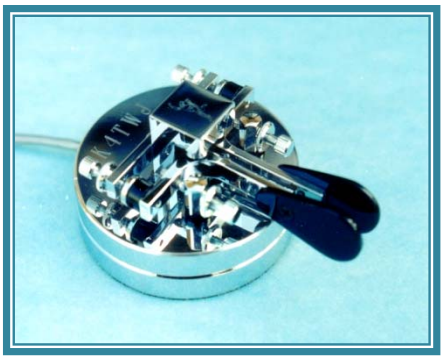
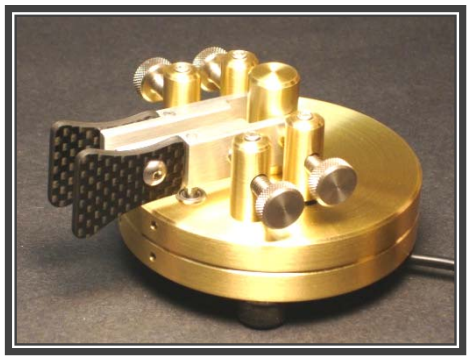
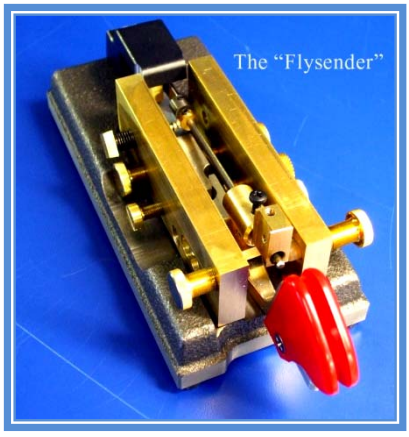
KEYS IV…AND MORE THE FINALE

New delights, old favorites, more!
(and you thought you had seen them all)

By Dave Ingram, K4TWJ







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PREFACE

Written by Sandy Ingram, WB4OEE (XYL of Dave Ingram, K4TWJ)

Let me begin by saying that I am not a writer…nor will I ever be….but this comes from the heart with all my love, caring…and tears.

Dave was the most enthusiastic person about ham radio that I have ever met. He couldn't get enough of all areas/phases. He was always willing to try out any part of it. Dave helped everybody he could especially through his writing for CQ magazine and others like RadCom, 100 Watts of Thailand and SARL of South Africa plus many more.

Actually Dave was an authority on most areas of amateur radio and was always willing to go that extra mile to help someone interested in becoming a "ham". Unfortunately, he was spread so thin that he didn't always have time to help everybody that needed it, but he tried to pass them on to someone that could help them.

Amateur Radio is certainly going to miss Dave and his enthusiasm. He could light up a room or person with everything he had to say about his hobby. As once told by Wayne Green, W2NSD, he did not have the editing/writing skills he needed at the beginning to write (for 73), but he did have the enthusiasm that was so contagious. So that is where he got his beginning.

I sincerely hope that each and every one of you enjoy Dave's final book. This book was written/put together with an urgency by Dave that somehow he knew God didn't plan to give him much more time on this earth. I believe that with all my heart and he just couldn't give up without one more chance to make his impact on ham radio. It was his fervent, as well as dying wish, that this book be made available to each and every ham that would like it and made available FREE to each of you. I thought of several ways to do this, but via the Internet seemed the best way, so that all of you would be able to see/read/download it without cost to you and limited cost to me.

Also please note that Dave's call, K4TWJ, will be preserved throughout the annals of time via a club: **David Ingram Memorial CW Club** with the call letters of **K4TWJ**.

I wish the best for each and every one of you and I hope that you will not soon forget Dave….he loved ham radio so much.

73 & 88,

Sandy, WB4OEE

INTRODUCTION

HAM PRIDE IS ALIVE AND THRIVING

By Dave Ingram, K4TWJ (SK)

(*This introduction was written by Dave before he became a Silent Key.)*

Over the years, I have written more than 1,000 articles and dozens of books on many, many aspects of amateur radio, both technical and non-technical, and your response indicated the most consistently popular topics are CW and keys. Why? Opinions may vary, but the obvious answer is keys (including bugs and paddles) are amateur radio's all-time favorite accessory and a universally recognized symbol of radio communications. Older keys stand as genuine pieces of radio history you can hold in your hand, and modern keys and paddles illustrate the artistic creativity and ingenuity of their designers. Amateur radio may change noticeably in the future, but our interest in keys and their historically significant background will surely live on for many years hence.

Operating CW with a just-right-for-you key, bug, or paddle is also enjoyable, as well as a unique skill and a silent means of non-verbal communication. Over the years, prisoners of war, hostages, and severely handicapped individuals have communicated by pipe-tapped, eye-blinked Morse code and more. Today many radio amateurs carry Medic Alert cards showing the Morse code and stating if injured but able to move some body part, they can "talk" via Morse code. In addition, the use of CW/Morse code and internationally recognized "Q" symbols (QTH, QSL, QRN, etc.) produce a universal language, so you can communicate with other radio amateurs of all languages worldwide.

You, the amateur radio operator, play a very important role in helping ensure our proud history, legacies, and traditions—the traits that place us 10 dB above the crowd and fill the airwaves, circle the Earth, and live on throughout the annals of time. Make no mistake, friends. Passing on these pictures and information to future generations of amateurs—both today and in future years, just as I am passing them on to you now—is one of the best contributions you can make to our grand amateur radio world. Keep the ball rolling!

KEYS IV… AND MORE (The Grand Finale)

As you probably know, books of a considerable size are too expensive to print freely in large quantities and ship over long distances. We are also progressing toward a “paperless society,” so producing this book on CD (the original) and then making the book available via the Internet is quite necessary.

There’s more! I have been compiling another book containing views and details of even more exotic keys and paddles, plus select reprints of my celebrated series of “HAM PRIDE” articles that have been translated and published worldwide. This combination is guaranteed to make everyone proud to be a legally tested and licensed radio amateur. Surely I speak for everyone in thanking the companies, foundations, organizations, and publications that support this endeavor. They are simply the best!

73, and may the force of good signals always be with you!

Dave Ingram, K4TWJ

Dave Ingram, K4TWJ, October 1942 to January 2010.

CHAPTER 1

Evolutions in Keys

The development, refinement and continuous evolution of telegraph keys is a story of vast proportion and high interest among radio amateurs near and far. It is also a story of sheer artistic beauty—in both key designs and the skill of their users. Yes friends, CW operators and their beloved keys are quite special—always have been, always will be!

The first form of telegraph key was little more than a strap of spring metal bent at a slight angle so when pressed down, it contacted a metal screw below it and closed a circuit. This devise was made during the 1830s or early 1940s and called, appropriately enough, a strap key. While strap keys have basically faded from existence, we occasionally see adaptations of their design in inexpensive electronic gadgets like talking greeting cards.

The next evolution was a full mechanism hand or “pump” key similar to the famed “Correspondent” laboratory assistant A. Vail made for Samuel F. B. Morse to use in his 1844 public introduction of a new medium called “Telegraphy”. The key’s main arm or lever was secured at its mid pivot point or fulcrum with a steel rod and a cotter pin. The main arm’s end was flattened rather than fitted with a knob and adjustment screws were crude, but this was the key that ushered in an eternal era of marvelous key designs that continue strong today.

As “landline” telegraphy came of age, numerous small telegraph companies with limited wires began dotting the nation (and the world) and numerous styles of “pinned fulcrum” keys went into production (1850s, 1860s, 1870s). Their demise made history after the massacre of General Armstrong Custer and Company at the battle of Little Big Horn. Telegraph keys and sounders clattered continuously for many days afterward, relaying names and details of the event. Telegraph operators developed Carpal Tunnel Syndrome and their “pinned fulcrum” keys literally fell apart from excess use. A new design key called the “Triumph” (so named because it was a triumph over pinned fulcrum keys) emerged. The largest of telegraph companies, the New York and Mississippi Valley Printing Telegraph Company soon began buying out smaller telegraph companies and combined them under the now-famous name of Western Union. More new styles of Triumph keys plus various unique and novel designs to hopefully

minimize carpal tunnel syndrome entered the scene. The world of telegraphy and keys was off and running!

The next major design in telegraph keys was the Camelback (so named due to the prominent hump shaped into its main arm). Some people say camelbacks were produced as an art form (and they are indeed). Others point out camelbacks were a first design effort to minimize carpal tunnel syndrome (not much help, but a nice sales gimmick!).

Surely the most artistic, unique and highly sought form of camelback was (and still is!) the Chubbock line of keys, which is best recognized by its tall tension spring and unusual shaped arm. Truly Chubbocks are prized collectibles. Camelbacks and Chubbocks were produced roughly between 1860 and 1890. Then several other types of telegraphic instruments began vying for the limelight.

During the latter 1880s, a key with a horizontal moving lever and called a “Double Action” key was assumedly introduced by Jesse H. Bunnell. As J. H. Bunnell explained, the key with contacts on both sides minimized wrist movements and allowed telegraphers using hand/pump keys to send twice as fast while avoiding (minimizing) carpal tunnel syndrome. Understand Bunnell’s key was not (!) a CW paddle, but simply a hand key with horizontal moving arm and contacts on both sides. It was, however, later resurrected as a “Sideswiper” or “Cootie key” with is almost forgotten but a blast of fun to use today.

During the approximate same time period, companies began laying long distance telegraph lines across entire countries and several of the world’s oceans. This evolution also led to the discovery of propagation delays caused by signals traveling hundreds and even thousands of miles through undersea cables. In a measure to sidestep that entanglement parallel positioned keys connected to separate and parallel lines—one for dots and one for dashes—evolved. This vertical moving dual lever gem became known as a “cricket key” and, yes, various forms of crickets are made in limited number, naturally) today. More details and views of camelbacks, Chubbocks, cooties, crickets and other yet-to-be discussed keys, incidentally are presented on following pages (they are the main focus of this book—my fourth work dedicated to keys and CW. Read on!

Another new telegraphic instrument came on the scene around the turn of the century (1901): Horace G. Martin’s semi-automatic key—the world-famous “bug”. Martin, a highly skilled telegrapher, became afflicted

with carpal tunnel syndrome and developed his “bug” (first known as the Autoplex, soon thereafter named the Vibroplex) as a personal aid. Fellow telegraphers quickly noted Martin’s revolutionary key and gave him money on-the-spot to make for them similar semi-automatic keys. Martin, inundated with orders, quit his telegraphic job, began making bugs, designing new styles and developed a partnership to sell his keys. The bug market flourished—indeed, exploded as semi automatic and fully automatic keys of every size, shape and configuration imaginable were made.

Guillermo Marconi also developed wireless telegraphy (which evolved into what we know today as “radio”) during this turn-of-the-century period. A resultant “wireless setup” of that hearty era typically consisted of a fire breathing spark gap transmitter and galena crystal set receiver. Spark gap transmitters used an enormous/vast amount of electrical energy during operation. Their associated keys were fitted with very large contacts and literally flamed with high circulating current and static electricity. Hairs on an operator’s head and arms stood out from static electricity and the smell of ozone filled the air (a smell like ten lightning bolts had just struck the radio room!). Arcs of static electricity flying off the transmitter occasionally scared visitors witless and sent them running in fright. Outside, the antenna glowed with a purple haze and flames of static electricity flying from its ends occasionally started bush fires.

Bands, frequencies and modes like CW, AM and SSB were relatively unknown during that ender young age of radio. Operators simply adjusted their spark transmitter’s resonating circuits to produce a super-healthy spark and a unique sound. They copied incoming signals by concentrating on the raspiness, buzz, hiss, tone or telegraphic “fist” of a selected station while ignoring other stations—regardless of strength. There were no IF or passband filters, no DSP and no AGC. The only selectivity was between an operator’s ears. May those spark keys, their gusto operators and their memories live forever!

As we moved from spark to CW (and later added loop modulation, AM, SSB and more recent digital modes), the design and production of various style keys absolutely exploded. Both companies and individuals produced a dazzling array of keys and bugs, and crickets, Sideswipers, pump handle keys, miniatures and more. One of the most amazing items during the 1950s, another evolution gave us the electronic keyer.

Once again, the keys market exploded—this time with an abundance of paddles. The first models used a single main lever similar to a bug, then

iambic action was introduced and dual lever paddles rocked the popularity list.

During the early part of the 20th Century, numerous countries (including the United States) began dropping Morse code requirements from radio license exams. The full story here is quite lengthy, but the overall impact strengthened rather than weakened amateur radio's perpetual love affair with CW and keys. During recent years, we have seen (and enjoyed using!) more dazzling keys, bugs, paddles, miniatures and novelty-type CW instruments than we saw advertised during the previous 50 years—combined—and they are all incredible.

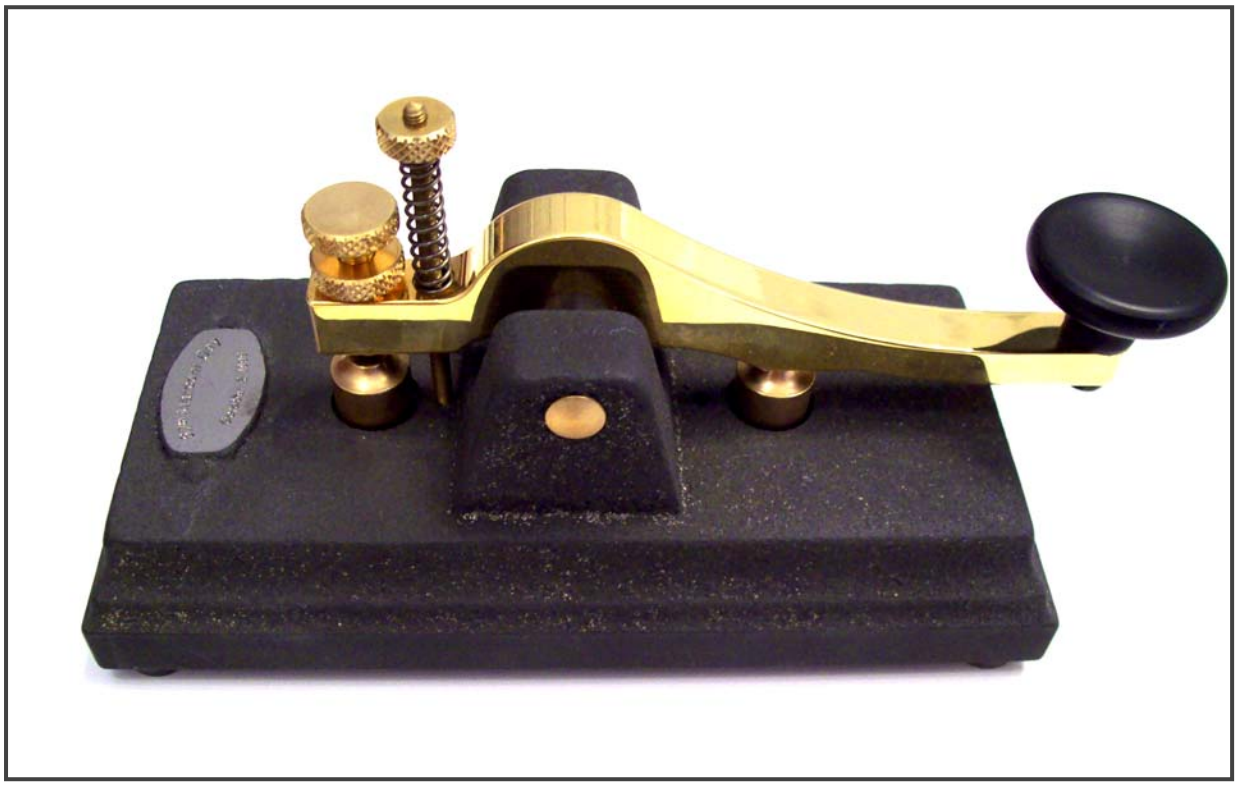
The following views are devoted to those wonderful world-class wabblers and their producers. Each tells half their story through associated photo while I attempt to tell the rest of their story in accompanying words. It is my sincere wish this combination of views and details combo will help place each key and its producer in telegraphic history and help their name live on throughout the annals of time.

CHAPTER 2

CAPTIVATING PUMPERS

Hand keys also known as straight keys and/or pump keys have always been an instantly recognized symbol of radio communications, and almost all amateurs have one or more hand keys in their station. Even voice-only operators find hand keys useful for checking output power and SWR, adjusting an antenna and performing various tests requiring a brief "key down" period. It is also interesting to study the endless array of designs in hand keys made during both past and present times. Some represent a genuine piece of telegraphic history you can hold in your hand (and use on-the-air today!) and some are modern works of art worthy of sincere admiration (and use—daily!). The Morse sending speed with a hand key is usually limited by the agility of an operator's wrist and the key's mechanism, and both normally "top out" around 15 to 18 words-per-minute. As a result, hand keys are good for "casual daily use" but a mite slow for big-time contest operations.

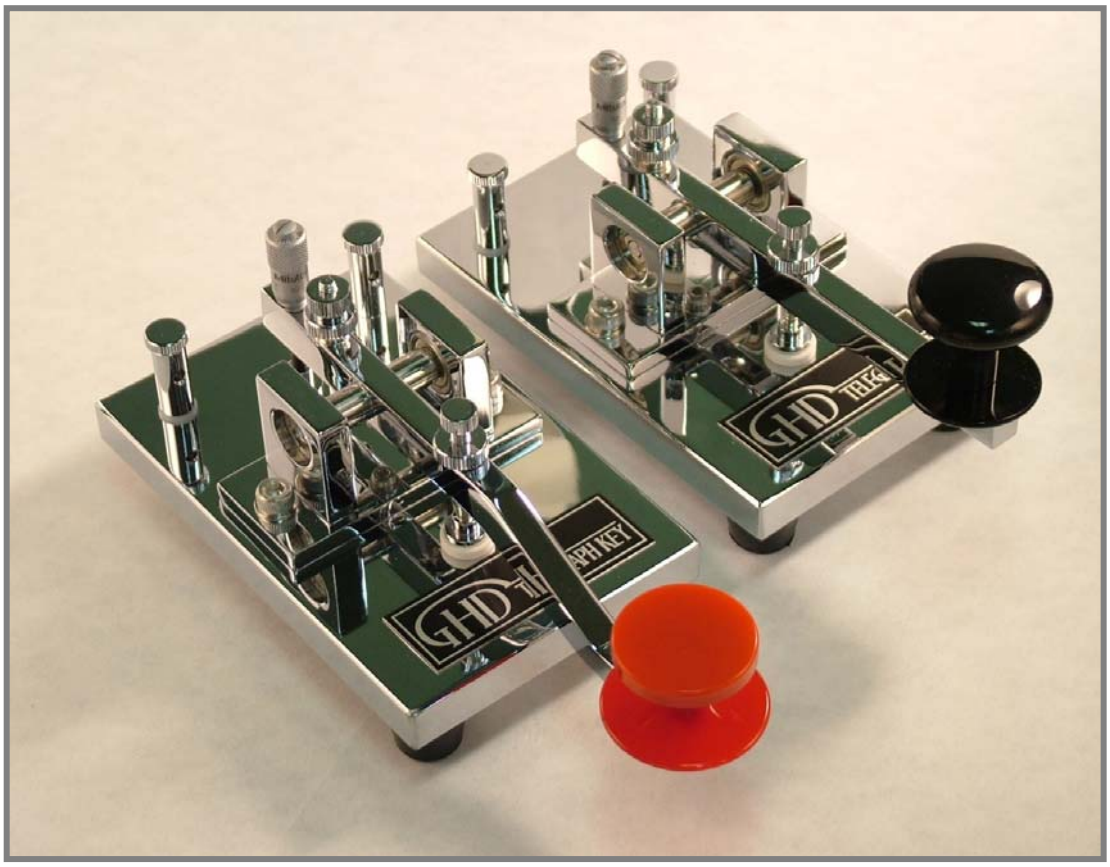
This chapter overviews some of the more smart design and attention-grabbing hand/pump keys we have seen in recent times. We hope you agree and enjoy the views. I should also emphasize that, like other chapters herein, these views and descriptions are mere "snapshots" at the present time and should not be construed as the ultimate or final word on this open-ended subject.



BEGALI CHUBBOCK KEY

Truly the most famous of all camelback keys was the off-center pivoting Chubbock key produced during the mid 1800s by Charles Chubbock. We understand the key was designed as an aid for telegraphers suffering from carpal tunnel syndrome: the “glass arm” affliction resulting from endless hours of using a hand or “pump” key. The Chubbock did little in averting carpal tunnel, but its unique and artistic styling has made it a prized collectable.

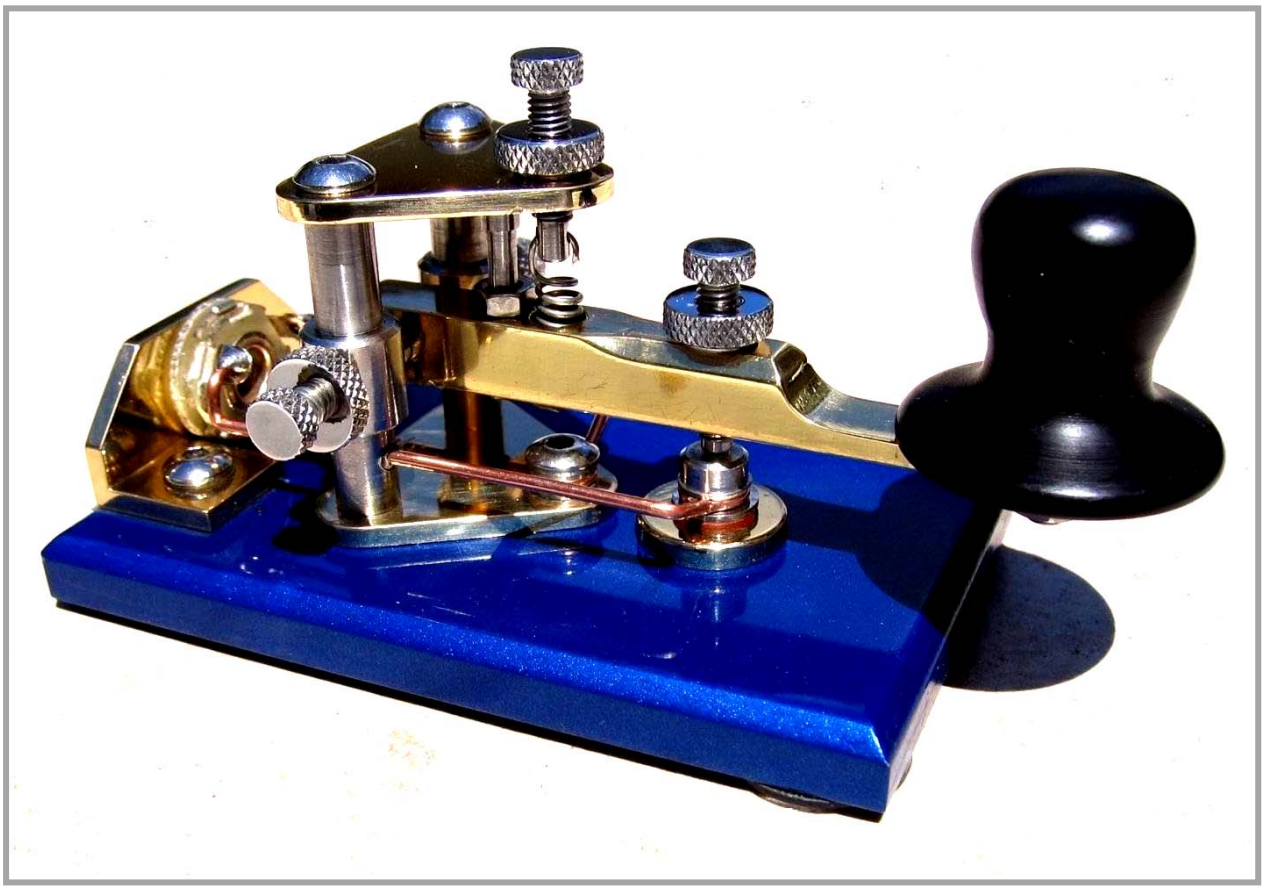
The Chubbock replica shown here is made by well-known key producer Pietro Begali, I2RTF, of Italy. It sports a heavy iron base for solid “stay put” operation, precision bearings at the fulcrum, and gold plated arm. It is an outstanding item for radio amateurs seeking modern perfection in an old world-style ‘pumper. Additional details at www.i2rtf.com.



