [sp.], French Togoland. Twenty-meters apparently running long that day.

Contact established, the local medical officer, Dr. Jegou, diagnoses botulism. The antitoxin must be administered by 8 a.m. the next day. The drug is available from the *Institut Pasteur* located in Paris. Now commences a remarkable amateur radio chain reaction.

FD8AM issues a CQ Paris call and raises Jean-Louis, F8YT, a young ham, QTH Paris. Jean-Louis is played

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Inside This Issue…

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The Weight

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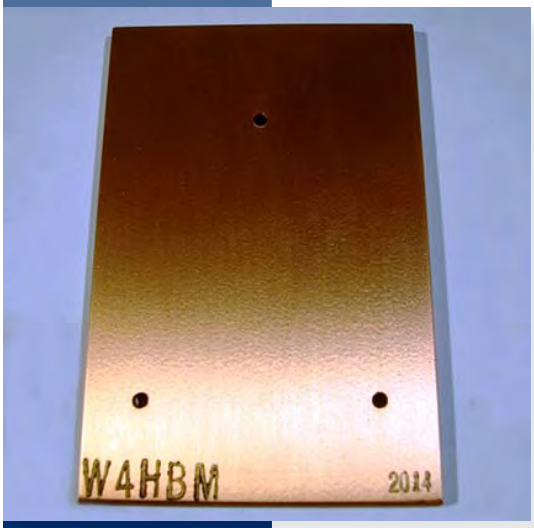

6" x 4" Copper Plate
Drilled and Sprayed

After having all my sidewinder keys move around the operating desk when sending, an easy and elegant solution that doesn't involve drilling holes in furniture and/or cementing the key right down came to mind. Using a piece of ¼ inch-thick copper buss bar material, cut just a bit larger than the key base, with a rubber bottom surface would provide a lot more weight to overcome.

I already had some solid 4" copper buss bar material, and sawing it to the right length was perfect for the 'Plex iambic 2-paddle and Vibrokeyer™ steel bases. Copper is soft enough to form with hand tools alone; all you need is:

- A new hacksaw blade collection with 18 to 24 teeth-per-inch.
- A handle to hold the blade.
- A carpenter's square.
- A steel ruler graduated in 64th's of an inch, -OR-
- A vernier caliper with depth gauge capability, (6-inch type).
- Several sheets of 150 grit sand paper.
- Several sheets of 200 grit sand paper.
- Several sheets of purple (medium mesh) Scotch-Brite™.
- A can of clear acrylic spray.
- A mouse pad with fabric top and rubber bottom.
- A can of spray-on adhesive (like 3M #45 gen' purpose).
- Three, 6-32 button head or flat head stainless steel screws, 1-inch in length.
- Six, 10-32 stainless steel machine nuts.
- An electric drill, preferably a drill press.
- A 3/16" inch diameter drill bit.
- A ¾" high-speed countersink bit. (Hardware stores have 3-packs of different sizes.)
- A pencil.
- Something to turn the three screws with.
- An oscillating orbital hand sander. (Optional)

"…the base will not break your back."

The first task after cutting the copper plate to the right six- and four-inch lengths was squaring up the corners and sides, first with a file, and then with 150 grit sand paper (held with a block of wood, etc.).

Next came an oscillating hand sander to scratch up the glazed and gouged upper surface that took about an hour to get decent-looking. Then came a flat file, then an oscillating palm sander to break the sharp corners and fashion a radius, mostly concentrating on the top surface's finish.

It is important to get the metal plate reasonably square before attempting to lay out the three holes to mount the key base to the copper. If the plate is not square on all four corners the assembled device will need to be "tweaked" with larger drill bits and the mounting will look slightly "off," as well. Remember, copper is not at all difficult to shape and if you have a selection of flat files, meaning coarse to fine, then shaping the base will not break your back.

Then it was time to lay out where the key would go. See the layout-drawing picture. The first thing to do was to spray some cheap, flat finish paint on the top surface and let it dry well. This provides a great surface for drawing lines, especially thin pencil lines that on greasy copper doesn't turn up so well.