DELUXE GHD HAND KEYS

Toshihiko Ujiie of Japan makes a quite impressive group of keys bearing the name “GHD”, two examples of which are shown in this picture. These models, GT-502A and GT-502MIL, are basically identical except one has a curved lever and one has a straight lever. Both models have aircraft grade ball bearings at the fulcrum, micrometer-adjusted contact spacing, bottom contact set in a ceramic insulator to reduce vibration and brilliant chrome plating.

GHD keys are presently imported to the U.S. by Marshall Emm, N1FN, of Morse Express in Colorado. A quick check of the website, www.morseX.com, reveals Morse Express typically has over 130 different types of keys, bugs and paddles in stock at one time. A visit to their showroom (10691 E. Bethany Drive, Suite 800, Aurora, CO 80014) is always a delightful experience.



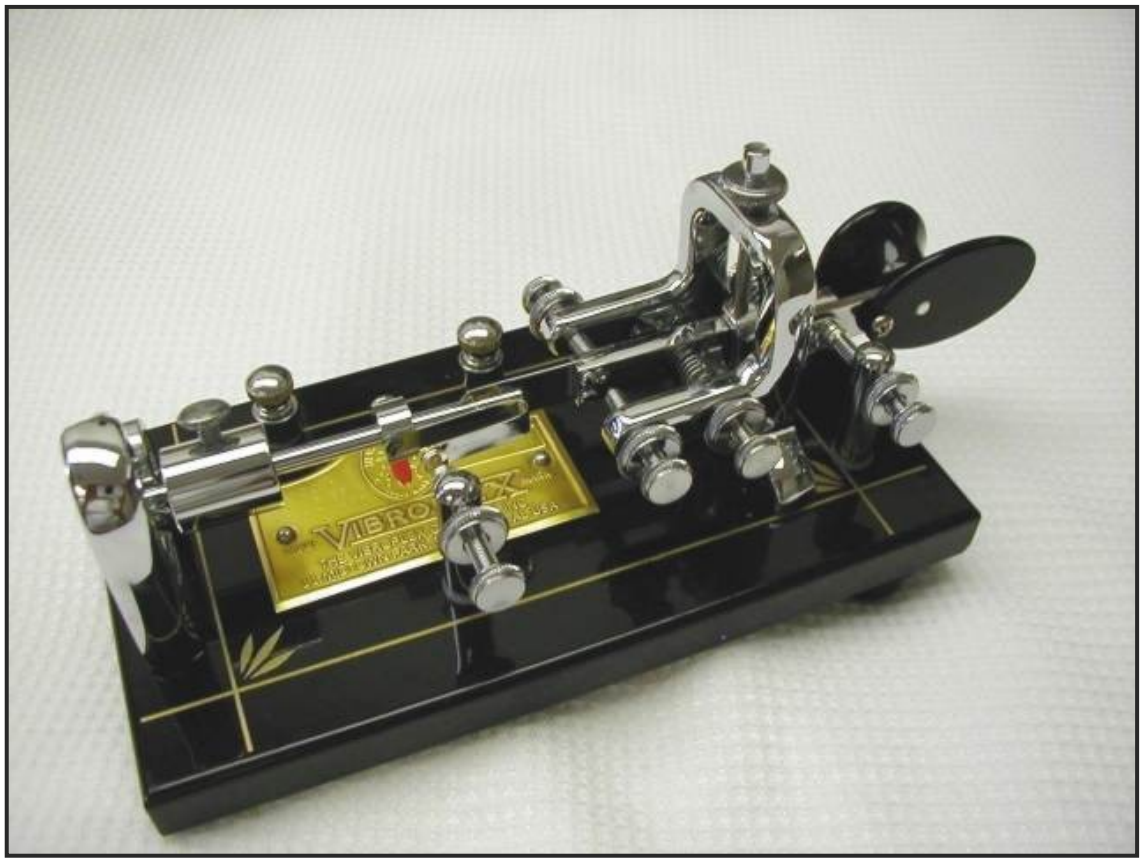
VK2DLF HAND/PUMP KEY

This unique gem may remind you of a semi-automatic key or bug because its main fulcrum assembly is adapted from—well, a bug. Look closer, however, and notice its arm pivots from the rear and makes full use of a tripod-type assembly like incorporated in the classic “Buzza” bug from Australia and/or the famous Lightning Bug (model) produced during eras past by Vibroplex Company. This blue-based beauty is made by George George, VK2DLF, and might be suitably described as—a beautiful pumper, by George, by George! And yes, there is also a similar styled bug and a paddle—by George!

CHAPTER 3

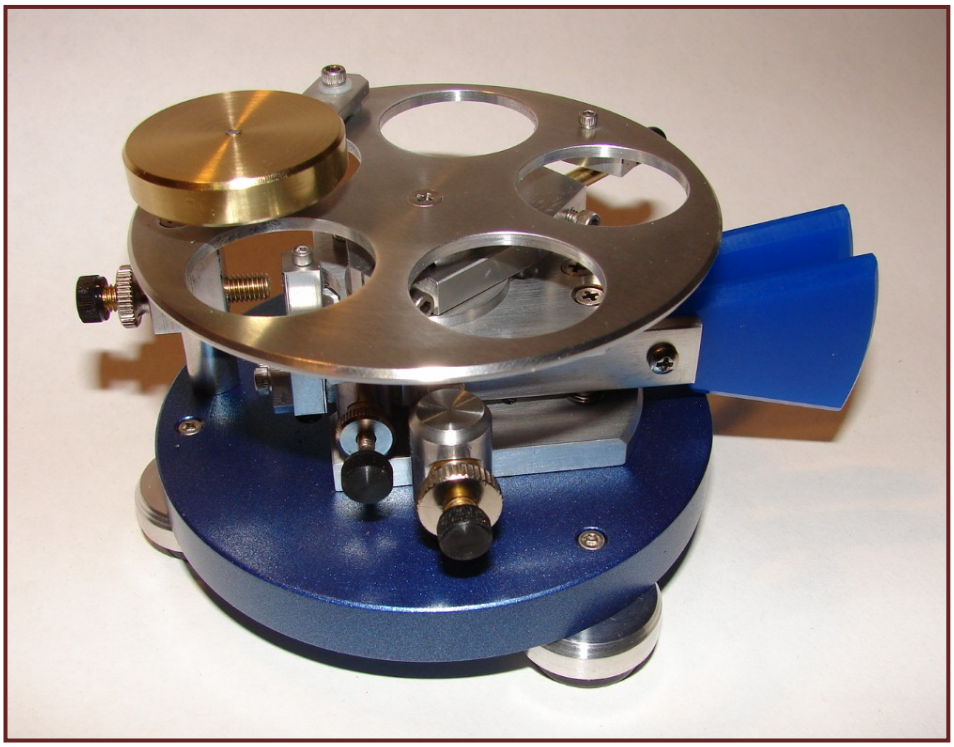
SUPER SEMIS, BEAUTIFUL BUGS!

Ah…those sweet little semi automatic keys or “bugs”, as we affectionately call them—they are CW instruments like none other! How so? When calling weak DX stations or battling an unruly pileup, using a bug lets you place an extra-long or “heavy” dash at just the right spot and send a burst of RF energy to catch the DX station’s attention. A bug also allows you to vary character spacing and produce a unique sound unattainable with a modern keyer and paddle. Bear in mind, a bug should not be adjusted for a feel like a paddle. Open the bug’s contacts for a wide gap and crank in plenty of tension. Get some good wrist action going, practice, practice, and practice until perfection, then hit the airwaves and enjoy some real old-time radio fun with that just-right-feel to your fist!



TOP LINE VIBROPLEX BUG

Continuing to stand proud as the oldest and most widely known name in both amateur radio and telegraphic keys is Vibroplex. During its 100 plus years of existence, the company has survived a fire and progressing through several generations of owners. Under present owner, Felton Mitchell, W4OA, and in recognition of its 100 years service to radio amateurs, this special edition Vibroplex semi-automatic key/bug was recently produced in limited quantity. We spotlight it here because its old-world glamour outshines many ultra-modern keys made today. It is styled like an “Original” 1905 model bug with high gloss black base, gold pinstriping, gold leaf design in corners and bright chrome plating, and it is dazzling! Even but inventor Horace G. Martin would be proud to own this beauty—and it works as good as it looks. More details available at www.vibroplex.com.

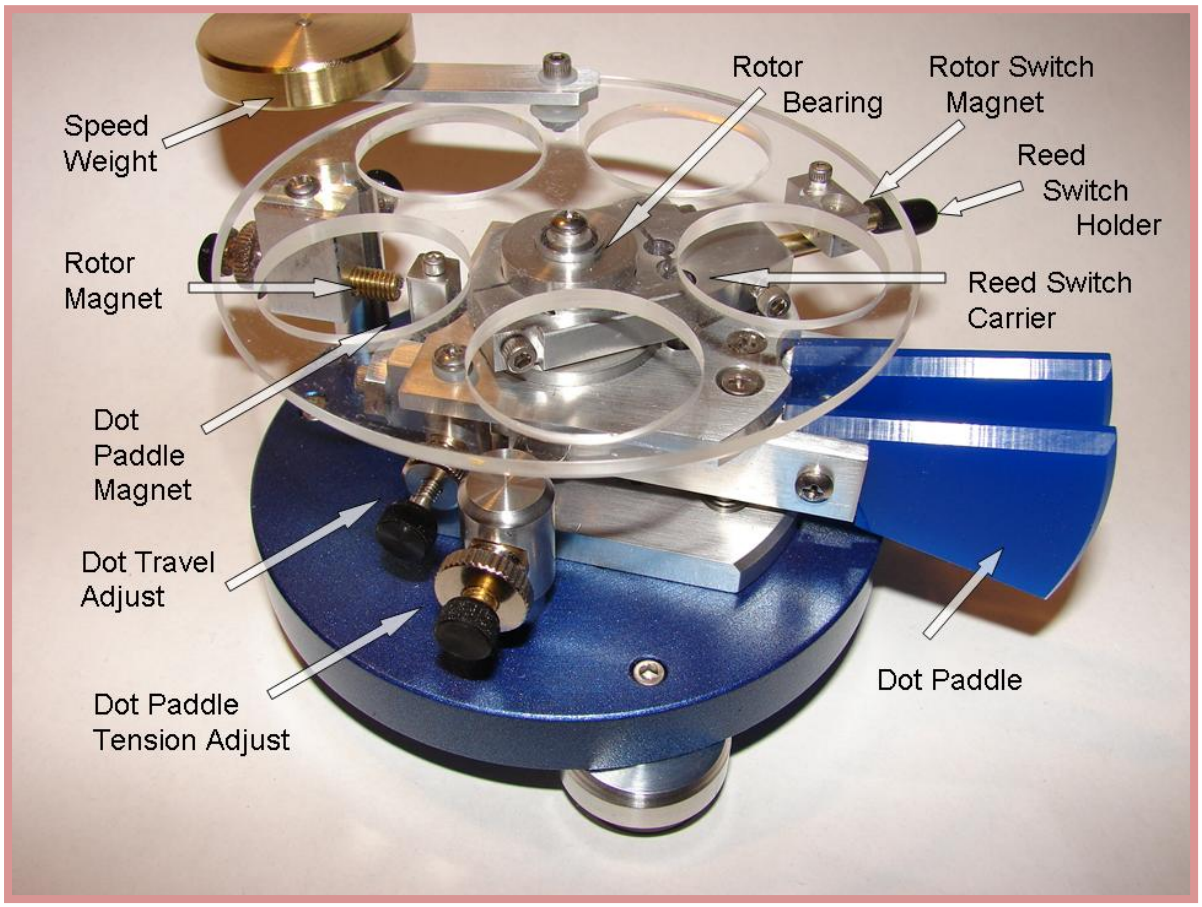


THE AMAZING WB9LPU ROTOBUG

This incredible semi-automatic key is the brainchild of noted key designer and prototyper Richard Meiss, WB9LPU. Rather than using a vibrating rod-type pendulum with speed-controlling weight like a regular bug to produce dots, it utilizes a top-mounted round rotor with a moveable arm at its rim. The rotor oscillates within a magnetic field with its position determined by a pair of permanent magnets—one fixed and one mounted on the rotor. Pressing the dot paddle releases the rotor so it is free to oscillate back and forth within the magnetic field and in doing so, it periodically trips a magnetic reed switch to transmit dots. A wired *AND* logic circuit is included in the bug's mechanism, so releasing the dot paddle interrupts dot production without requiring a metal damper like a regular bug. Dashes are made traditional-style with the dash lever. Does it work good? Absolutely! Rare earth magnets give the Rotobug a responsive and positive feel with the touch of tactile feedback to the fingertips that can't be beat. You find that feel only in the best of bugs! Watching the top-mounted rotor oscillate during operation is more captivating that watching meters swing on a rig and using the bug's independently operating dual levers keeps you striving to send beautiful CW. It's a treat!

ROTOBUG—A CLOSER LOOK

Designer Richard Meiss, WB9LPU, removed the rotor from his bug shown in previous picture to give you a view of the inner workings.



ROTOBUG WITH PARTS DETAILED

Designer Richard Meiss, WB9LPU, added a clear plastic rotor to his Rotobug and added labels for parts and adjustments so you can better understand how this masterpiece works.

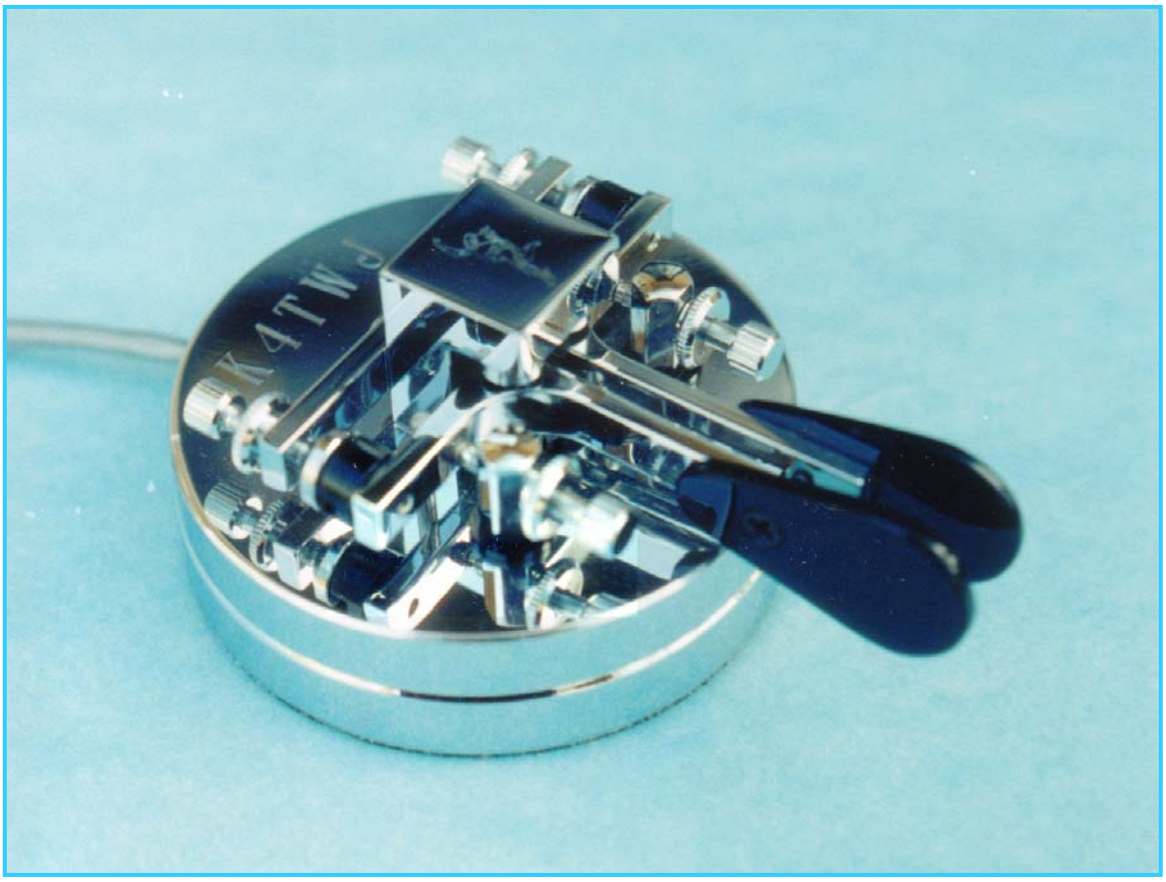
CHAPTER 4

PHENOMENAL PADDLES

CW Paddles have truly become the most widely favored instruments for transmitting Morse code today, and with good reason. They help an operator send code faster, more accurately and with less effort than with any other type key. Skillfully handled, an operator can also add a slight touch of “fist individuality” when transmitting with a paddle (tricky, but possible!).

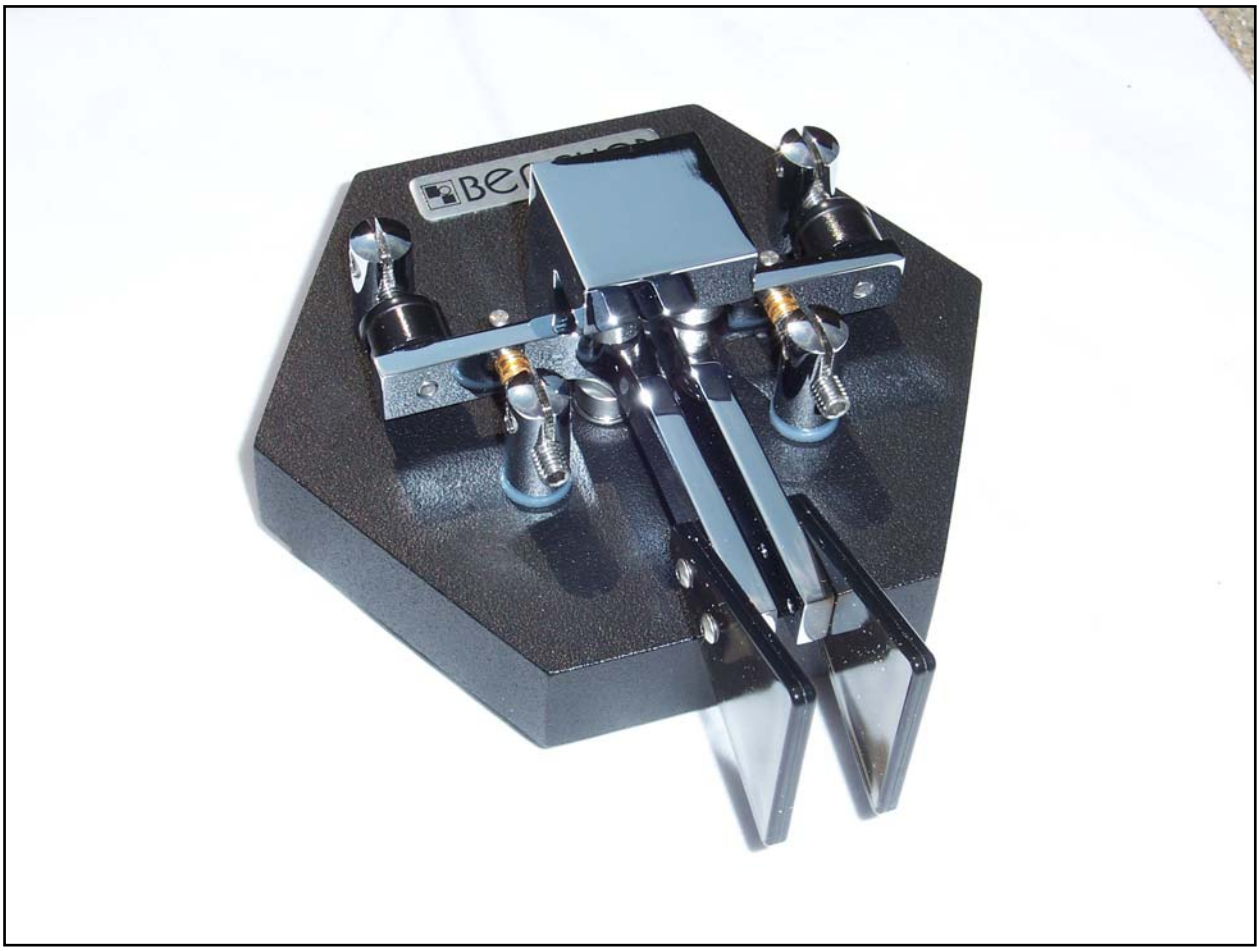
An increasing number of radio amateurs are making their own design paddles—some in quantity of one for personal use, some in larger quantities for sale to friends. A large number of these paddles are sheer works of art—excellent forms of personal expression and many are so impressive they have acquired a prominent place in the annals of time and telegraphic history. That dear friends is the ultimate reward for any key designer/producer. In light of the previous facts, this chapter highlights some outstanding examples of modern CW paddles. Enjoy the views with our compliments!

As you probably know, there are basically two types of paddles: single lever types and dual lever types—and choice is strictly a matter of personal preference. Some folks like the convenience of iambic action (squeeze both levers with left or right lever leading to produce alternating dots or dashes), others prefer the fail safe action of a single lever (it can move only one way at a time: ideal for error-free sending with shaky hands). Personally, I find dual lever paddles dandy for in-shack and single levers more suitable for mobile or portable use where a proper operating position is seldom attainable. That is because a single lever can move in only one direction at a time, and the possibility of accidentally tapping the wrong lever is eliminated. Problems with shaky hands? Arthritis? A single lever paddle may prove the perfect answer. Try one and judge for yourself. Enough already! Now let’s focus on the paddles!



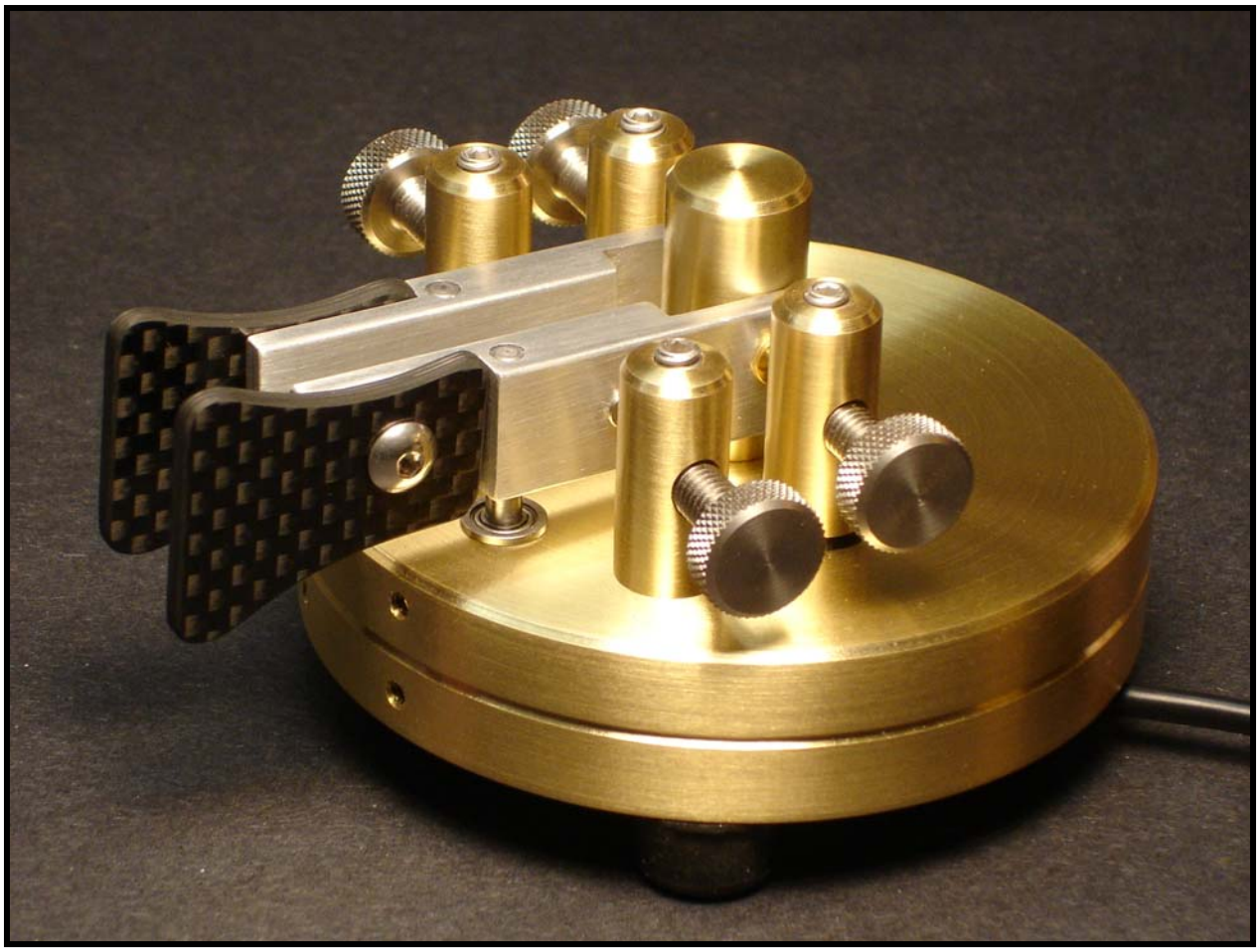
THE N2DAN MERCURY

You have seen this Morse masterpiece made by the late Steve Nurkiewicz, N2DAN/SK in my previous works on keys, but it is acclaimed one of the world's top CW paddles and deserves special recognition herein. Steve cut, machined and triple chrome plated all the parts of this showpiece in his home workshop. It sports ultra-strong yet remarkably agile levers riding on high precision upper and lower bearings. Tensioning is by Alinco magnets: they are adjustable from feather light to strong snap action. Unlike most magnetically-operated keys, the Mercury has a superb "feel" and excellent personality. The contacts are solid silver with rhodium plating, and estimated to last indefinitely. My own Mercury is a sheer joy to use: a best-of-the-best paddle, and a true classic in keys. After Steve passed to the great ethereal waves in the sky, Mrs. Nurkiewich granted production rights to www.bencher.com. It lives on as a special order paddle today!



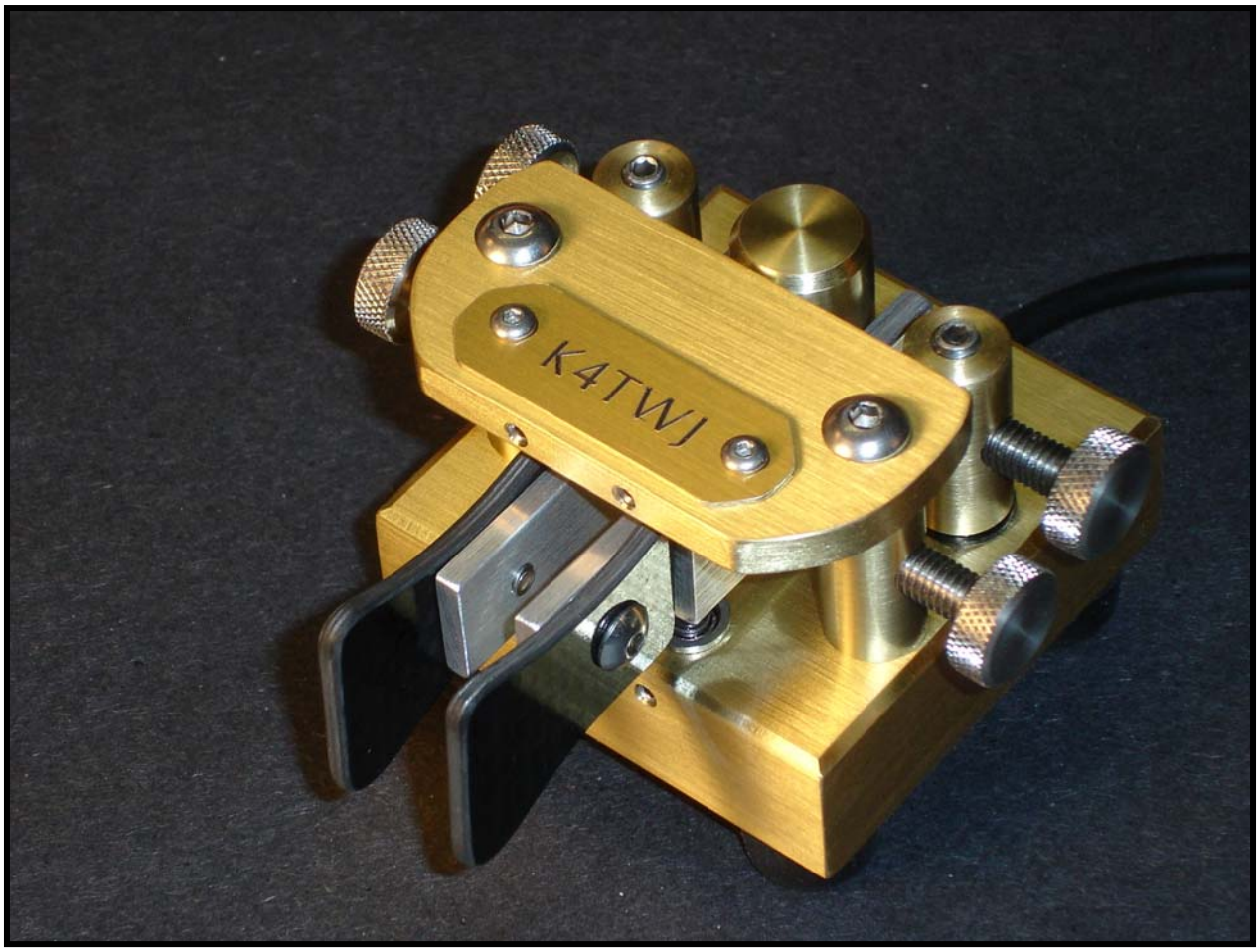
BENCHER HEX KEY

Inspired by the N2DAN Mercury while responding to requests for a more affordably priced counterpart, Bencher Company developed this powder coated and steel based dual lever paddle. It weighs in at a solid three pounds, has a black powder coated steel base and measures approximately four inches across and five inches long. It is also magnetically tensioned. The contacts are silver with gold plating, and adjustable by split post supports with locks like used in Bencher's popular "BY" paddles. I have used a Hex key and found it very nice, but I was biased by comparing it to my Mercury. The Hex is good, but NOT THAT good! More details at www.bencher.com.



N3ZN PADDLES

Tony Baleno, N3ZN, makes several models of brass-based and magnetically tensioned CW paddles, and they have also been proclaimed high end masterpieces (QST, March 2009). These paddles, like Tony's model ZN-8 shown here, features magnetic tensioning and light weight short throw levers for a highly responsible and exceptionally smooth feel. Gap and tension adjustment screws have fine threads and, thanks to tiny plastic balls with top set screws on support posts, hold their adjustment settings without locknuts. You can thus tweak gap and tension while transmitting. Additional "ZN" models include a QRP paddle, vertical paddle, bronze base paddle and more. Check them out at www.n3znkeys.com.



N3ZN QRP PADDLE

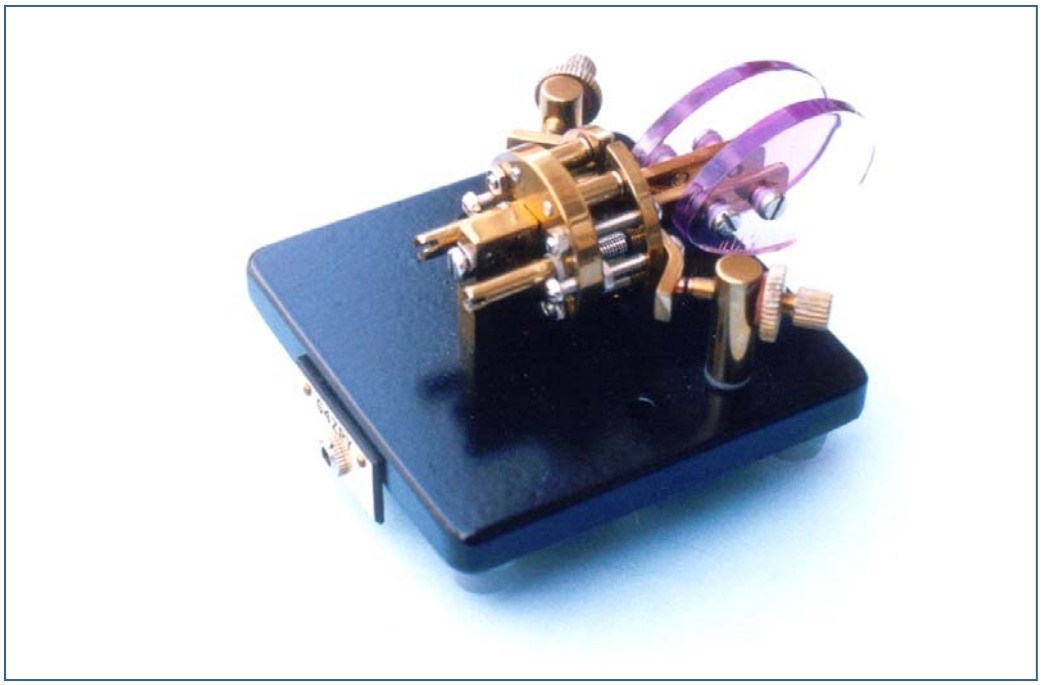
I could not resist giving this little “ZN-QRP” paddle a special place in the spotlight. It is all-brass, with a two inch by two inch base and, like other “ZNs”, has lightweight short throw arms that ride on an assembly of six ball bearings. Also like other “ZNs”, it sports quick adjust/stay put gap and tension screws plus a lacquer coating so the brass retains it shine indefinitely. A top nameplate with a proud owner’s call letters is available as an option. Now this is going QRP in high style!

BEGALI KEYS

From Italy and Pietro Begali, I2RTF, comes a most impressive line of CW paddles that are capturing interest worldwide. His high end paddle, the “Sculpture” shown here, features a stainless steel base and upper assembly. Magnets are used for tensioning the short throw arms, the feel is light and responsive, and the “Sculpture” is especially designed for high speed CW operation. This paddle is a true work of art! More details at www.i2rtf.com.

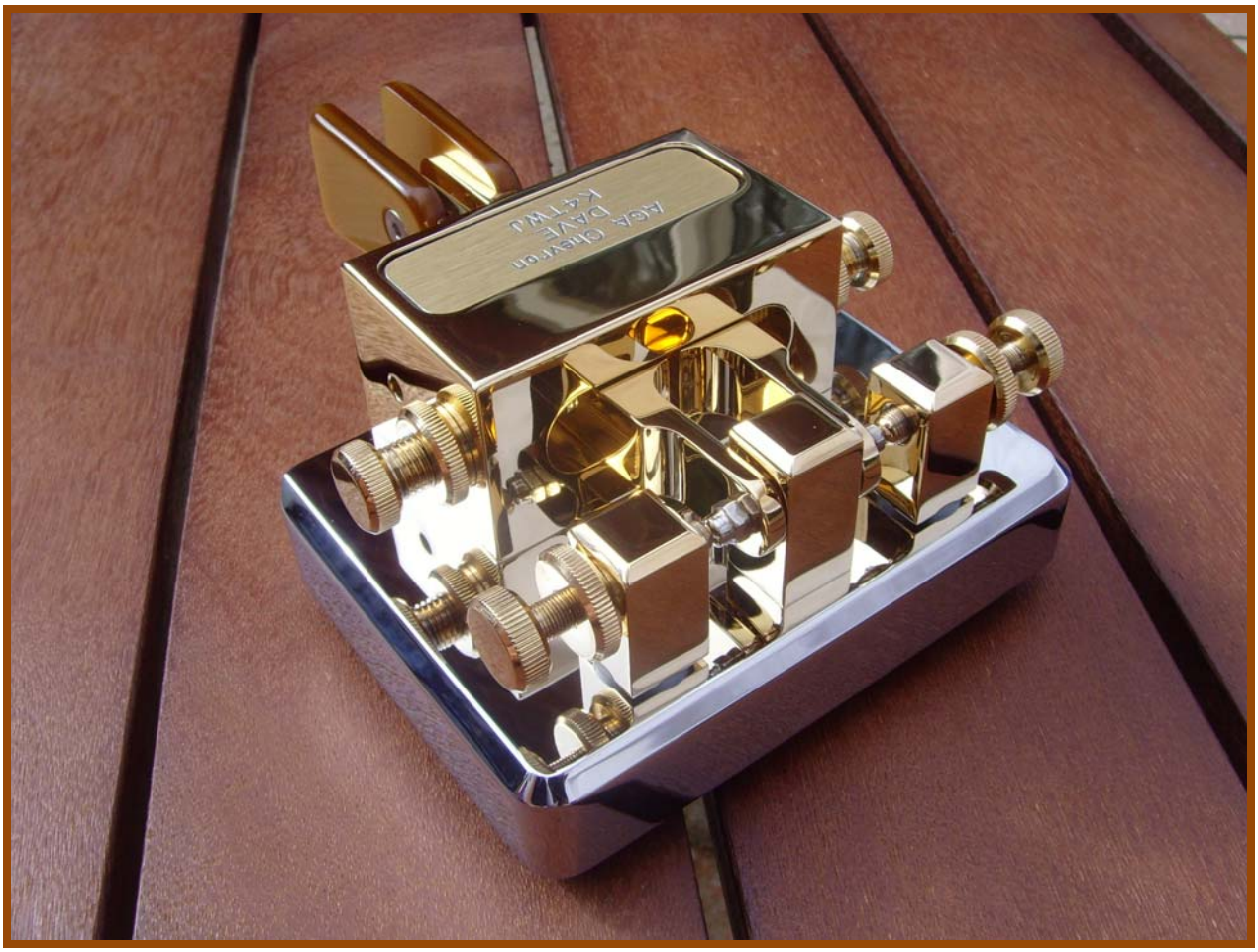
BEGALI SIMPLEX MODEL PADDLES

Looking in the “more affordable” category of Begali keys, we find the popular Simplex (dual lever) and Simplex Mono (single lever) model paddles. These beauties feature lightweight and spring tensioned levers mounted on gold plated or palladium bases. The levers ride on four ball bearings, and contacts are corrosion-resistant hardened steel. Custom fingerpieces in metallic red, green and blue are available as options. Nice—very nice!



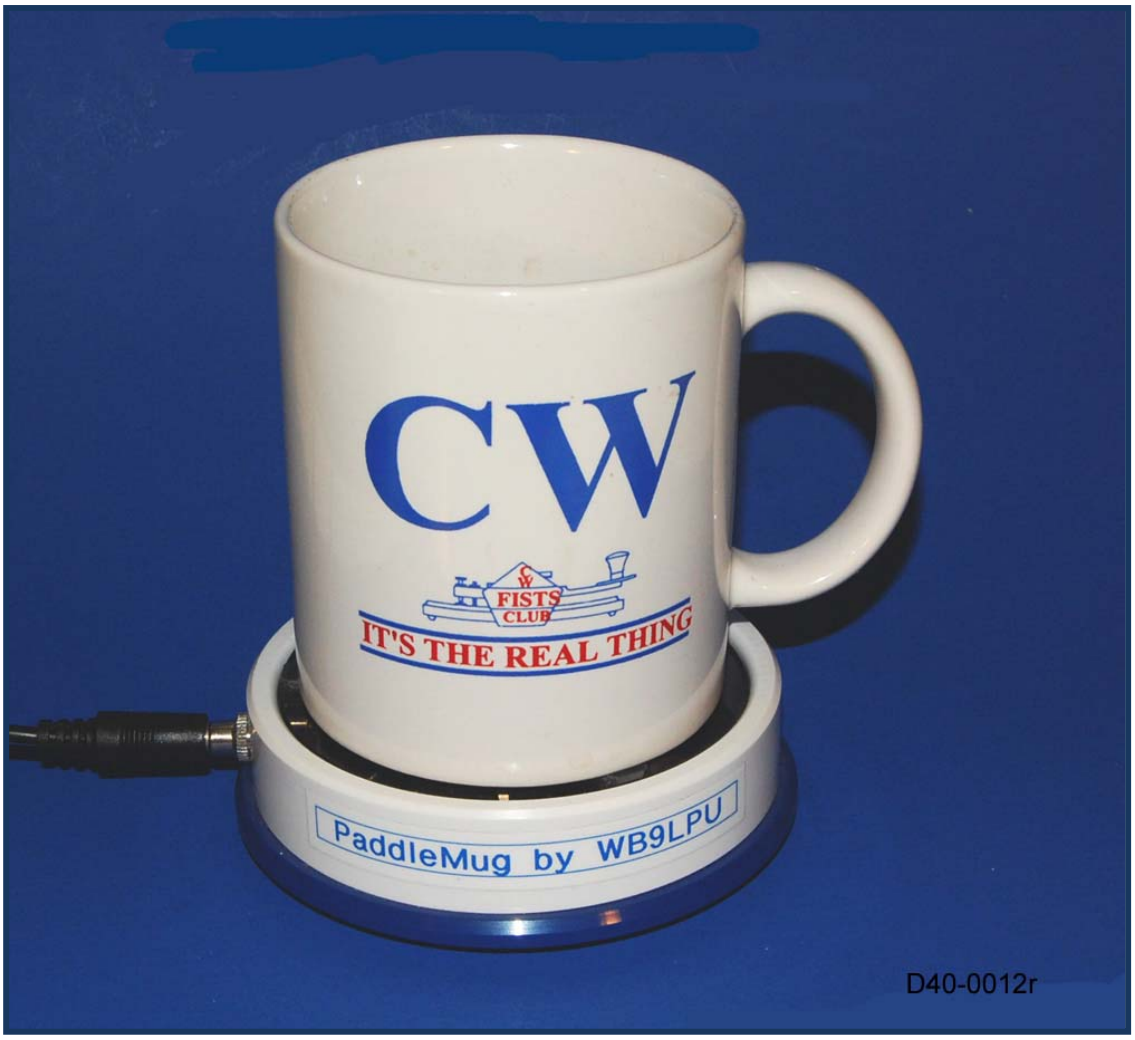
G4ZPY VHS PADDLE

Although Gordon Crowhurst, G4ZPY, recently retired from producing keys and paddles, his work was exquisite and will live on throughout the pages of telegraphic history. As a fitting tribute, we spotlight his famed VHS (Very High Speed) model paddle herein. It features an immaculately polished brass mechanism with fine thread adjustments and silver retaining screws plus nuts set on a black steel base. The feel is outstanding and delightful to use. This particular VHS has Amethyst-colored fingerpieces Gordon made as a special touch: a measure that surely adds 5 WPM to its speed.



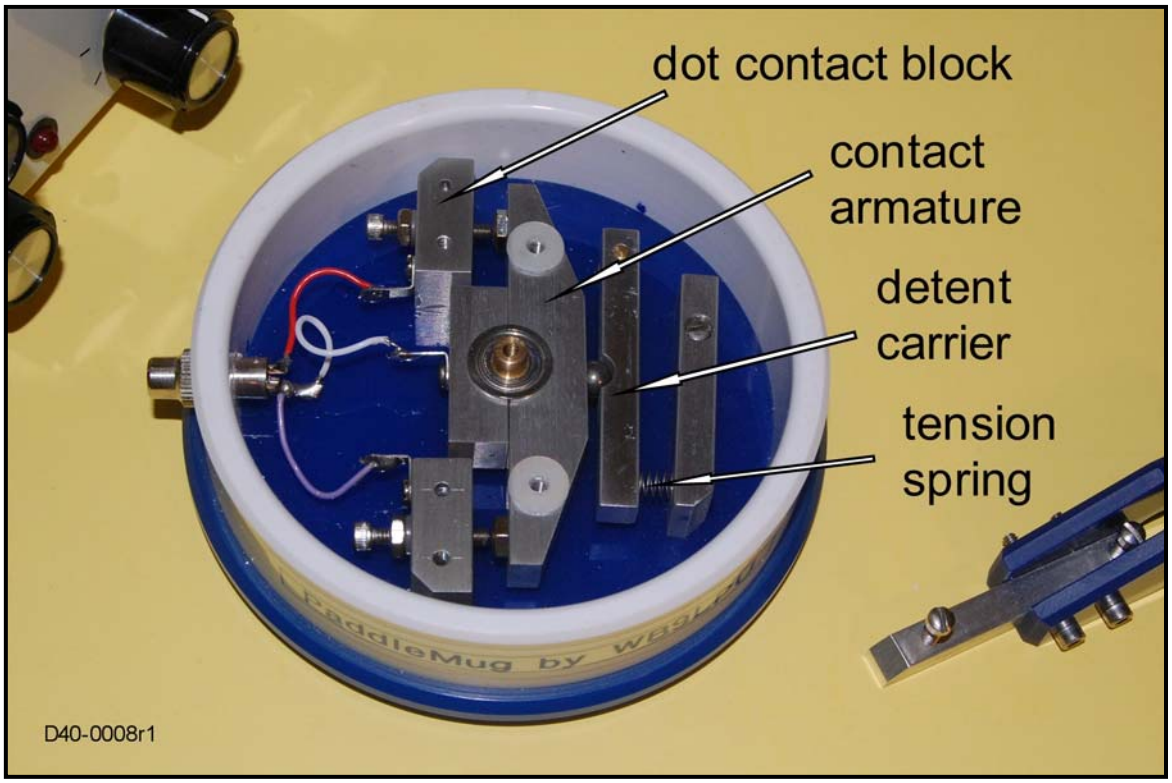
MØAGA CHEVRON PADDLE

Kevin Gunstone, MØAGA, makes a small number of incredibly beautiful and smooth operating paddles anyone would be absolutely delighted to own. Their precision balanced levers are magnetically tensioned and ride on top-grade ball race bearings. The paddle is even fitted with tiny shock absorbers and height adjustments you can set for a just-right-for-you feel. The rich chrome plating on these paddles is beyond comparison. Just looking at a Chevron overloads the senses. Lawdy Miss Claudy—what a key! Like more info? See www.chevronmorsekeys.com.