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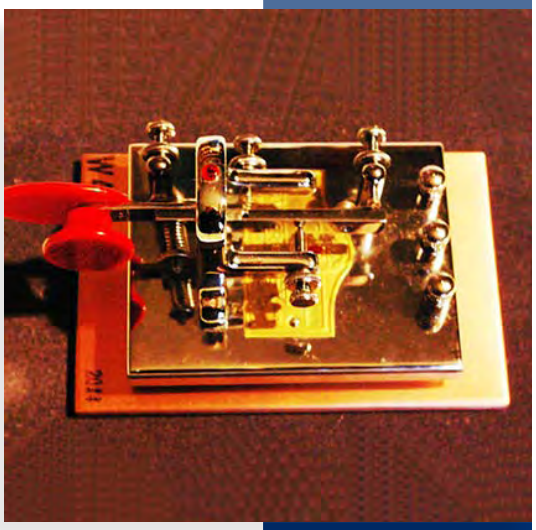
Comparing some of the dimensions of the target keys to be mounted, it became apparent that the rear foot on the keys is right on the centerline along the long axis. With both keys having a base that is 3.5" wide, the 1.750" centerline on the key is symmetrical to both sides.

It is then simple to use a square and draw a center line on the copper bar right at its center at the 2.00" mark from either end, and using the square, extend the line across the whole top of the copper bar, right down the middle.

The vernier caliper measurement of the hole center the rear foot will thread into, to the rear edge of the key base is 0.675" (on both models). Using the depth gauge portion of the vernier a mark was made in two places on the copper bar so a straight line could be drawn. HOWEVER, since the key(s) would want to be centered, front-to-back and side-to-side, the outer dimensions of the key base(s) was taken and found to be 3.500" by 4.500". Subtracting those dimensions from the copper bar and dividing by two told me the horizontal line for the back foot distance to the back of the copper bar should be 1.450" (.675 + .775), so that's where the vernier depth gauge was set, and a mark scratched in the paint, and a square applied to give a line to start with, from side-to-side in the copper. At the intersection of the center vertical line at the 2.00" point and at the 1.450" point, a center punch made a perfect drilling locator.

Personally, I like to work in a single direction, adding distances instead of wishing everything will line up if I lay stuff out from all ends. In this case, using the line drawn 1.450" from one edge (to eventually be the rear edge of the copper base) measurements were made on the actual key bases that disclosed the horizontal line that will indicate the front-to-back position of the two front feet on both keys was 3.410" away from the rear foot line.

Again using the vernier caliper and verifying my punch mark was still 1.450" from the edge of the copper, the 3.410" dimension was added to it (1.450 + 3.410 = 4.860) and the vernier depth gauge was preset to 4.860" and locked down. The end of the depth gauge with the "head end" of the vernier held abutted to the edge of the copper at the rear edge provided me a place to make a line in two places, and then using the trusty square, the dots were connected.



Key Assembly Pressing on Glued Mouse Pad

Now using the internal jaws of the vernier caliper, the bases of both keys revealed their hole centers were 0.425" from the sides of the steel bases. Since the copper base is 0.250" wider on each side than the steel key bases, the placement of the side-to-side hole centers in the copper meant adding the 0.425" dimension to the 0.250" outside "margin," yielding a 0.675" dimension from either edge of the copper to the hole centers, the second critical dimension(s) made so much easier to lay out because the steel key bases are wonderfully symmetrical.

"…steel key bases are wonderfully symmetrical."

A viable alternative here would be for the builder to lay out a rough oblong in the top surface of the copper bar, of the front-to-back and side-to-side dimensions of the key base, with equidistant lines providing a decent center for the key to mount.

Leaving the rubber feet on the key base, a smidgeon of grease is applied to the very bottom of the rubber feet, which will yield three circles in the bright copper that can be used as center points for punching and drilling.

An even easier method is to go ahead and use the rubber feet-with-grease method and then drill a pilot hole partially through the copper plate (in the middle of the three circles made with grease and finish up with a 9/16" drill bit, also only partially through the copper plate.