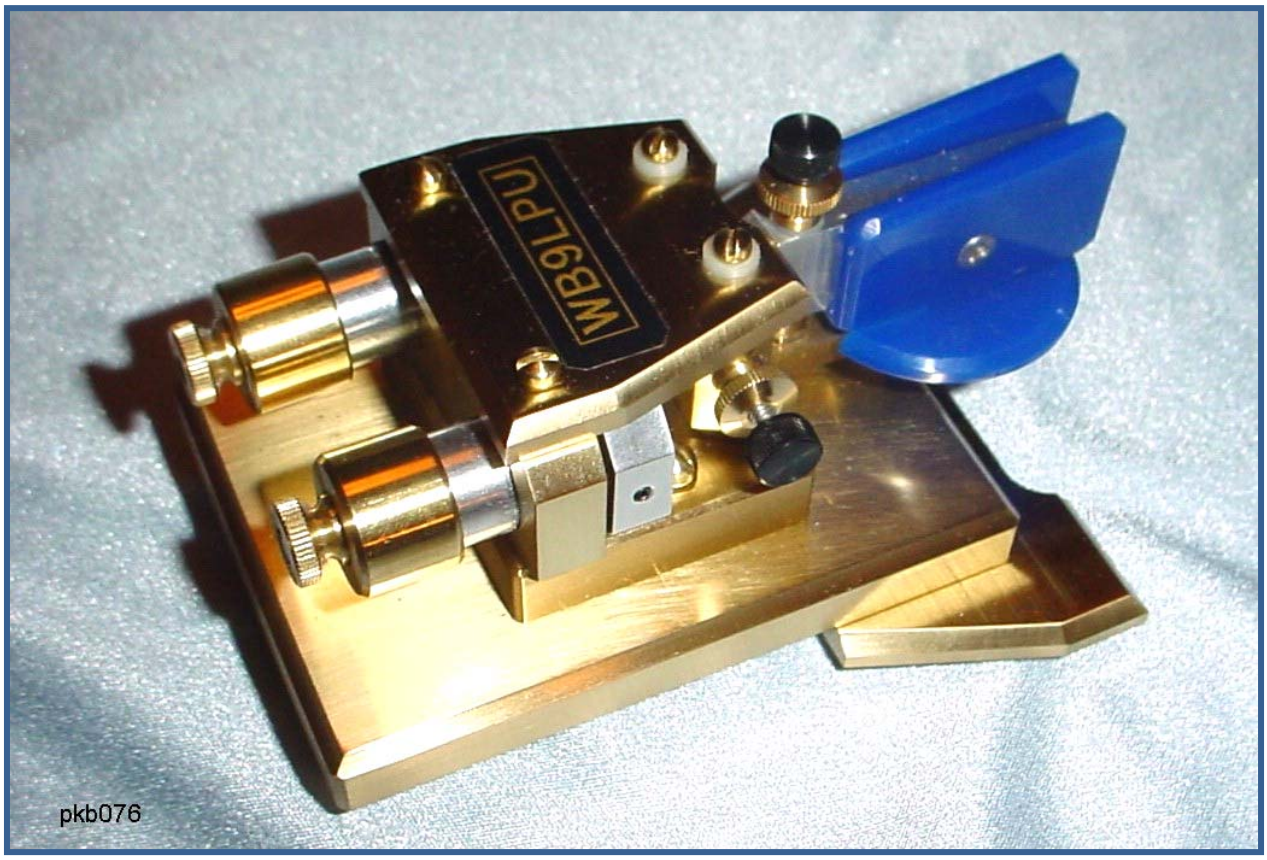
WB9LPU COASTER PADDLE

Think you have seen it all in unique and novel CW paddles? Take a peek at the “Coaster” paddle devised by Richard Meiss, WB9LPU, and shown in Photo 2. Richard is a mechanical design and prototyping wizard with a number of captivating keys to his credit (check: <http://wb9lpu.googlepages.com>). As he explains here, “the basic design is a modified coaster for a coffee cup. There is a center pivot point for the upper plate to swivel so moving the cup’s handle back and forth actuates base-mounted contacts to produce hot, flowing CW. The concept may be wild, but it is so solid and stable that a cup placed on it does not wobble at speeds of 20 to 25 wpm.



COASTER PADDLE INSIDE VIEW

Here Richard, WB9LPU, lifted the coffee cup from the coaster and labeled various parts to show us how the little gem works. The coaster's base section is made of blue and semi-clear plastic, and the surrounding support ring is cut from PVC pipe. Looking down into the coaster you can see the contact armature mounted to a central shaft fixed to the base plate. Left and right dot and dash contact blocks are fitted with gap adjustments. A detent block with a single steel ball maintains the paddle's center resting position. Tension is set by changing the position of a spring support at the rear.



WB9LPU PADDLEKEY

Another WB9LPU brainchild we are sure you will enjoy studying is the unique “PaddleKey”. This item is especially designed for instantly shifting between a paddle and a hand/pump key—for those times when band conditions are rough and a station you contact asks for clarification of your call letters. It is a combination single lever paddle and straight key on a single base—each connecting to respective sockets on a transceiver (two cables from a paddle to rig.

Describing how this thing works in less than two full pages requires condensing, so bear with me. Notice the aluminum block on the paddle’s left side peeking from under the top cover. It is a “T” shaped rocker plate with the paddle’s three fingerpieces (two vertical for padding, one skirting horizontally for pumping) attached at the bottom of the “T”. Next, notice the black-tipped gap adjusting screw for dots on the left side (the right dash

screw is not visible) and the hand key's gap setting screw atop the arm. Also note tensioning magnets are enclosed in round brass cylinders with (brass) rear adjustment screws.

Now return to the previously mentioned rocker plate. It is slightly beveled on its rear-facing edges (the left and right sides of the "T") and is spaced slightly away from a mating rear (brass) plate by two vertical stacks of three ball bearings each. The rocker plate is also slightly beveled on its bottom edge so it can tilt forward when the arm/fingerpiece is pressed down to function as a hand key. Also, when the fingerpiece is pressed down, the two bottom ball bearings (one in each stack of three) allow the rocker plate to tilt down. When not tilted down (that is when the hand key function is not in use), the two bottom bearings plus the top and base plates of the paddle's mechanism assure proper alignment so the main arm can move horizontally or vertically without movement in the unwanted direction. Our compliments to WB9LPU on this paddle's innovative design. It is definitely the result of—thinking outside the box. Questions? You can e-mail Richard at wb9lpu@earthlink.net.

WB8LZG PHENOMENAL FINGERPIECES

Like to add a personalized touch of class to your favorite CW paddle? Check out the custom-made fingerpieces made by Gregg Mulder, WB8LZG. Gregg says he started the pursuit after purchasing a used paddle with broken fingerpieces at a hamfest. The fingerpieces he made came out so good that he decided to make fingerpieces for all his keys and for some ham friends. As others saw Gregg's fingerpieces, requests for them grew and became a home micro business. Yes, and photos cannot do the fingerpieces justice. They are dazzling!

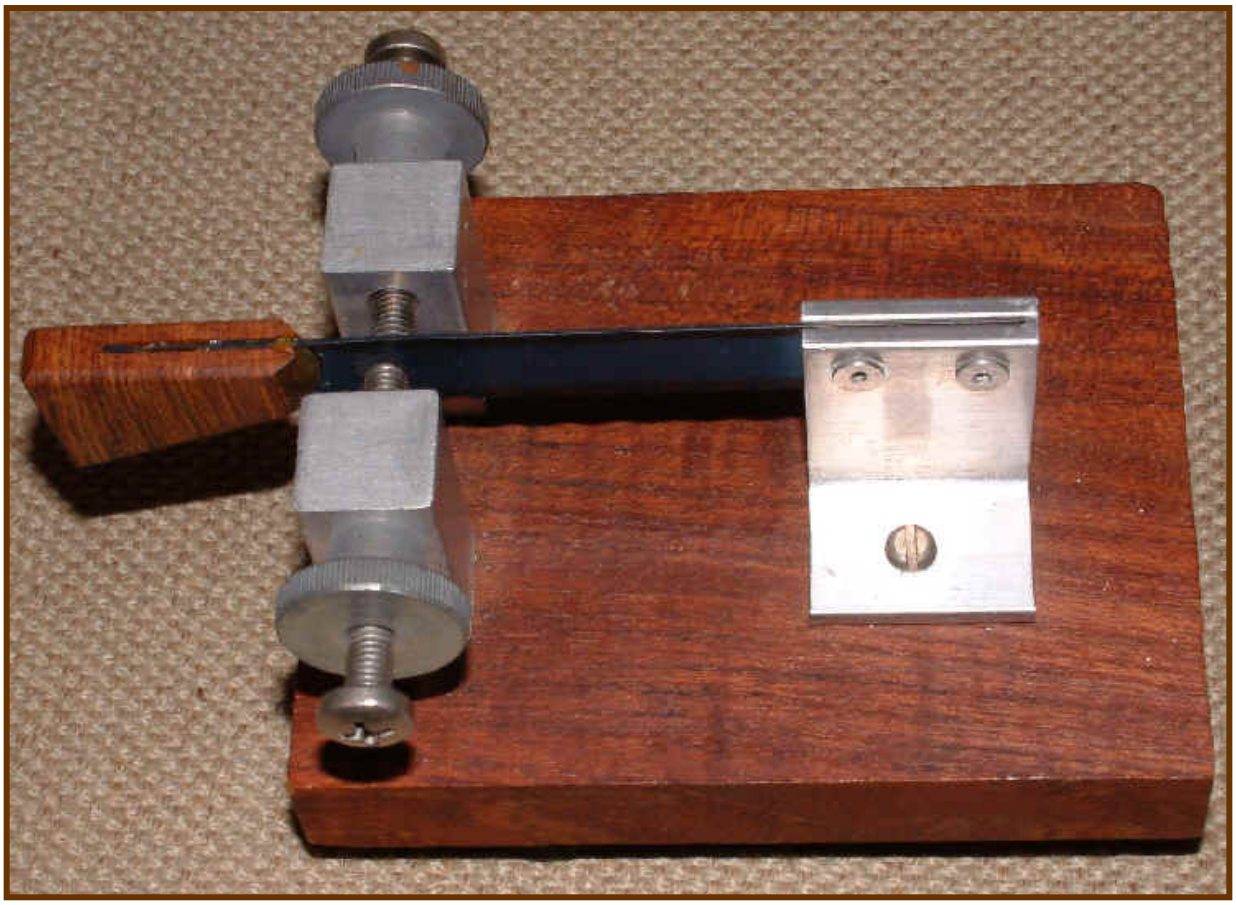
Gregg makes the fingerpieces from select cuts of exotic woods including walnut, canarywood, tulipwood, kingswood, butternut, African Padouc, Norwegian Curly Maple, Zebra wood, Mahogany and Cherry. Each set of fingerpieces is made by hand and no two are alike. Like more details? Contact Gregg at <wb8lzg@sbcglobal.net>.

CHAPTER 5

THOSE DELIGHTFUL COOTIES

What's this—Doctor Dave is talking about cooties in a keys book? Has he fell into the loony bin? Relax, dear friends: I am referring to those elusive and quite entertaining Sideswipers (also nicknamed Cootie keys and Slap keys) of old time—not those parasitic Polynesian insects from days of old. These little delights (the keys, not the insects) are experiencing a hearty upsurge in interest, and they can add a unique new touch of enjoyment to your daily CW activities. Just maintain an open mind and read on.

Cootie keys look similar to single lever CW paddles but differ in the respect their left and right contacts are wired/connected together. You use a Cootie like a hand key with a side-to-side rather than an up-down motion. You send "OH", for example, as three long left-right-left lever movements followed by four short right-left-right-left lever moves. You can also vary speed, weight and spacing as you go by wrist movements. Becoming proficient in Cootie or Sideswiper use requires plenty of time, patience and practice, but wow—it is a blast of fun! I must say, however, some amateurs find 'swiping a wipeout and never master the technique. No problem, Kemo Sabe. Just insulate a Sideswiper/Cootie's left and right contacts and rewire it for single lever paddle use with an electronic keyer. And, as mentioned in our chapter on paddles, single lever versions are the easiest and most foolproof paddles one can use. Cooties modified accordingly are total joys to use! Now let's progress to the Cooties!

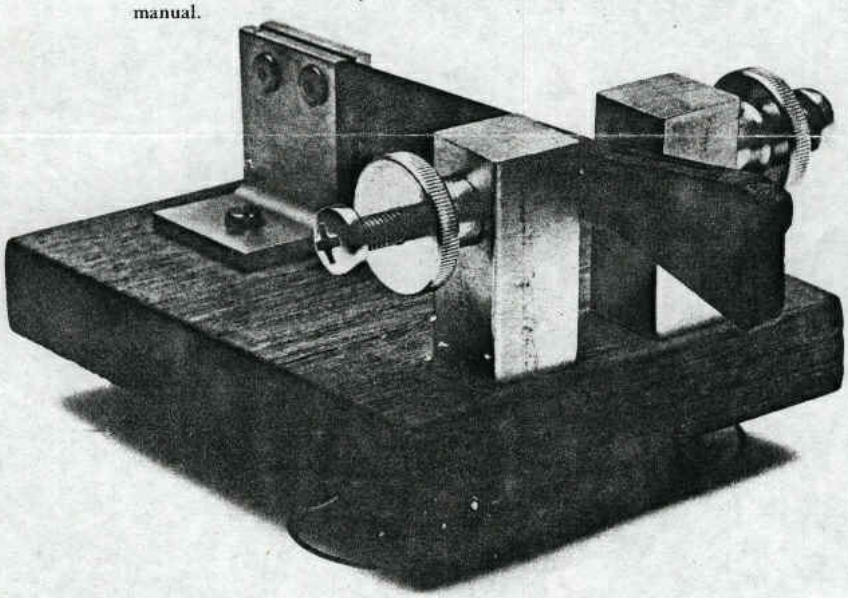


THE KUNGSIMPORT

Commercially produced Sideswipers or Cootie Keys are rather scarce, so many radio amateurs make their own from hardware or variety store-obtained parts and sketches of other Cootie Keys. Supporting that fact, we start with a classic and very traditional style of Sideswiper or Cootie (and one you might easily replicate from hardware-obtained pieces). This is the Kungsimport made in Kunsbacka, Sweden during the 1980s. Its authentic hacksaw blade arm is 3.75 inches long. It is sandwiched between two one-inch high rear supporting angle brackets that, along with 1.25 inch high left and right contact—supporting posts are mounted on a wood base. The base is 3.5 inches wide by 4.5 inches long, and appears to use stoppers for feet. Notice the use of a hacksaw blade for the lever and a thin single piece fingerpiece: they are the true symbols/components of basic Sideswipers or Cootie Keys. The more deluxe versions usually have a solid/inflexible main lever.

Side Swiper
Morse Keyer

Make it easy, make it smooth. Get yourself one of our new Side Swipers used by both amateurs and professional radiooperators all over the world. Designed and manufactured by active pro operators. The Side Swiper may also be used as a manipulator for any el bug. The Side Swiper is easy to handle, you need only a couple of hours training and you get a most personal fist which makes it fun to work. And it's cheep, only US $ 15, shipped airmail all over the world. If you like to have your name or call sign engraved on the wooden plate, add another dollar.
For those never used a key like this one we will include a little manual.



KUNGSIMPORT

P.O. Box 257 S 434 01 Kungsbacka SWEDEN

Please send me the Side Swiper

Enclosed find

. . . . . .
Name
. . . . . .
Address
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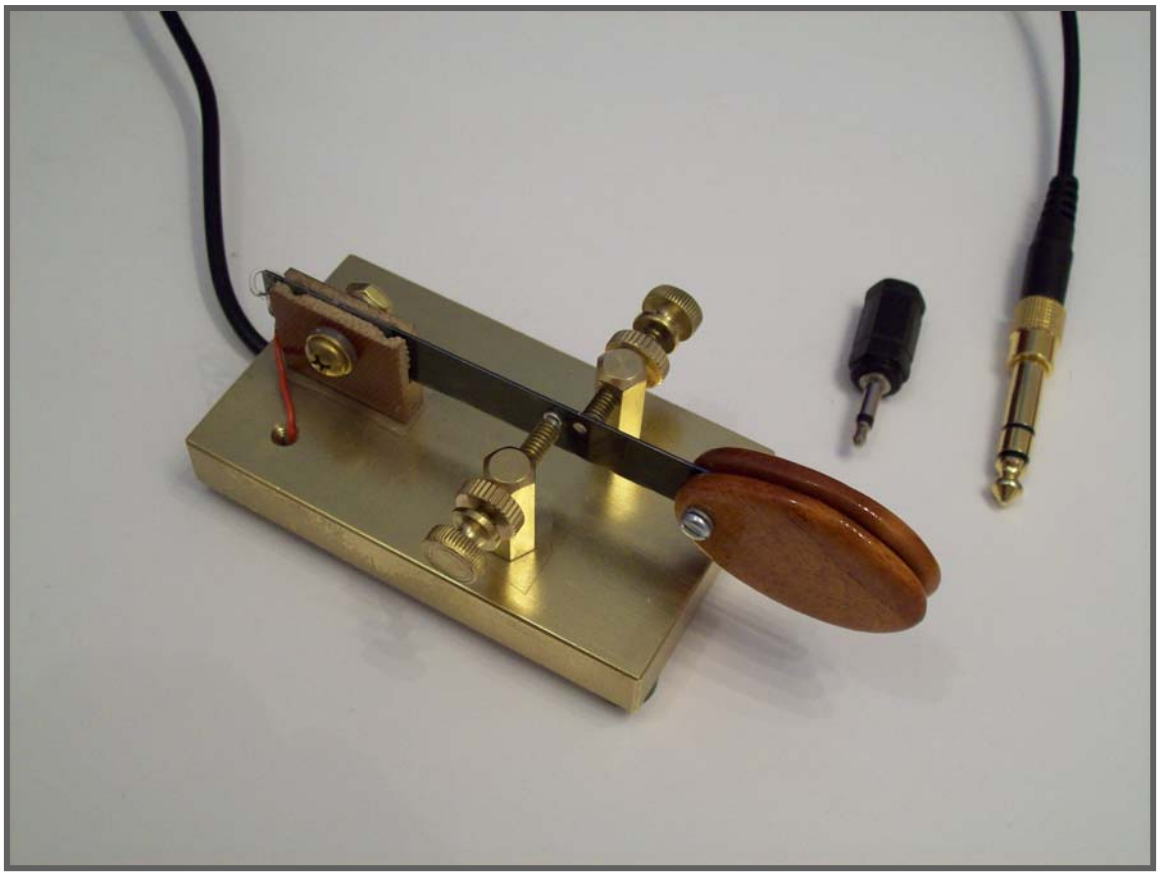
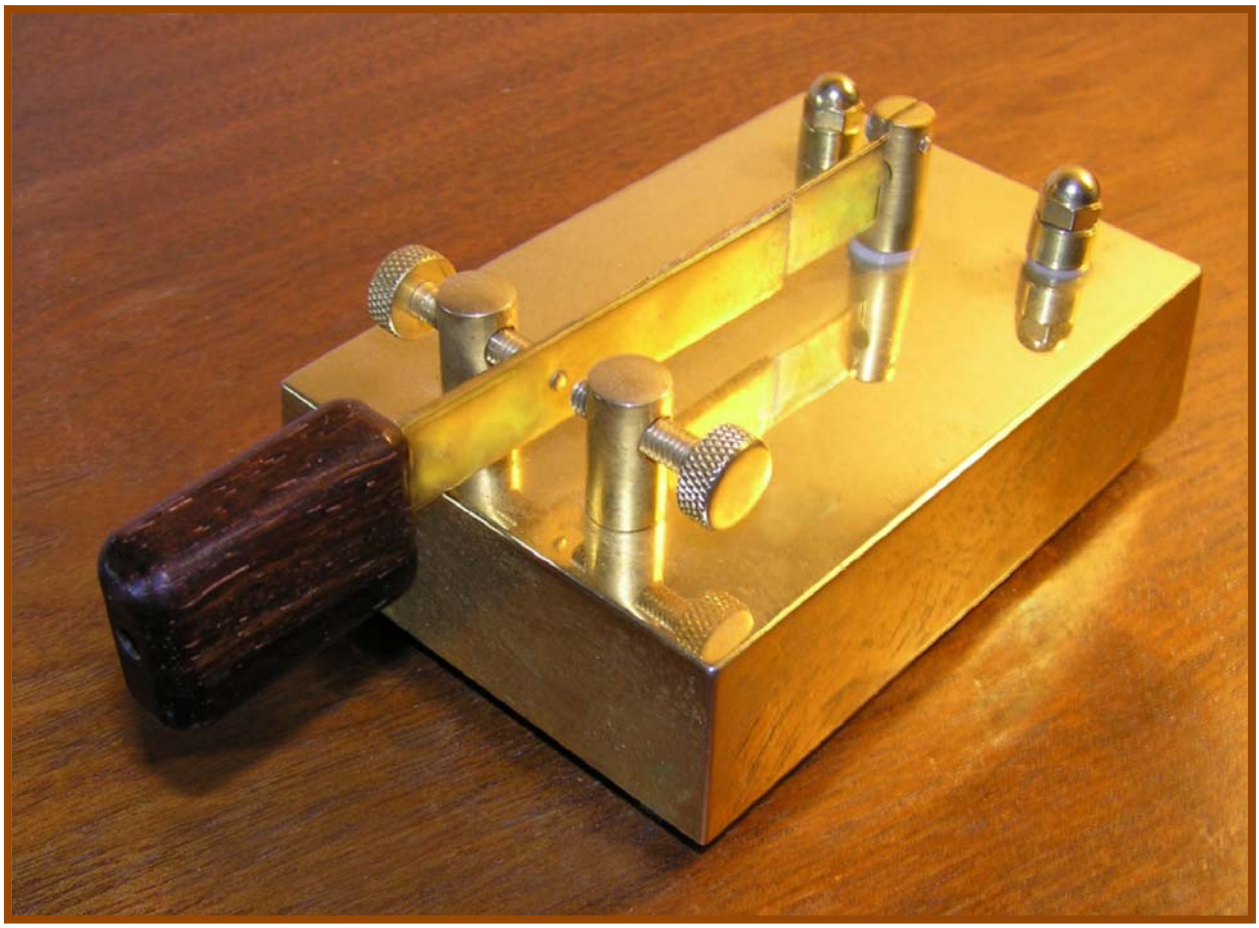
ORIGINAL MAGAZINE AD OF KUNGSIMPORT

Study this ad sketch for inspiration and ideas galore on home-assembling your own Cootie Key. Got screws, thumbnuts, angle brackets? You've got the makings for good Cooties!