This leaves three large circles that will center the key feet and provide a good place to RTV-glue the feet into place without a detailed layout. (If you have ac-

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Another Way to Skin a Cat

Magnetic Loops

Paul W. Ross, W3FIS

MFJ-1786 Super Hi-Q Loop for 10 thru 30 MHz

Those of us who live in HOA restricted environments face problems with setting up good antennas. No dipoles for 160-meters for us! The usual strategy is some "stealth work" with a roll of #26 wire run as long as we can manage. For me, I've simply strung a wire in my attic, end-fed it with a 1:4 step-up balun and an ATU with pretty good results. With 10 watts, I can easily work CW up and down the east coast, and with 5 watts, JT-65 to Europe.

An alternative to a wire antenna is what is known as a "magnetic loop." First, some basic things about radio frequency propagation. If you delve into the physics of the matter, you will find that an electromagnetic wave is propagated with *two* components–an electric field component, and a magnetic field component. The usual "wire" antenna responds to the electric field component of the electromagnetic wave. The issue of wire antennas has been explored and experimented with in amazing detail. There are many theories, and all sorts of information, e.g., *The ARRL Antenna Book*. Great bedtime reading, but not for the faint of heart. There is no end to the experimentation you can do!

"Great bedtime reading…"

Now, what about that other component of the electromagnetic field, the magnetic component? Practically every modern AM broadcast radio uses it. Open one up and look for the black ferrite bar wound with a lot of wire. This is a magnetic antenna. It clearly shows "loop" characteristics–turn the radio to find the strongest reception.

Can it be used for transmission? In particular, can it be used for transmission? The answer is "yes," but with some caveats, however. The basic design of a magnetic loop is just that—a loop, typically a single turn. The loop is then tuned to the desired operating frequency with a variable capacitor. The system is a parallel resonant circuit. This leads to two problems. First, because of the material of the loop itself—typically something like copper with good conductivity, means losses are low, which is what we want in a transmission system. It results in a high "Q," which means a high voltage across the tuning capacitor, and a narrow bandwidth.

First, let us address the high voltage issue. With any reasonable power level, the voltage developed across the tuning capacitor will quickly exceed the capabilities of the usual air-variable capacitor. This means that something like a vacuum capacitor (rather expensive) will be needed. However, at the QRP 5-watt level, a conventional variable capacitor (air insulated) can suffice.

With the typical 10:1 range of a variable capacitor, this results in approximately a 3:1 tuning range (square root of the capacitance range). Thus, for a 40-meter low range, 10- or 15-meters will be the upper frequency range.

Coupling into the antenna can be done with either a small link/loop to the coaxial feed, or a "tap" between the bottom of the loop and some point along the loop. Think of this as a tapped transformer. The coupling loop is, however, the most common approach.

The sharp tuning, high voltage, and "hand capacitance" issues of moving near the tuning capacitor (both ends are "hot") suggest that a remote tuning strategy, such as a long insulated rod is a good idea. Some experimental antennas use a pair of different size beverage cans, one within the other, to form the tunable capacitor!

OK, you want one of these...what do you do?

There are at least two commercial models—the AlexLoop, developed by a ham in Brazil, and one from MFJ. The AlexLoop is nice, as it folds up into a travel case, and is ideal for QRP portable operation. The MFJ is a trifle different configuration, and would yield to a more permanent mounting.

Of course, you can build your own. The capacitor can be obtained from a number of suppliers, and the other mechanical parts from your local or big box hardware store and lumberyard. ■

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Memories of a B-36 Radio Operator

Scott B. Laughlin, N7NET

Radio communications have become simplified during the last sixty years, or so. The copilot now does the majority of the communications. But it wasn't always that way. Case in point involves Airman Roger Stigney, a radio operator who served aboard a RB-36 during the 1950s, attached to the 60th Bomb Squadron Operations headquartered in hangar #5 at Ramey Air Force Base, Puerto Rico. Stigney was one of 22 crew members aboard the aircraft when it was fully armed.

With several radios—ARC-27, ARC-13, BC-348, and a manually tuned long-wire HF antenna—Stigney handled all communications, in addition to monitoring CW frequencies sent from the Strategic Air Command (SAC) Headquarters at Offutt AFB, Neb. For routine communications the Air Force relied on AM signals, but for sensitive, classified messages SAC relied on encoded CW.

Morse travels a greater distance, and is accurately copied through heavy interference, both manmade and atmospheric. CW provided yet another layer of security, not everyone receiving the signal could decipher the information.