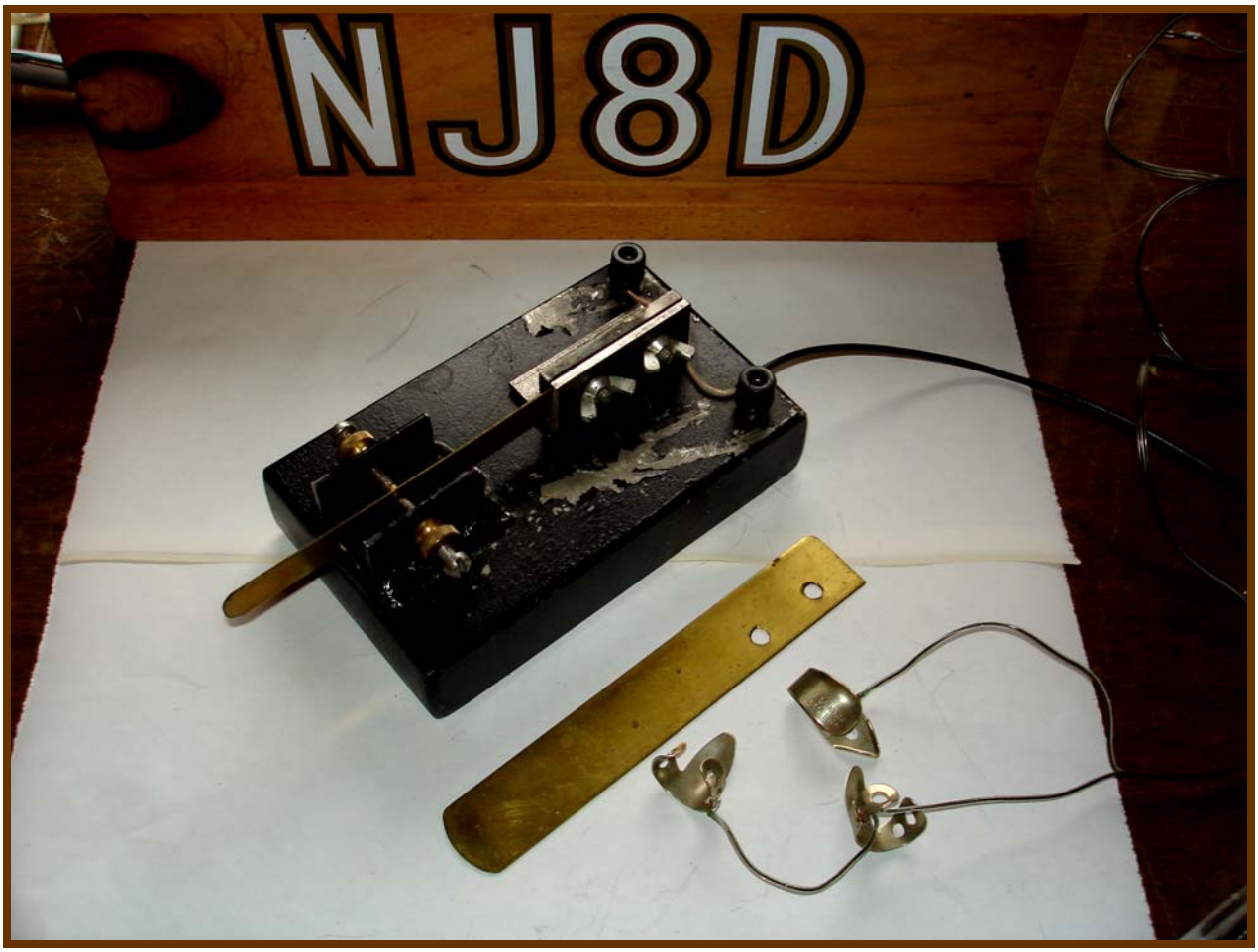
K4VIZ COOTIE KEY

I wanted my very own Cootie Key complete with authentic hacksaw blade lever, so I asked Tom Desaulniers, K4VIZ, if he could cut a hacksaw blade 3.75 inches long and fit it with contacts. Tom makes very good paddles, so he made this complete Cootie—which he now also sells (see www.vizkey.com). The K4VIZ Cootie is a gem, but I could not resist adding a couple of frills to it. Four coats of fingernail polish plus a tiny sheet of plastic insulated one contact post from ground, then the key's supplied cable was rearranged to produce a single lever paddle. I topped it with custom fingerpieces made by WB8LZG, added 3.5mm and .25-inch stereo-to-monaural plug adapters and it now functions as a Cootie or single lever paddle. Terrific!



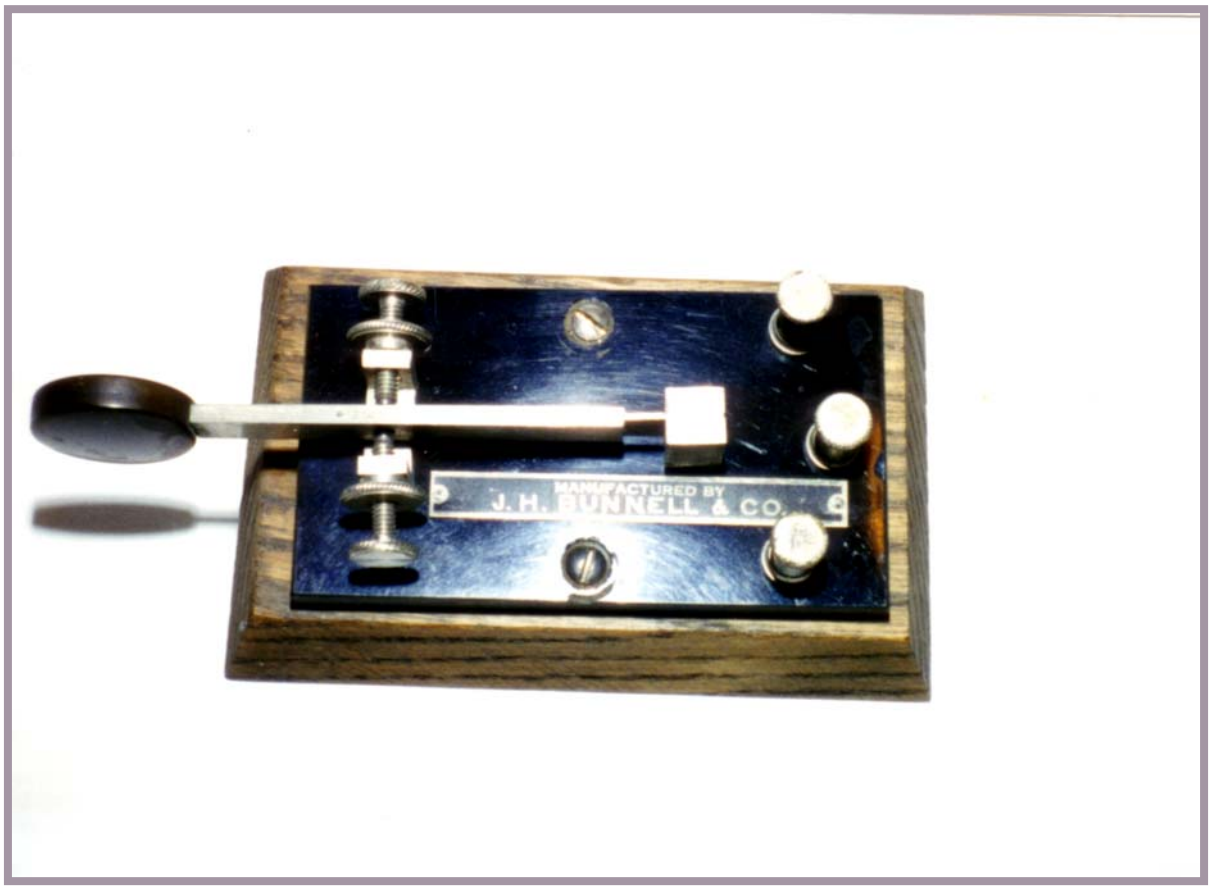
W9OK'S GOLDEN COOTIE

Heads up, James Bond: here comes the Golden Cootie! John Myers, W9OK, homemade this little beauty by first gold-plating the brass base. He then laminated spring brass to produce a just-right tensioned arm and secured it to the base with a support post salvaged from an old key. The finishing touch was that square-shaped rosewood knob force-fit to the arm. Square knobs just scream Cooties! Wow!!



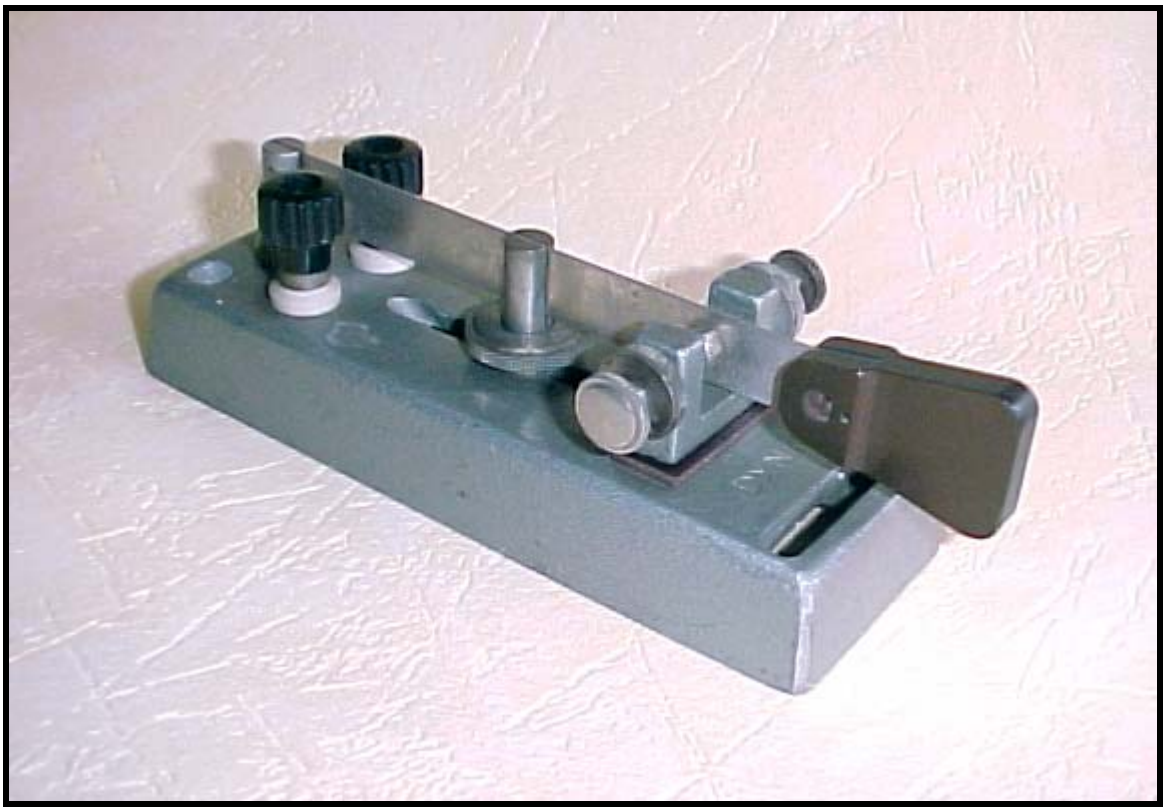
NJ8D COOTIE

During an on-air QSO, Tom Stewart, NJ8D, mentioned using a Cootie, and I asked to see its picture. When he replied it was well-used and worn, it became even more enticing. The base is 1.25 inch thick steel. The arms, one thick, one thin, interchange for a light or heavy feel. Thimble things by Cootie are a “finger key” (don’t ask!). Study this photo a few minutes, and you will find several ideas worthy of adding into your own homebrew Cootie. Go for it!



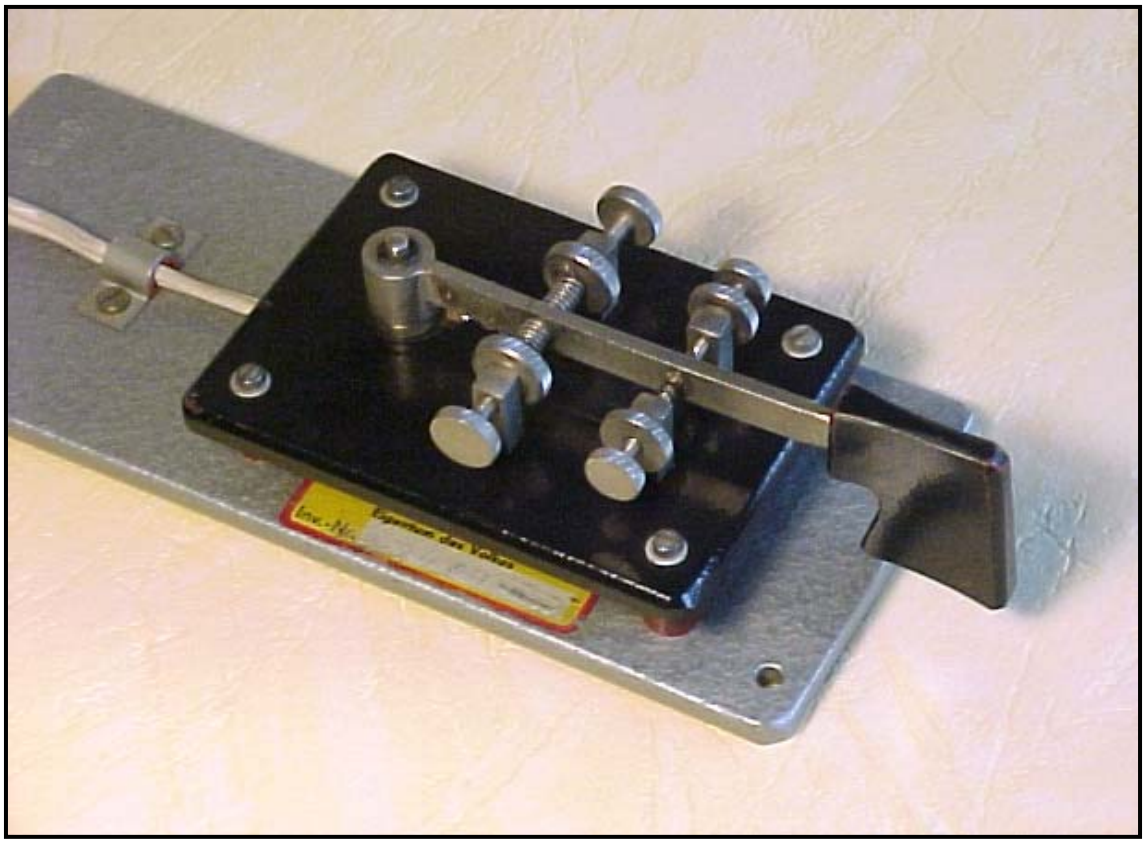
BUNNELL DOUBLE ACTION KEY

One of the first U.S.-made Sideswipers was this rare collectable made by Jesse H. Bunnell during the latter 1800s. It was originally designed as a side-moving hand key with contacts on both sides (hence its “double action”). This particular item was rescued from a junk bin, refurbished and fitted with a new base. It is truly a piece of telegraphic history you can hold in your hand—and it works good too!



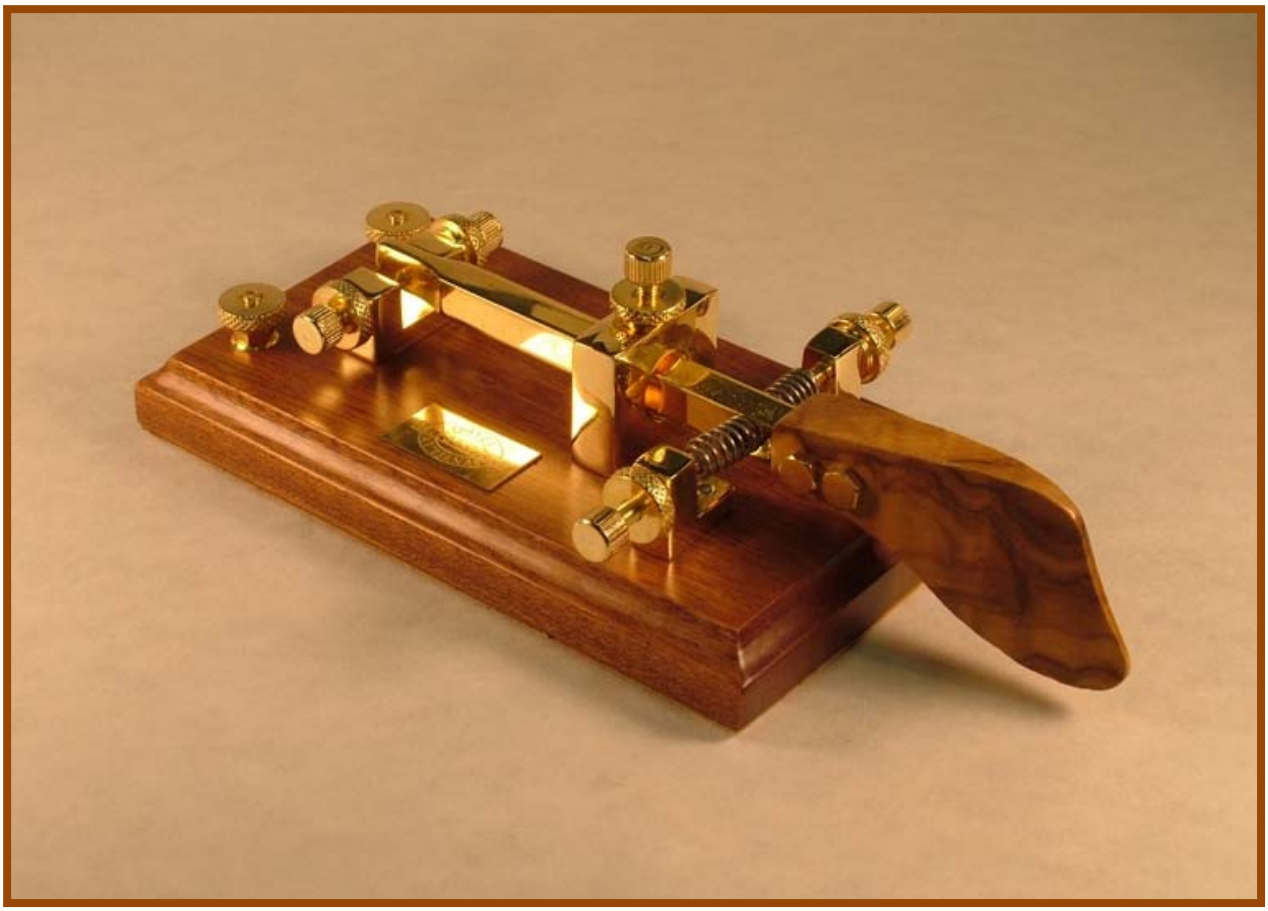
THE MANIFLEX

From Yann Conan, F5LAW, comes details of this classic European-made Sideswiper we are sure you will find interesting. The Maniflex's unique feature is the position-adjustable stabilizer or tensioner for its hacksaw blade arm. When moved toward the rear binding posts, the feel is light and loose. When moved toward the contacts and fingerpiece, the feel is more solid and tight. The French refer to this Morse morsel as "lame de scie", meaning "hacksaw blade". We prefer calling it a genuine French Cootie. Looking closer, we note the Maniflex has nickel-plated upper parts, tungsten contacts and a molded aluminum base. It's a rarie, but it's a doll!



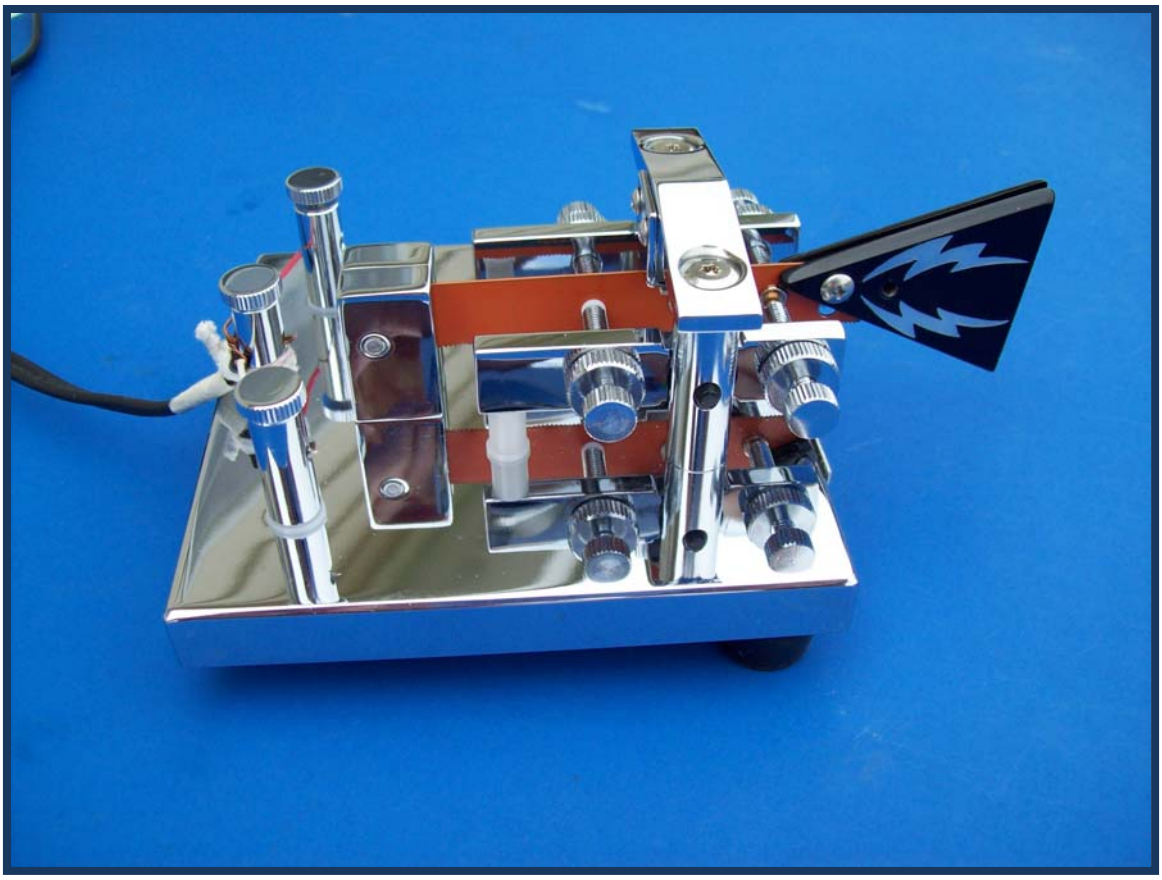
THE JABLONSKI

This Jablonski Sideswiper was made in Germany sometime between 1920 and 1945 and it is a prized collectable today. Typical of many German keys, its (solid rather than flexible) arm pivots from the rear. Investigating this key's history proved quite challenging, but it seems to have been a high speed training aid for German telegraphers and marine officers prior to and possibly during the World War II era. It also indicates European telegraphers were more sideswiper than bug orientated. Our thanks to F5LAW for this view of the Jablonski.



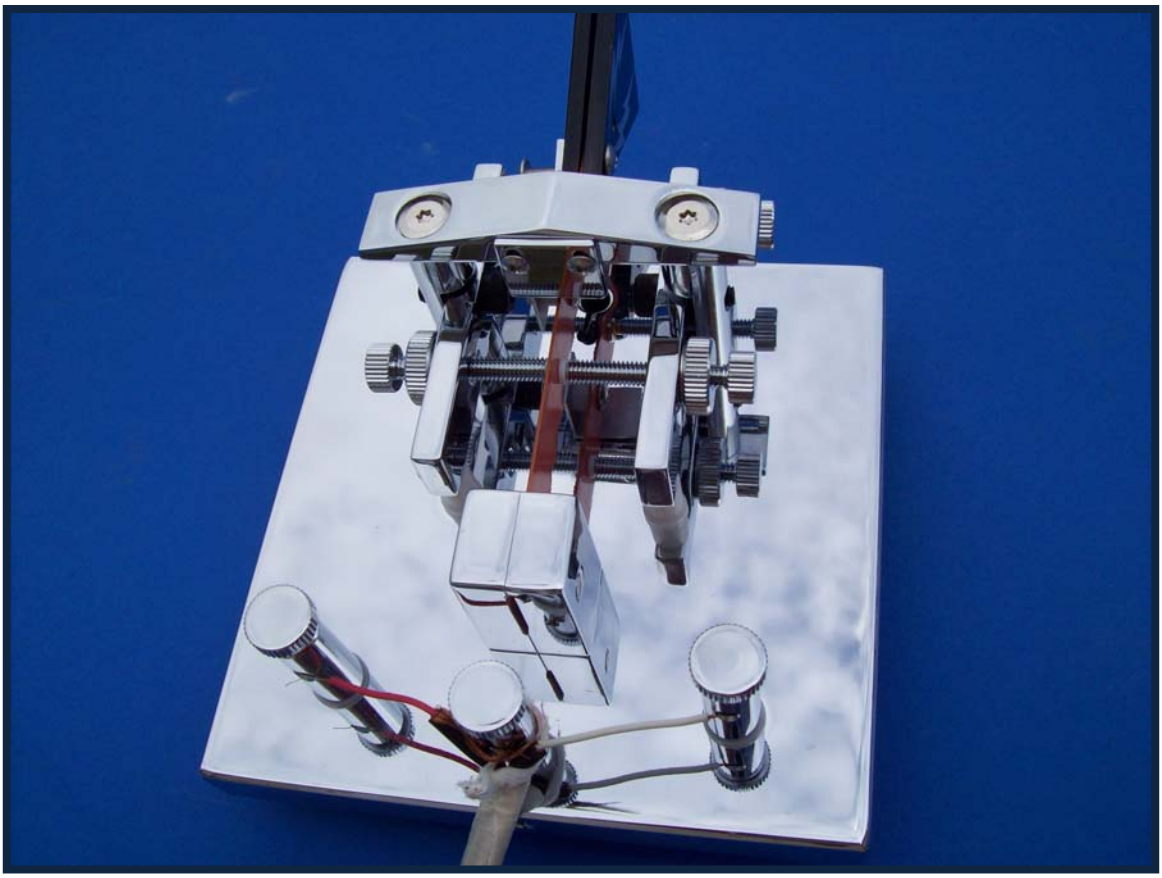
THE EA6YG “LTA”

Guillermo Mestre Janer, EA6YG, handmade these Cootie keys under the brand name “LTA” until his unfortunate death in 2008. We highlight it here as both a tribute to EA6YG and as a creative thought generator for amateurs keen on making their own Sideswipers. The key’s design is clean and simple, with gold plated parts mounted on a polished oak wood base. Notice how the rear contact assembly (that could be split to make a single lever paddle), center pivot point, front tension springs and center fit fingerpiece combine to produce this gem. Impressive!



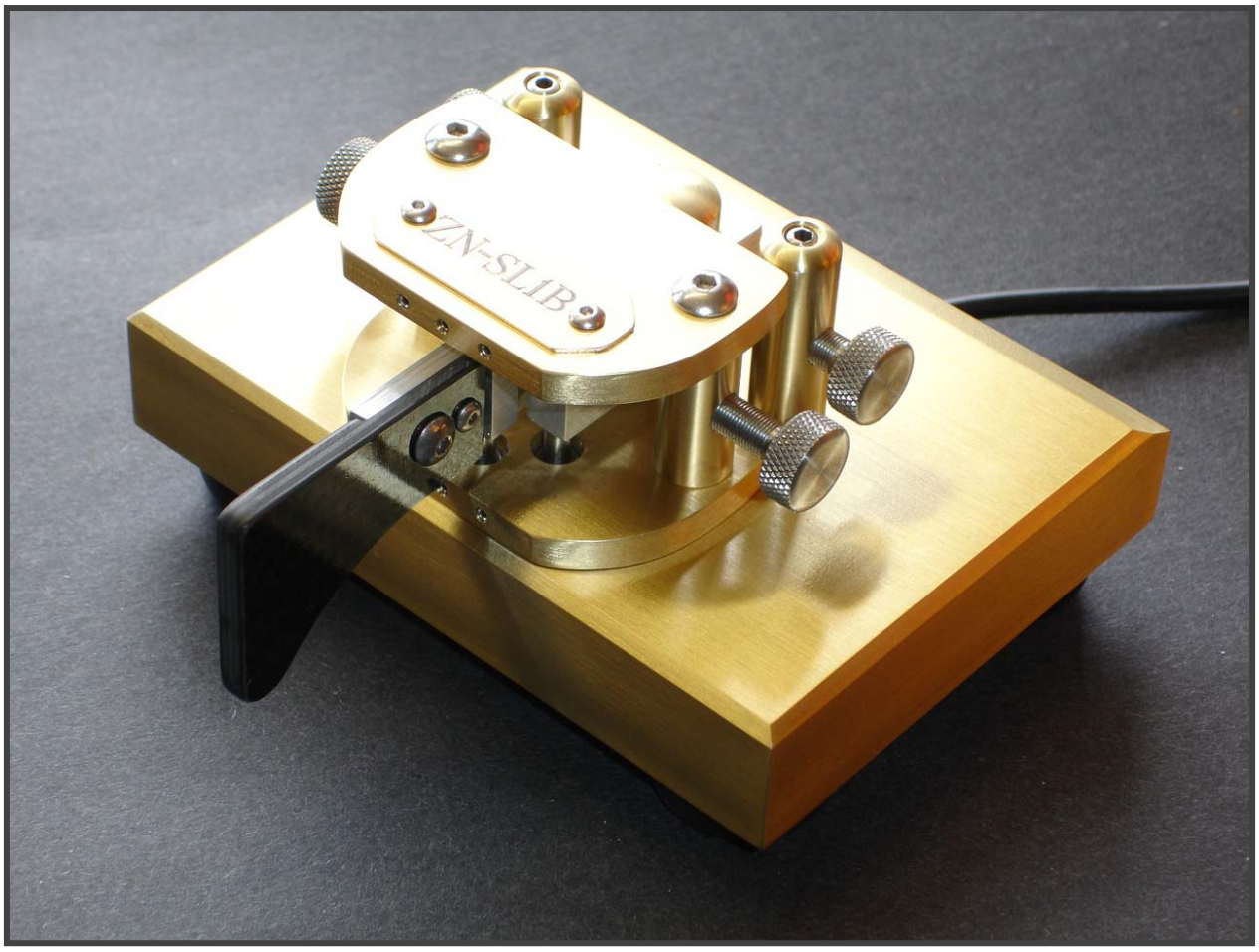
GHD MODEL 601A

Next up is a super fancy single lever paddle with Sideswiper-type hacksaw blade arm any amateur would be delighted to own. This glitz-and-glamour item is made by GHD of Japan and also imported to the U.S. by Morse Express. Its double glade tension adjustments, gap adjustments and magnetic damper let you tailor the key's feel and action to preference, and quick-connecting a short clip lead between dot and dash posts results in a Cootie fit for a king. I added ebony-with-pearl-inset lightning bolt fingerpieces made by VE7FOU, and the key now screams with class and flash. Oh Mona, what a key!



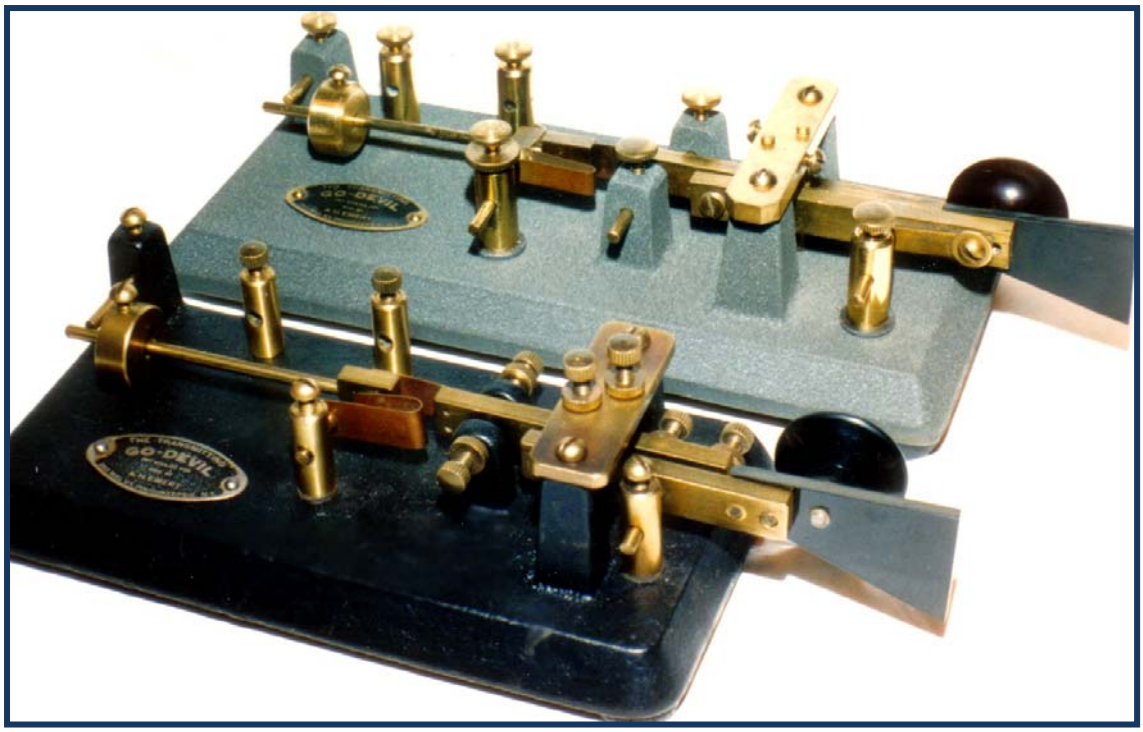
REVERSE ANGLE VIEW OF GHD

Look close at the GHD's mechanism, and you will see this is the world's most elaborate hacksaw blade-lever key. Note the magnetic damper mounted between the top bar of the main yoke/bridge and the hacksaw blade. That is in addition to the flex-limiting screws on each side and a stiff wire damper extending up to the hacksaw blade from the key's base.



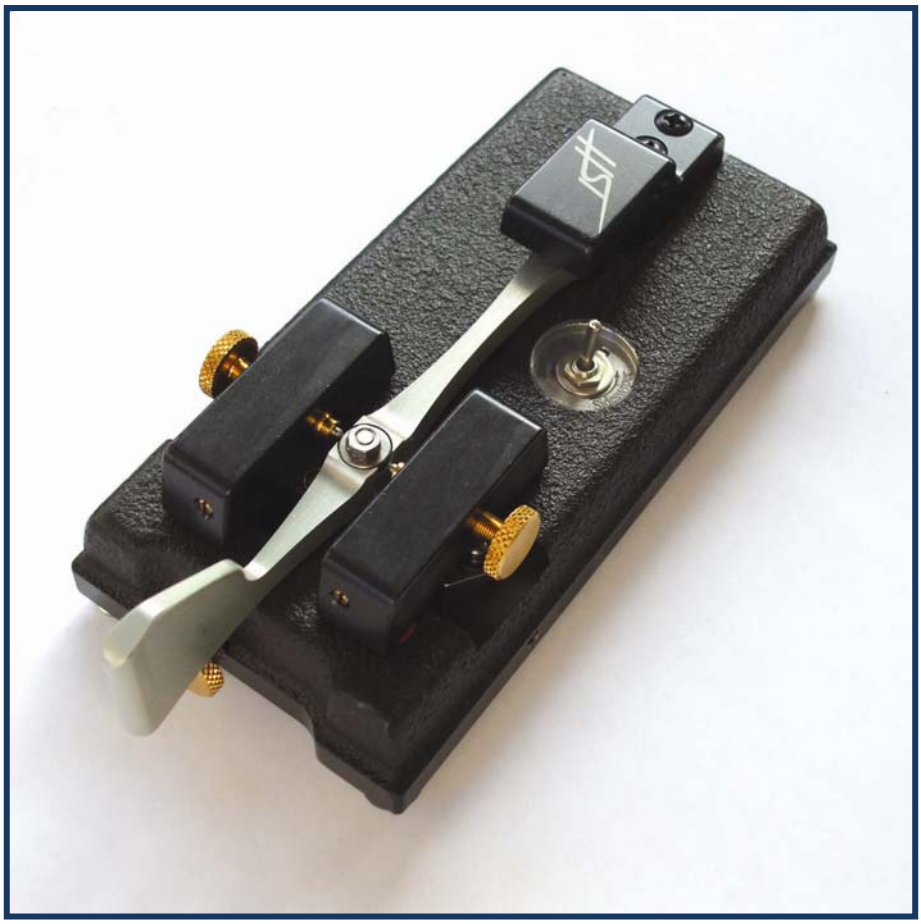
N3ZN PADDLE/'SWIPER

Tony Baleno, N3ZN, makes this classy single lever paddle with single fingerpiece that works perfect for operators with shaky hands (less errors with one lever, you know). Add a stereo-to-monaural adapter to its rig plug, and it makes a sweet little Sideswiper. The paddle has a lightweight and magnetically tensioned arm, "set and stay set" adjustments, and available in a 2.75 by 3 inch or 3 by 4 inch base, as desired. The brass is lacquer coated to retain its like-new gloss indefinitely. Nice, very nice! More details at www.n3znkeys.com.



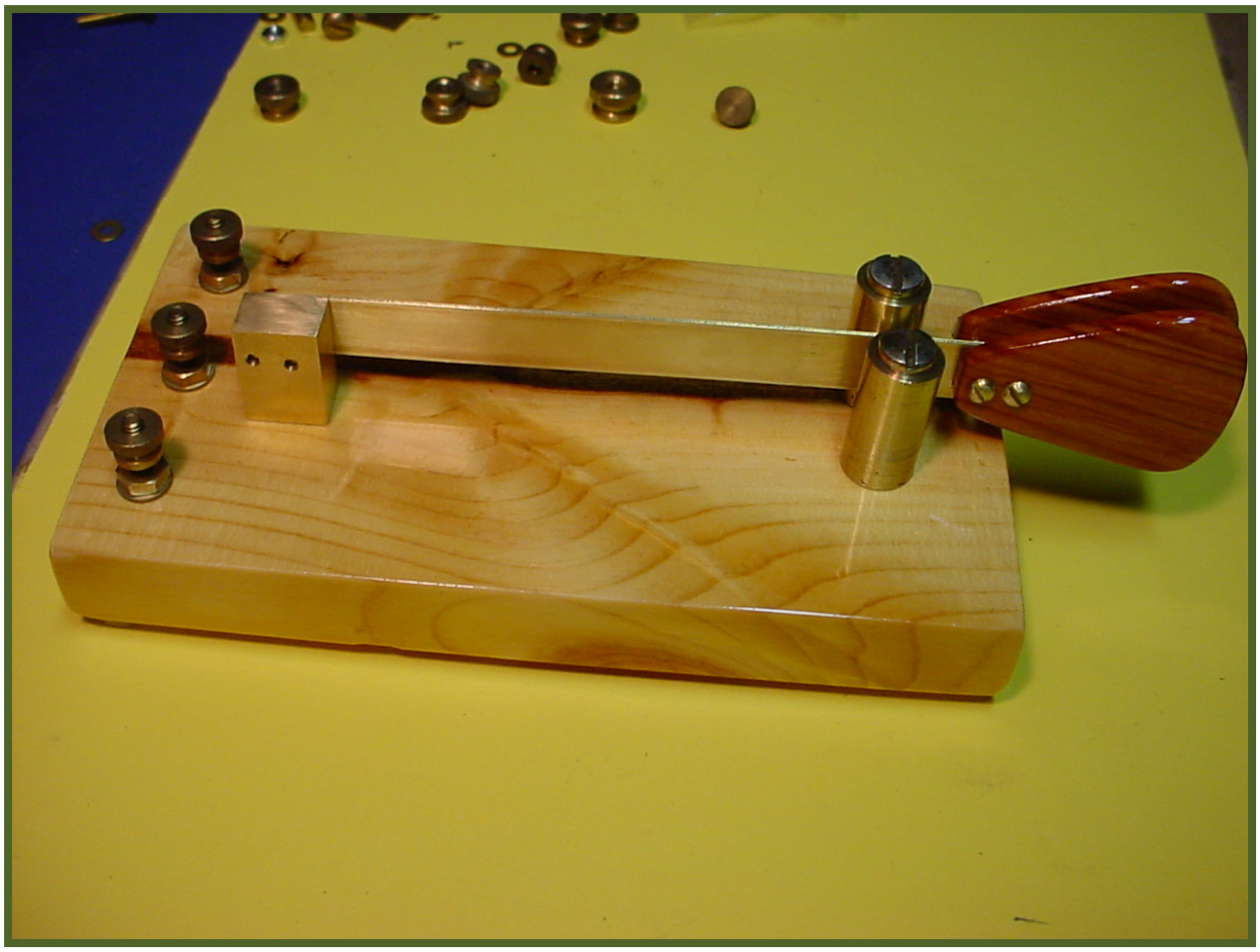
A. H. EMORY'S GO DEVILS

Bugs also make good Cooties (sounds like an insect rally, doesn't it), and nothing drives home that fact better than the rare and marvelous looking A. H. Emory Go Devils in Photo 6. Look at those bases—those arms—those fingerpieces—those fingerpieces! Even Kim Novak would take second place in a beauty pageant with these keys! In particular, notice how their curved rear damper rod can be turned to hold or stabilize their pendulum so the dot contact only "make" rather than produces a string of dots. A similar stabilizing scheme works with other bugs. Try it. One additional point, change the fingerpiece. Sideswiping calls for a single thin fingerpiece.



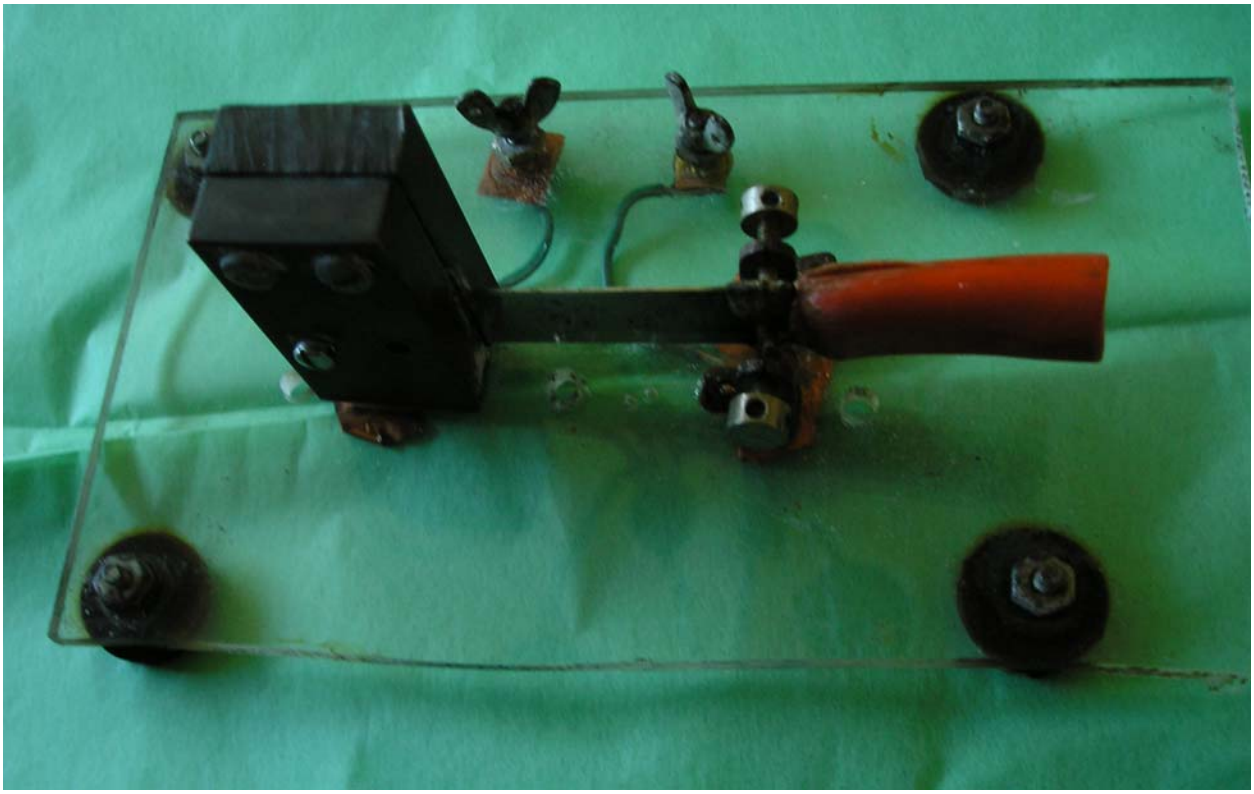
NEW BEGALI KEY

From the machining facilities of Begali keys in Italy come details of a combination Sideswiper and Single Lever Paddle of unique design. First, a small switch on the upper right side can be user-wired for instant mode changes. Second, the long rear-pivoting arm with hardened Stainless Steel near-fingerpiece contacts produce a quite responsive and agile feel. A tension adjustment (in base, directly below fingerpiece) controls whether that action is light/loose or heavy-tight. I find the tensioning mechanism quite impressive. Whether set heavy or light, it basically eliminates overshoot or contact bounce. I frequently give the HST a good workout, sending CW at four or five wpm (in Swiper mode) and at 40 to 45 wpm (in single lever mode), and it performs beautifully. This is one of the highest speed keys I have used. The HST is a “keeper”, although I must admit I had to practice using it off the air for several weeks before it changed and sent my Morse code in English rather than Italian. Would Dr. Dave jest?