Because so much vital information arrived at his airborne post by way of CW, Stigney's skills had to be up to snuff. In order to be prepared he was required to pass a 20-wpm code test prior to each mission. In addition, since he had more than one job, he also had to spend time on a 20mm machine gun simulator.

Stigney was also the electronic countermeasures (ECM) operator—jamming enemy radar—as well as right-forward gunner.

As if he had not quenched his thirst for radio, he also earned his Novice ticket in 1951 and was issued WN9TPZ. In 1953, after transferring to Ramey Air Force Base, he received KP4ABS. Later, he upgraded to Extra Class with AJØP. While I was putting the finishing touches on this article Stigney told me he has a closetful of radios, and he's considering giving amateur radio a third whirl.

B-36 "Peacemaker" Bomber

The time spent aloft varied from 24 to 27 hours. However, he recalls one mission lasting 40 hours. Most of these sorties were routine, long, uneventful hours spent in the sky. But there were exceptions.

Once, a landing gear failed to extend. Someone had to crawl out into the wing-stub and manually release it, allowing gravity to pull it down to the locked position. This emergency procedure did not allow for the opening of what was commonly called the "canoe door," the last door to close after a gear are retracted. It was ripped from the airplane in the process.

> *"Morse travels a greater distance…"*

Another time an engine fire occurred. Controlling it was unsuccessful. It burned so hot the engine eventually fell from the aircraft.

Yet another time one of the blisters (window) burst at altitude, causing rapid decompression. That is an event for which no one is ever prepared.

Last, but certainly not least, Stigney was a flight crew member on a B-36 on display at the Wright-Paterson AFB Museum until 1970. Originally, this aircraft was a YB-36 (42-13571). Later, prior to going to Ramey AFB, it was converted to a RB-36E model. It was later replaced by a B-36J model (52-2220) the aircraft currently on display at the museum.

Does he miss his radio operator job? Yes, but communications were changing, requiring less hands-on. The B-36 replacement, the B-52, had no need for his unique skills. ■

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cess to a vertical milling machine you probably know just how to use it and all this patter is unnecessary when looking at the layout drawing. However, the main target for this article is the selection of CW ops, who have a drawer full of hand tools.)

Completed Keys

Returning to the original "mechanical" layout, the three 3/16-inch holes were drilled through at the punch points. Then, the underside of the copper plate was countersunk on a drill press so the mounting screw heads would be under the surface of the copper base. A great way to gauge the depth when countersinking is to aim for a knife-edge of material at the bottom of the cone. That way you know all the holes will be at the same approximate depth, so three similar screws can be selected and used for assembly.

If, when assembling, even with the two stacked #10 nuts as spacers, you find a screw too long when it bottoms out in the key's steel base, remember to thread one or two 6-32 nuts onto the screw before cutting it, and when done, removing the nuts from the threads will more than likely restore a good thread to enable easy starting into the base.

"…and that was that."

With the three holes complete it was time to finish the top surface and more sanding to remove any burrs. Then rubbing with a purple Scotch-Brite™ abrasive pad was done, only from front-to-back, and not side-to-side. Then wash off with a rag, dish soap and hot water. This removes much of the abrasive detritus and helps provide a satin finish very susceptible to fingerprints and slight dings.

(Remember, raw copper will tarnish so fast you can see it fade from that beautiful reddish tint into a yellowed dinge.) So don't leave the plate finishing overnight.

Of course, the next step was to spray the copper block with a crystal clear acrylic spray finish before I could screw up hours of scrubbing with Scotch-Brite™. It would have been great to actually polish the copper top surface to a mirror finish, but that is above my pay grade and something I never learned how to do well, so I remain satisfied with satin. (*Satin,* not Satan…)

Allowing a 24-hour drying time with three very light coats, the next step was to mount the key's feet. Here, two mods were necessary: One, the bottom of the steel key base contacted the copper and threatened to short circuit the works.

Two number 10 machine nuts were put between the screw protrusion under the steel base and the top of the copper. Since the screws and other stuff protrude down towards the copper for about 0.200", two #10 nuts are perfect for a standoff, as there will be a 0.043" gap from copper surface to the key bottom protrusion measurement. One or two drops of clear nail polish on the key base and on the machine nuts, and left overnight to dry will hold the hardware in position so threading up the copper base doesn't turn into a nightmare.