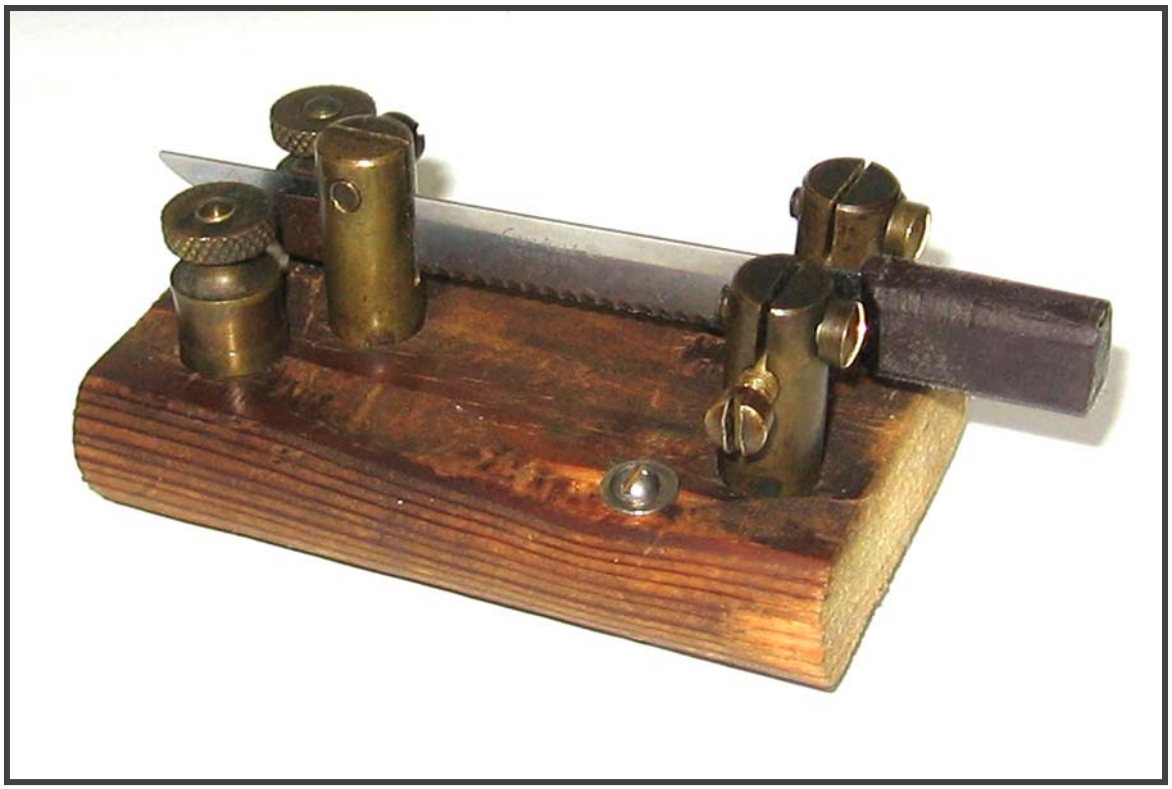
GREGG'S LITTLE COOTIE

Gregg Mulder, WB8LZG, the chap producing those dazzling exotic wood fingerpieces for paddles highlighted in last year's "Keys Special", offers encouragement with his handmade Cootie key shown here. The arm is 3/8 inch wide and 4 inches long spring brass. The arm's mount is ¾ by ½ inch brass bar stock, the contacts are brass tubes mounted vertically on each side, and the binding posts are knurled nuts on long screws. The fingerpieces, which can make or break any key's overall appeal, are tulip wood. Wow!



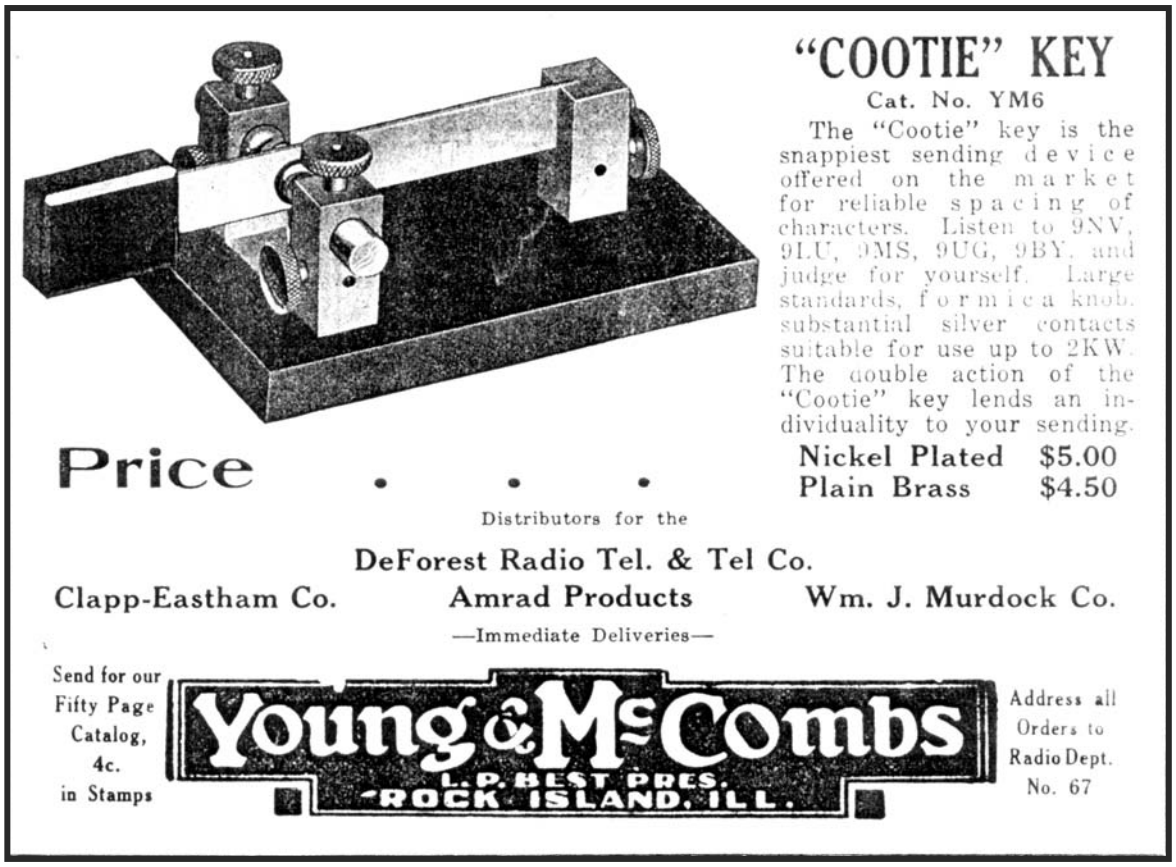
N6SL COOTIE

Society of Wireless Pioneers kingpin Ben Russell, N6SL, says he became interested in Cooties while working as a ship radio officer. He made a couple of hacksaw blade Cooties, and then made the steak knife version from parts found on the ship and it has been in almost constant use since that (1948) time. Ben says it isn't fancy, but it works quite well. Questions? You can e-mail Ben at n6sl2007@yahoo.com



STEAK KNIFE COOTIE

Another SOWP notable and big-time ‘Swiper is Jim Haube, W3OER. His Cootie is also made from a steak knife with its handle cut short to reduce backlash and produce a real Cootie appearance. Jim could not find a good base, so he cut one from a bed slat (ah—perfect!), and the key has served him admirably for many years hence. Jim also tells us his Cootie’s design was inspired by a 1920s advertisement and his original Cootie, which was a Young & McCombs item like shown in the following picture. He used that Cootie until it literally fell apart, rebuilt it as a keepsake, then changed over to the one with the bed slat base (don’t sit on that bed edge, McGee!).



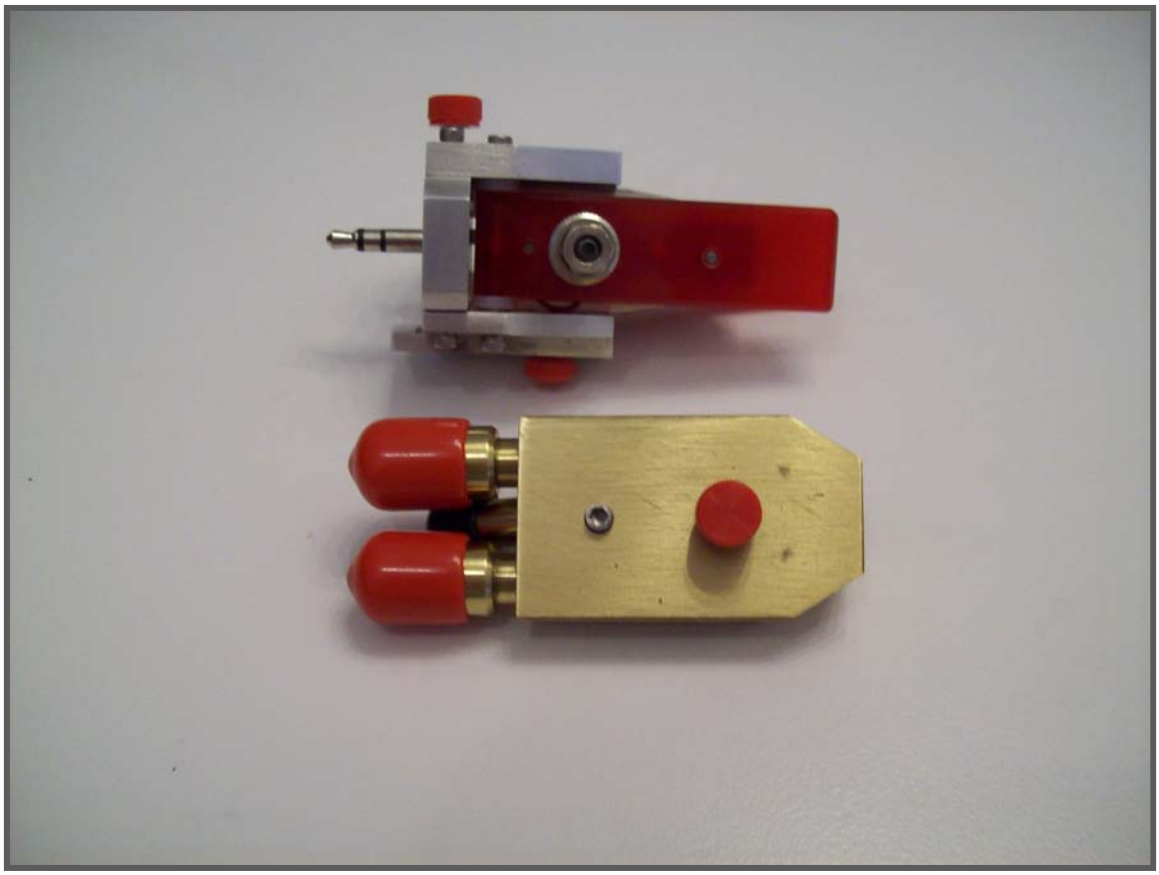
YOUNG & MCCOMBS "COOTIE" KEY

This is an original 1920s advertisement of a "Cootie" key offered for sale by Young & McCombs Company of Rock Island, Illinois. It is the little gem that inspired W3OER to homebrew his own copy. Notice the elegant simplicity here, friends. The brass strap arm is supported by a split post and left/right contacts are supported by posts, all which are available from--the friendly hardware man at Ace Hardware. Who could resist making a copy of this delight? It's oh so easy and it simply screams with old-time telegraphy. Remember too you can separate the left and right contact, wire them as dot/dash connections and this makes a superb little single lever paddle.

CHAPTER 6

MARVELOUS MINIATURES

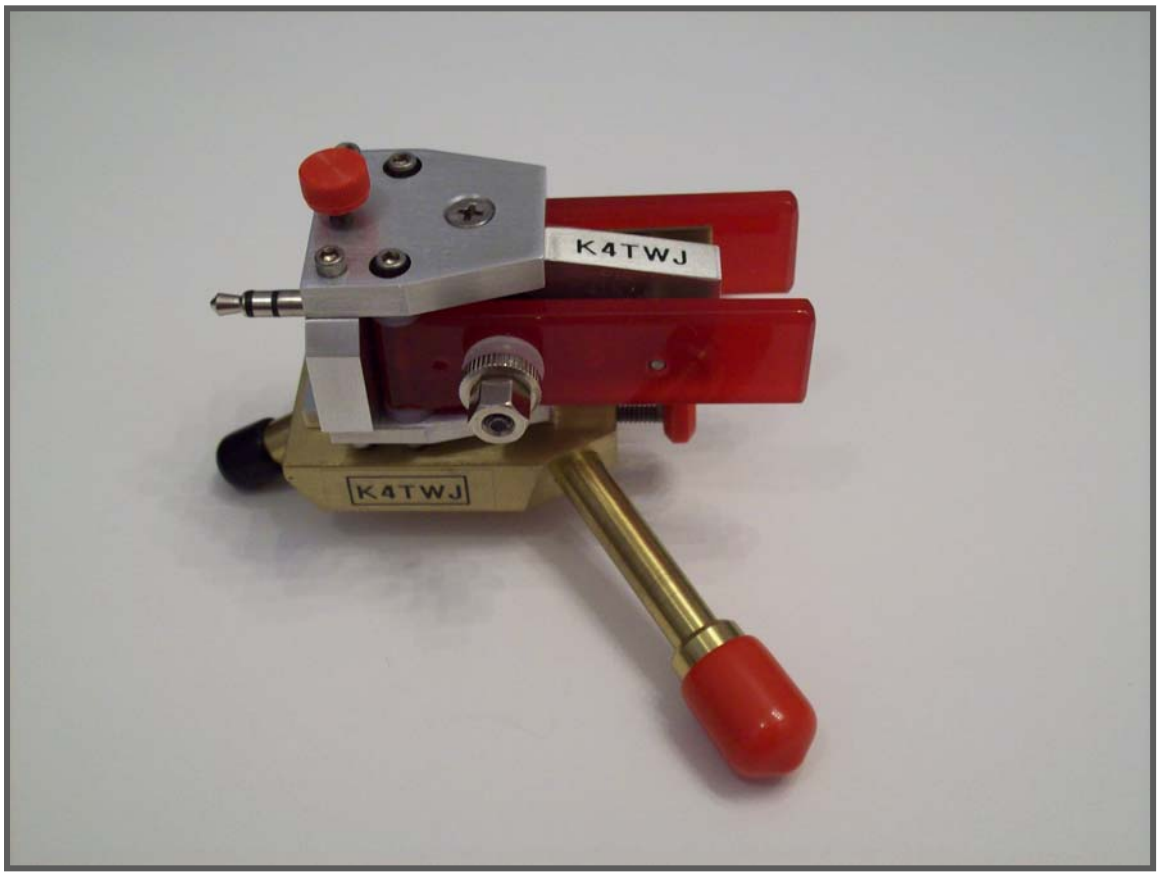
Interest in miniature Morse marvels continues growing by leaps and bounds and the variety of styles being produced today is incredible. This seems logical to me, as small keys and paddles go anywhere, are fun to use and as a general rule, are affordably priced to boot. If you are not occasionally operating CW with your own tiny tapper, you could be missing a delightful change of pace. Give one a good old college go soon! Supporting these cheerful thoughts, this chapter overviews some of today's most admired miniature keys—both fancy and frugal. Enjoy the views!



THE MINIATURE KXER PADDLE

A couple of years ago, our good friend Richard Meiss, WB9LPU, made this clever plug-in paddle for stand-alone use/handheld HF'n with Elecraft's popular KX-1 transceiver, and it is a gem. The iambic paddle is magnetically tensioned, fully adjustable and fitted with a 3-conductor (stereo-type) 3.5mm plug to mate with the KX-1's case. A specially grooved metal shim on the bottom and a screw hole on the top (both equipped with red thumbnuts) secure the paddle in place after it is plugged into a KX-1.

Notice the additional brass base with one short black-tipped rod and two longer red-tipped rods inserted in retainer holes for carrying placed beside the KXer paddle. The brass base is threaded to hold the rods (plus two red thumbnuts so all the parts are secured during transport. More details in next photo.



THE KXER STANDING ALONE

The KXer has been fitted with its optional base, and long red-tipped rods plus the short black-tipped rod have been moved from storage/transport holes to desk support holes. A short red thumbnut has also swapped places with a longer red thumbnut for securing the optional base to the KXer. Finally, a stereo headset female-to-male extension cable connects between the KXer's plug and a transceiver’s paddle socket. The result is a small, unique and quite agile miniature paddle. Neat!

MINIATURE VIBROPLEX PUMPER

MINIATURE VIBROPLEX PUMPER

Present company owner Felton Mitchell, W4OA, “rounded out” the famed line of Vibroplex CW instruments when he added this pint-size hand key to the collection. It sports both gap and tension adjustments, and its chrome parts mounted on a black base with red logo produce a nice “glitz and glamour” appearance. Key is built sturdy to survive extensive “grab and go” abuse. A small number of these keys were also produced with white, red and/or blue bases.

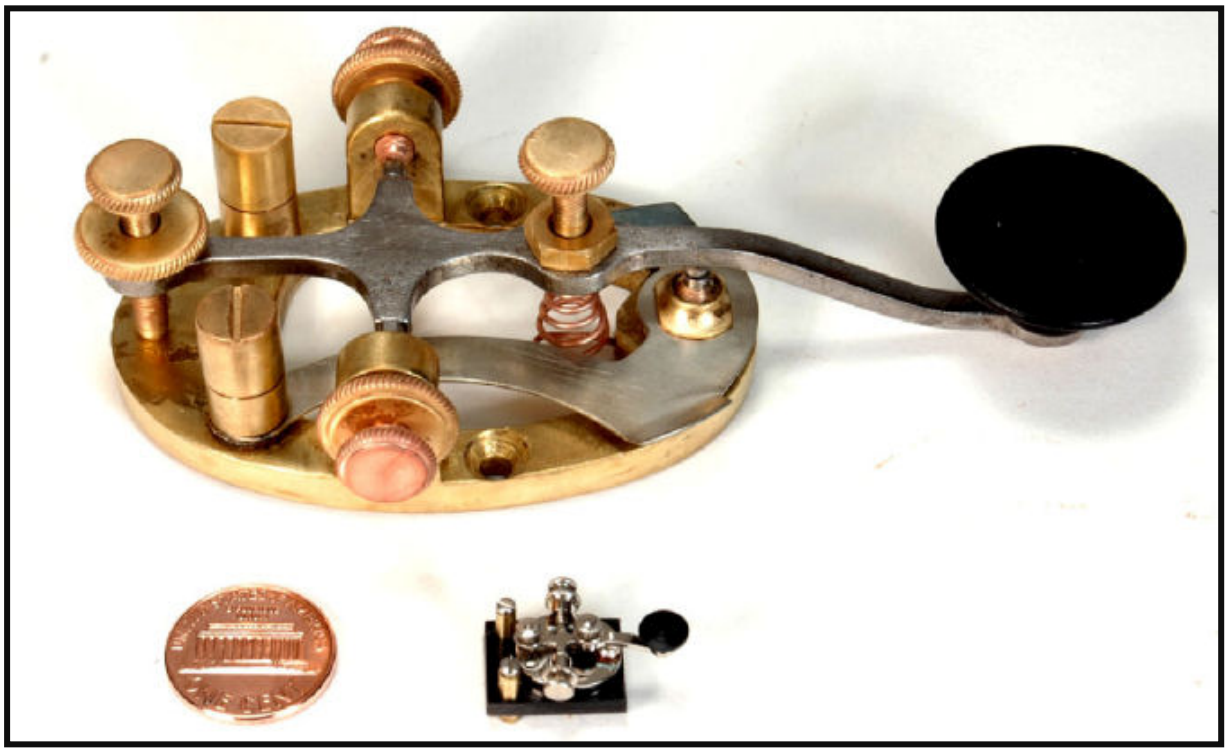
RETRACTABLE PALM PADDLE

Palm Radio of Germany produces this portable 1 by 1 by 3 inch paddle that slides all the way into its aluminum housing for grab-and-go carrying and/or safe storage. The paddle has a fairly elaborate and fully adjustable mechanism, and handles quite good. A “Code Cube Keyer” is available as an option. It plugs into the back of the Palm Paddle and has a recessed thumb knob for setting speed. The keyer is also available with an infrared link for wireless operation with a transceiver. A similar retractable hand/pump key (with optional wireless link) is also available for this well-engineered German beauty. Palm Radio products are presently imported to the U.S. by, and available from, Morse Express of Aurora, Colorado (www.morseX.com).

MINIATURE BULLDOG PADDLE

Louis Petkus, K9LU, has been producing a neat and inexpensive iambic paddle for several years, and it is particularly interesting because it is made from a modified Bulldog paper clip. That said, one might quickly assume the paddle is only a novelty—but such is not the case. I have used the Bulldog paddle at home, while portable and even handheld style while mobile, and it handles remarkably well. Also, K9LU recently upgraded it with a larger 2-inch square base and extra strength suction cup feet for “hold like a Bulldog” stability.

The modified paper clip has stop wires that can be bent to vary spacing and clip wires for varying tension. It is supplied with cable and 3.5mm stereo plug, has brass buttons for fingerpieces and makes a handy “grab and go” paddle. More details available direct from K9LU or his website: www.bulldogkeys.com.



WORLD'S SMALLEST KEY?

Our good friend and colleague W. R. (Bill) Smith, W4PAL, made this tee-tiny pump key a few years ago and yes, it actually works—and it is smaller than a dime or penny coin. In fact, it can sit comfortably on the main knob of a regular size J-38 key. The W4PAL miniature is flawlessly chrome plated, has precise gap and tension adjustments and even includes tiny binding posts for connecting wires. Bill says when he shows this key (which he carries in a finger ring box) to fellow radio amateurs, he also loans them a high power hand magnifier to study the fine details. W. R. Smith, incidentally, is also a highly decorated clock maker.

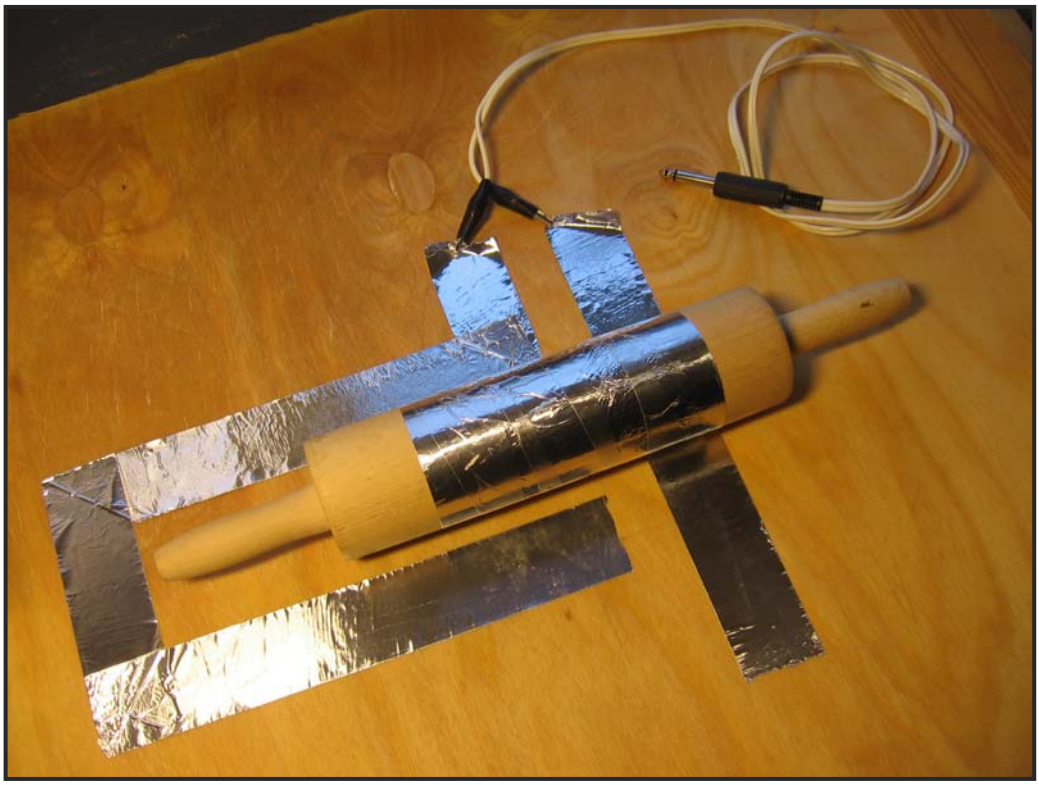
CHAPTER 7

WILD AND WACKY KEYS

Every life and every pursuit benefits from an occasional touch of lighthearted humor, so this chapter presents a short sampling of the most wacky wabblers conjured by modern minds. Here's hoping you find two or three of them so captivating that you can't resist making your own copy—or they inspire your creativity in making an even more off-the-wall telegraphic treat. One of our favorites comes from Jari Vainio, OH6DC, but it unfortunately eluded our camera lens. Jari fits a tennis racquet with a large piece of vinyl flooring over the "net end", a large knob on the handle end and a big pivot block near the racquet's middle. He then builds a roaring fire in his home's fireplace, climbs on the roof (with racquet key in tow), places it over the chimney and sends dot-dash CW in smoke signals. A true ham for sure!