This then afforded me a comfortable gap between the key bottom and the copper top surface and the operating height of the paddles is right back where it was before modifying the mount. (Actually, the rubber feet are 0.500" high. Totaling the 0.250" copper base, plus the 0.243 machine nuts, plus the 0.125 rubber pad, nominal thickness yields 0.618" key height, which is 0.118" higher, (less than one-eighth of an inch).

After mounting the key base to the copper it was the next step to glue a rubber mouse pad to the bottom surface. I sprayed 3M™ type 45 general purpose adhesive on both the mouse pad upper (or fabric) surface and to the key's bottom copper surface. With the mouse pad glue *up* and the key's glued surface *down*, the two assemblies mated without worrying about lining up any of the sides and was left pressed together for a day, with a hefty book on top of it all. The next day, a new razor blade was used to cut out the excess rubber sticking out from the copper plate, and that was that.

This mod method effectively doubles the weight of the key, as copper is very dense. As well, this method affords approximately forty times more surface grip than rubber feet alone. No more sliding. Period. If you lead a somewhat normal life, (with chores, honey-dos, obedience classes, etc.), this project should take no more than four days to complete and will still look great fifty years from now.

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by soon to be international superstar, Jean-Louis Trintignant. The real F8YT, André Fleury, lent his call sign and radio gear to the film production. His station was reproduced at the St. Maurice film studio (Val-de-Marne) and a "broadcast (on a dummy antenna) [was] actually made during the shooting."

Jean-Louis is directed to contact Dr. Largeau residing at Boulevard de Clichy 130B. (Now the location of restaurant *La Carolus*.) Arriving at the address on his Vespa scooter, Jean-Louis learns the doctor has recently deceased following his return from an overseas posting, leaving his dispirited widow, Christine, in a state of deep mourning tinged with anger. She is at first loath to help Jean-Louis obtain the antitoxin, but soon relents and accompanies him to the *Institut Pasteur* where they pool their money to purchase 12 ampoules of serum.

Arriving at the *Aerogare de Paris*, they confront an onslaught of red tape that threatens to stymie the life-saving drug transfer. Finally, thanks to Christine's persistence, the package will be placed (in contravention of the law) with an Air France crew member on a Munich to Oslo flight. Too late, that flight departs without the package. Fortunately, a Polish flight to Berlin is about to depart, so Christine convinces a stewardess assigned to that flight to carry the package.

Meanwhile, Jean-Louis, ignorant of the change of destination, returns home to contact his friend, Karl Baumeister, DL3IK, a blind ham, QTH Munich.

The package, now headed to divided Berlin, requires someone to pick it up–big problem—because it arrived not at *Tempelhof Flughafen* in the American Sector, but at *Schönefeld Flughafen* in the Soviet Sector. In Munich, Karl's daughter, Herta, has an American boyfriend, Johnny, a technical sergeant (E-6) in the U.S.A.F. Johnny's friend, Mitch, a U.S.A.F. flight controller at *Tempelhof*, agrees to pick up the package in East Berlin, a very risky business.

That night, Mitch slips through Brandenburg Gate into the Soviet Sector. Picking up the package at the *Hotel Newa*, "where all the flight crews stay." Attempting to depart East Berlin with the package tucked under his coat—he is arrested by the police and interrogated by a Russian army captain who also questions the Polish stewardess.

> *"A very risky business."*

The captain, seizing the opportunity for some great press, releases Mitch and the stewardess, but retains the drug package. It will be flown to Copenhagen via Aeroflot, on to Oslo via Air France and, finally, aboard a Norwegian military aircraft to be parachuted to *Lutéce* at her last recorded position, however, she has moved and no one, at sea nor on land, has heard her. Where is she now?

The Captain

Eventually, a concerted effort by marine stations in Bologna, Newcastle and Oslo establish contact with *Lutéce*. Jos, now manning the radio, is directed to switch to CW, key down. The three stations triangulate and determine the trawler's location.

Position ascertained, the Norwegian aircraft soon finds *Lutéce* despite low cloud cover. A dummy load is parachuted to determine drift and splashes down far from the vessel. Next, the serum is dropped and it splashes nearer, but at some distance from the boat–Mohammed jumps into the frigid waters and retrieves the package. He is near to succumbing when the Norwegians drop a one-man inflatable raft that saves the intrepid crewman. The film closes with the crews' joyous reception at Concarneau.

The film's depiction of amateur radio is quite realistic, having been vetted, preproduction, by Fernand Raoult, F9AA, then president of *Réseau des Émetteurs Français* (REF) and Francis Ledoux, F8LF, technical advisors to the film's director and co-screenwriter, Christian-Jaque, who made "a few changes regarding amateur radio for the greatest possible authenticity." Radio gear depicted in the film and identified: DL1IK, *Wehrmacht* KWEA (Anton) receiver and Siemens transmitter; F8YT, BC348 receiver and home-brew transmitter.

Resolution

If All the Guys in the World… does a fine job demonstrating one of amateur radio's supporting pillars, that of enhancing international goodwill. But it's not just the film's ham radio operators cooperating across national frontiers; human frontiers are also crossed,

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My own vanity led me to put my call letters on to the top of the plate using an old R-2315 stamping kit and directly stamping the copper before the clear coat. When the entire shebang dried, the call letters, made with printing ink and individual letters and numbers from the kit, gave the appearance of being three dimensional because of the media build up. Another way to personalize the plate is to use a small pantograph and a Dremel™ tool, which will actually engrave the copper, elegantly, but alas, I don't have one of those, either.

If you are looking for copper bar stock, try Metal Remnants out of Salt Lake City, Utah. They carry all sorts of shapes and materials and the best thing is the pieces come *squared* from having been sheared on the square. Is that line familiar to anyone: "…Meet on the level, depart on the square…?" ■

Great Caesar's Ghost!

Budding Jimmy Olsens and Lois Lanes needed.

The Daily Planet, aka, *K9YA Telegraph*, seeks articles. See your words and photos disseminated worldwide! Cub reporter? No problem, your copy will be emendated by the *K9YA Telegraph*'s team of professional editors.

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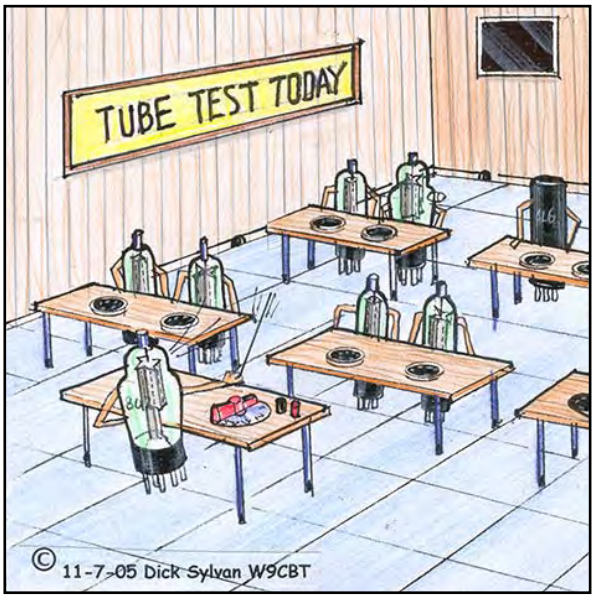
Ham Lingo

DICK SYLVAN, W9CBT



"TUBE TESTER"

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Jos eventually "sees the light" and drops his antipathy to Mohammed and Christine Largeau finds that selflessness, getting involved in the world, is the best cure for her depression and enervation. ■

Resources

*__Note__: Since the writing of this article YouTube has removed both the French and German versions of *If All the Guys in the World*.

Internet Movie Database:
http://www.imdb.com/title/tt0049703/?ref_=fn_tt_tt_1

F3CW Web site:
http://f3cw.free.fr/articles.php?lng=fr&pg=79

Memorial to André Fleury, F8YT:
http://www.qrz.com/db/TM8YT/

F1MMR Web site:
http://f1mmr.blogspot.com/2013/07/tm8yt.html

French compilation film from 1958: 00:00 mins., Young SWLs; 3:00 mins., André Fleury, F8YT; 05:35 mins., F8HA and family; 06:30 mins., Big yagi turning. http://www.ina.fr/video/CPF86609246/radio-amateur-video.html

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