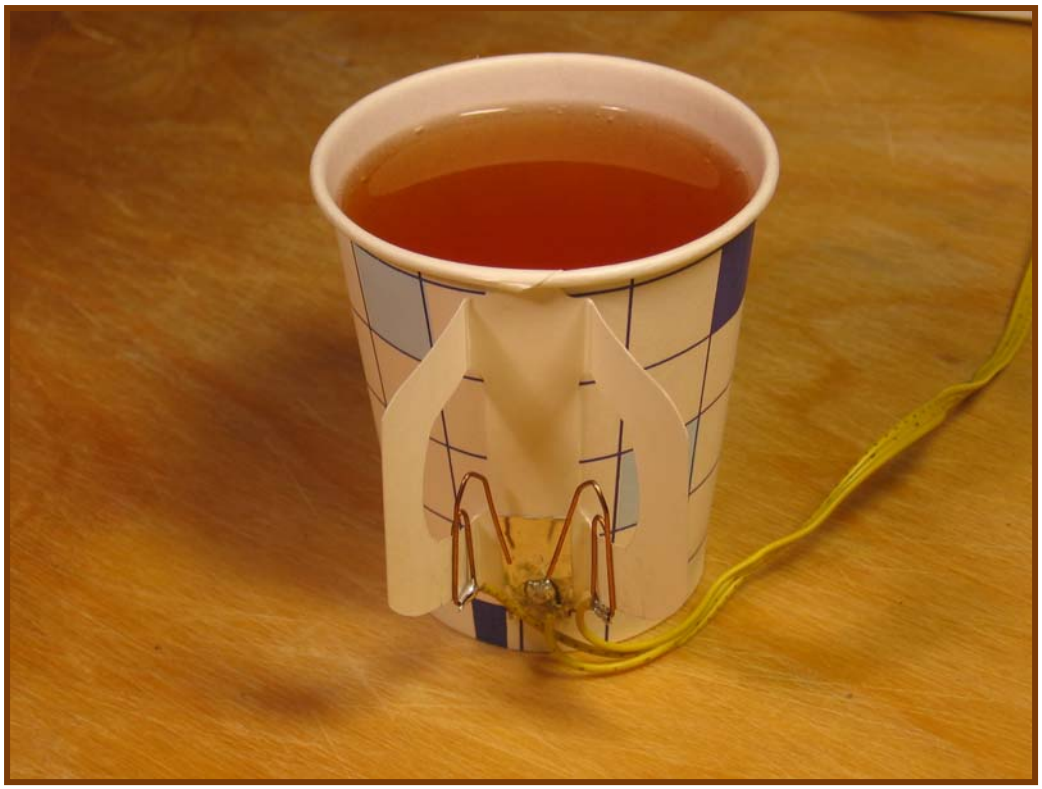
ONION CHOPPER KEY

The creative genius of Jari Vainio, OH6DC, continued to flourish when he developed this Onion Chopper Key that is equally at home in the shack or in the kitchen. Note the colorful keying knob atop the chopper: total class! Jari describes the key as follows “the key has a spring loaded metal push rod and a four blade upper contact and a piece of copper foil PC board material (with soldered wire) sitting on its bottom wood block for a lower contact. Connection wires route to a socket on the chopper’s top/lid. You forgo the onions, cable the chopper to your transceiver, grasp the round knob and start sending tear jerking CW”.



ROLLING PIN SIDESWIPER/PADDLE

Moving into the shake, bake and roll-it-out category, we next spotlight the Rolling Pin Sideswiper of OH6DC. Notice the thoughtful design and clever engineering here friends. First a narrow strip of heavy-duty aluminum foil with one wire attached is hot-glued to the table (Whew!). Then a solid wrapper of aluminum foil is hot glued to the rolling pin to make a moving arm-type contact. Next, left and right contacts (of aluminum foil) are hot glued to the table on each side of the rolling pin and the other key wire is attached. Now follow this point and mod, friends. The left and right contacts are connected together by a short strip of aluminum foil on the rolling pin's left end so this—err—thingee functions as a sideswiper. Remove that short strip of foil, connect the left and right contacts to a three conductor cable and it becomes a single lever CW paddle. I thought about adding a second rolling pin and expanding this gem into an iambic paddle, but somehow feel the world may not be quite ready for such an item.

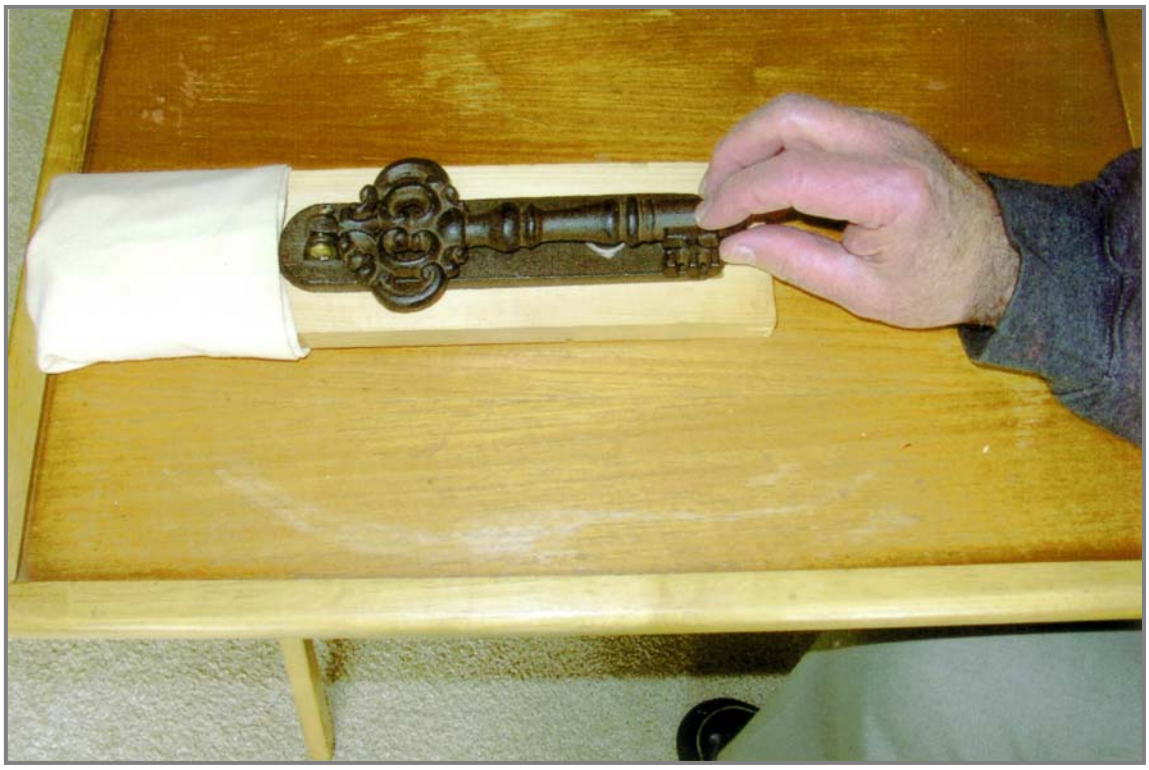


PAPER CUP PADDLE

Our third wacky treat from OH6DC is this paper cup paddle. This is no wimp-o cup: it has a stout cardboard handle—two of them—and they flex—and move independently. Jari converted this paper cup to a paddle by first hot gluing a big blob of silver solder between the handles (check it out with your magnifier). He then bent a pair of gem clips to just-right angles and glued each to a handle so when either handle is moved toward the other, that gem clip's end connects to the solder blob. The paper handles have just enough stiffness (tension?) to hold their (unkeyed) position, and a near-full cup of juice gives the paddle good stability. Onion choppers, rolling pins and paper cup keys—who could ask for more!

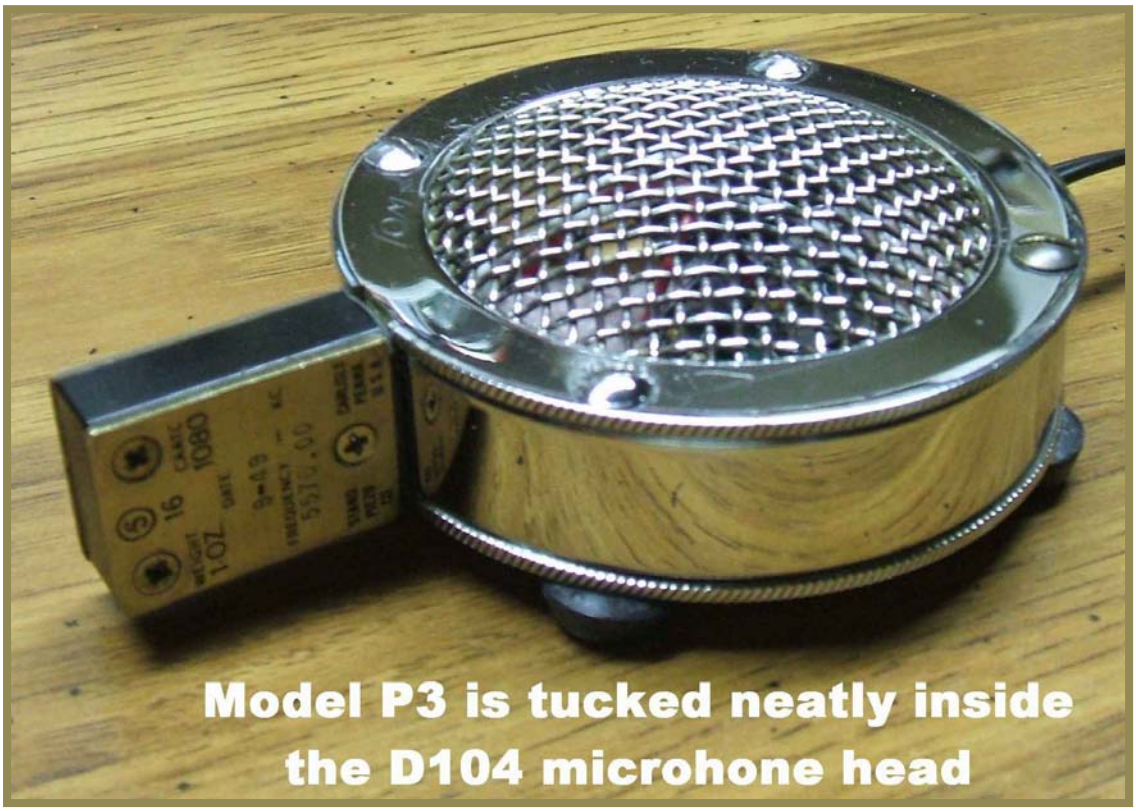
TAILGATE KEY

Check out this tailgate key Walter DuFrain, Jr., K5EST, made from the south end of a north bound Datsun pickup truck. Walter found the tailgate on a remote area of his farm, carried it home, cleaned it up, and set it up to serve as a hand/pump key, but he did not discuss the fine details. I assume the tailgate activates a momentary micro switch or rocker switch. One fact is certain carrying this monster into a multi-multi contest room should produce a roar of laughter.



DOOR KNOCKER KEY

Bud Larson, W7LNG, made this key from a key—a large door knocker key, that is. First he drilled out the original top hinge pin and installed a brass machine screw to free up the movement. Then he drilled a hole in the base approximately one inch from the end, installed an insulated contact and routed its wire to a rear connection post. A mating contact was added to the (moveable key) arm and its wire was routed to another rear connection post. Bud says he may consider adding ball bearings to the movement, but will wait until after Straight Key Night to make that decision. Good thinking old boy!



THIS MIC IS A PADDLE!

HAM PRIDE
Our Legacies and Traditions

As many of our friends know, I have been writing three columns in CQ Magazine for a number of years (World of Ideas, How It Works and QRP). Although less known in the U.S., I have also been writing a series of “Ham Pride” articles that have been translated into various languages and published in amateur radio magazines around the world. These articles highlight our noteworthy history and traditions, the pride in being a legally licensed radio amateur and the simple pleasures of operating CW with some just-right-for-you keys. The overall message here is Ham Pride is alive, thriving and firmly engrained in the hearts of radio amateurs of all nations. A sampling of these Ham Prides follows. Enjoy the tales!

Every reader can play a commendable role here—in remembering and passing these true tales on to future generation radio amateurs later in years. Through your work, our proud legacies and traditions will continue in high style rather than becoming lost memories. That, dear friends, is the best contribution each of us can make to our world-class hobby-service! ……..Dave Ingram, K4TWJ

A sampling of DX magazines carrying “Ham Pride” articles by K4TWJ. QTC is Sweden’s SSA’s magazine, RadCom is UK’s RSGB magazine, Electronica Popular is Brazil’s amateur related magazine, 100 Watts is Thailand’s top circulation radio magazine and Radio ZS is SARL’s magazine.

HAM PRIDE: OUR LEGACIES AND TRADITIONS

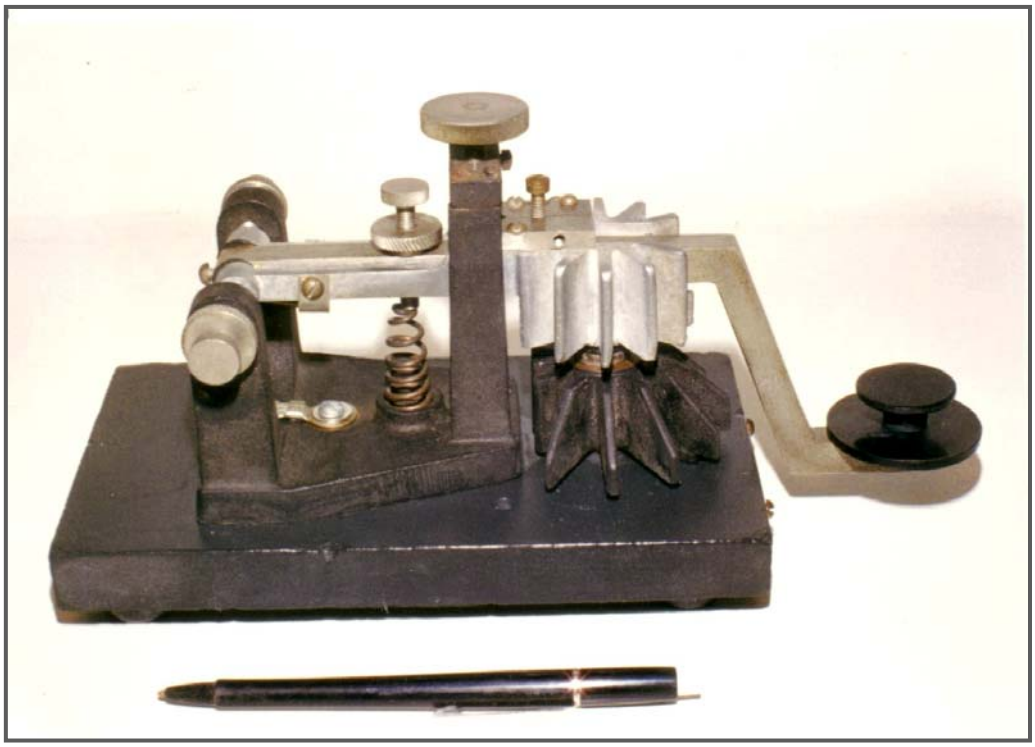
By Dave Ingram, K4TWJ

Our amateur radio world is rich in proud traditions and noteworthy accomplishments, many dating back to the early days of wireless communications. This series of short articles thus passes on such related tales to newer amateurs with the encouragement/stipulation to also pass them along to next generation amateurs later in years.

Amateur Radio came into existence approximately 100 years ago as a form of wireless telegraphy called “Spark Gap” or simply “Spark”. A typical transmitter of the time consisted of a large high voltage coil or transformer keyed in its primary circuit and a spark gap with large resonating coils and homemade capacitors to produce very strong(!) arcs or sparks in its secondary circuit. In some respects, it might be analogized to a long extension wire connected to a spark plug in an automobile engine so it radiates ignition noise and hash like crazy. The mating receiver consisted of a simple crystal set with open-air galena rock/mineral detector and an adjustable coil called a loose coupler. A long copper wire antenna polished with steel wool for good signal radiation was used with the setup. It was definitely crude, dangerous and frightful by today’s standards (especially a 1,000 to 5,000 watt rotary spark gap setup!) but it worked!

During operation, the key literally flamed with high circulating current and static electricity. Hairs on an operator’s head and arms stood out from static electricity and the smell of ozone filled the air. Arcs of static electricity flying off the transmitter occasionally scared visitors witless and sent them running in fright. Outside, the antenna glowed with a purple haze and flames of static electricity flying from its ends occasionally started bush fires. That popular QCWA logo of an old-time spark op with bolts of static electricity emanating from his pipe is more factual than folly, friends. Original spark ops were indeed a gutsy lot! Yes, and compared to those open air and fire breathing dragons of yesteryear, today’s mild mannered rigs in fully enclosed cabinets are quite docile.

Bands, frequencies and modes like CW, AM and SSB were relatively unknown during that tender young age. Operators just tweaked their transmitters resonating circuits to produce a healthy spark with a unique sound. They copied incoming signals by concentrating on the raspiness, buzz, hiss, tone or fist of a selected station while ignoring other stations—regardless of strength. There were no IF or Passband filters and no DSP. The only selectivity was between an operator’s ears.



ROCK CRUSHER KEY

A shining example of a genuine spark-era key is the famous 50 amp-rated “Rock Crusher” key made by the Marconi Wireless Telegraph Company and shown in our accompanying photo. The key’s huge silver-tipped contacts could get fiery hot during operation, so massive heat sinks attached to both upper and lower contacts helped keep the key cool enough to handle. The key’s skirted knob also serves an important function. It protects an operator’s fingers from harmful burns or shocks. A slip of the hand definitely could not be tolerated here! Genuine spark keys are more than prized collectibles, incidentally; they are true artifacts of amateur radio’s proud history and legacies you can hold in your hand. May those keys, their operators and their memories live forever!

HAM PRIDE: OUR LEGACIES AND TRADITIONS

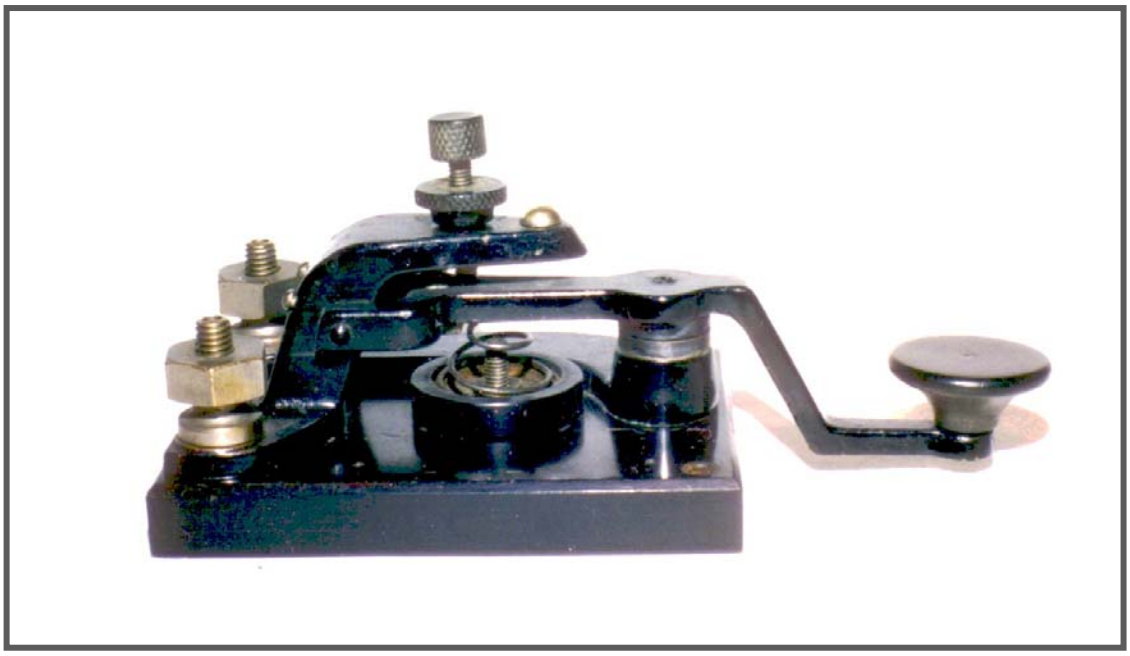
By Dave Ingram, K4TWJ

Over the years (and continuing true today!), involvement in amateur radio has been responsible for many young adults acquiring outstanding careers in electronics and communications. Yes, and as a result of their amateur radio background, they have thoroughly enjoyed their work and excelled in their respective areas. A shining example of that statement is reflected in the following story from radio's golden past. Remember it and pass it on to next generation amateurs to continue our legacies.

A number of memorable tales surround spark-era communications and the RMS Titanic, which hit an iceberg and sank during its maiden voyage from England to the U.S. in 1912. The now-famous ship was equipped with a high power spark gap setup, which was "state of the art" for 1912, and amateur wireless operators (the first radio hams!) all along the U.S. east coast reported copying the Titanic's S.O.S. Several world-influencing changes followed that event, one in particular stated that henceforth all ships on international voyages would be equipped with a wireless communication system and two or three Morse-proficient telegraphers to operate the system. Although still in its infancy and still referred to as "wireless", radio came of age at that time.

Amateur wireless operators often filled the newly established positions, bringing with them an unequalled enthusiasm for telegraphy and a double pocketful of galena crystals found near creek beds. Once aboard ship, the operator would carefully mount each crystal in the receiver's open-air detector stand. Then he would move the detector's fine wire or "catwhisker" over the crystal's surface and mark its most sensitive detection points for quick crystal swaps when necessary. The operator's foresight in preparation often proved beneficial even before leaving port.

While the new and young operator was busy copying messages from shore-based stations (typically in the ship's closed "communications room" which lacked a view of the outside world), another ship departing port would pass alongside. The other operator would begin transmitting at high power, almost blowing the earphones off the new operator's head and instantly destroying his galena's ability to detect signals. Almost instinctively, our hero could quick-swap crystals, reset the detector's catwhisker and continue copying without missing a full line of text. Multitasking in 1912? Yes indeed and those hardy young pioneers of radio performed their duties so well they could make modern DXers, contesters and emergency aid operators blush with envy. What an inspiration to us all!



LOWENSTEIN TYPE A 70-AMP KEY

Every telegraph key from the classic era of spark gap transmitters and galena crystal receivers has a similar and equally important tale to tell. We simply need to recognize each for its historical merit. The key in our accompanying photo, for example, is a rare Lowenstein item like often found aboard ships of the 1912 period. Notice its huge 70 amp-rated silver contacts. Even oversized, they became blazing hot during use!

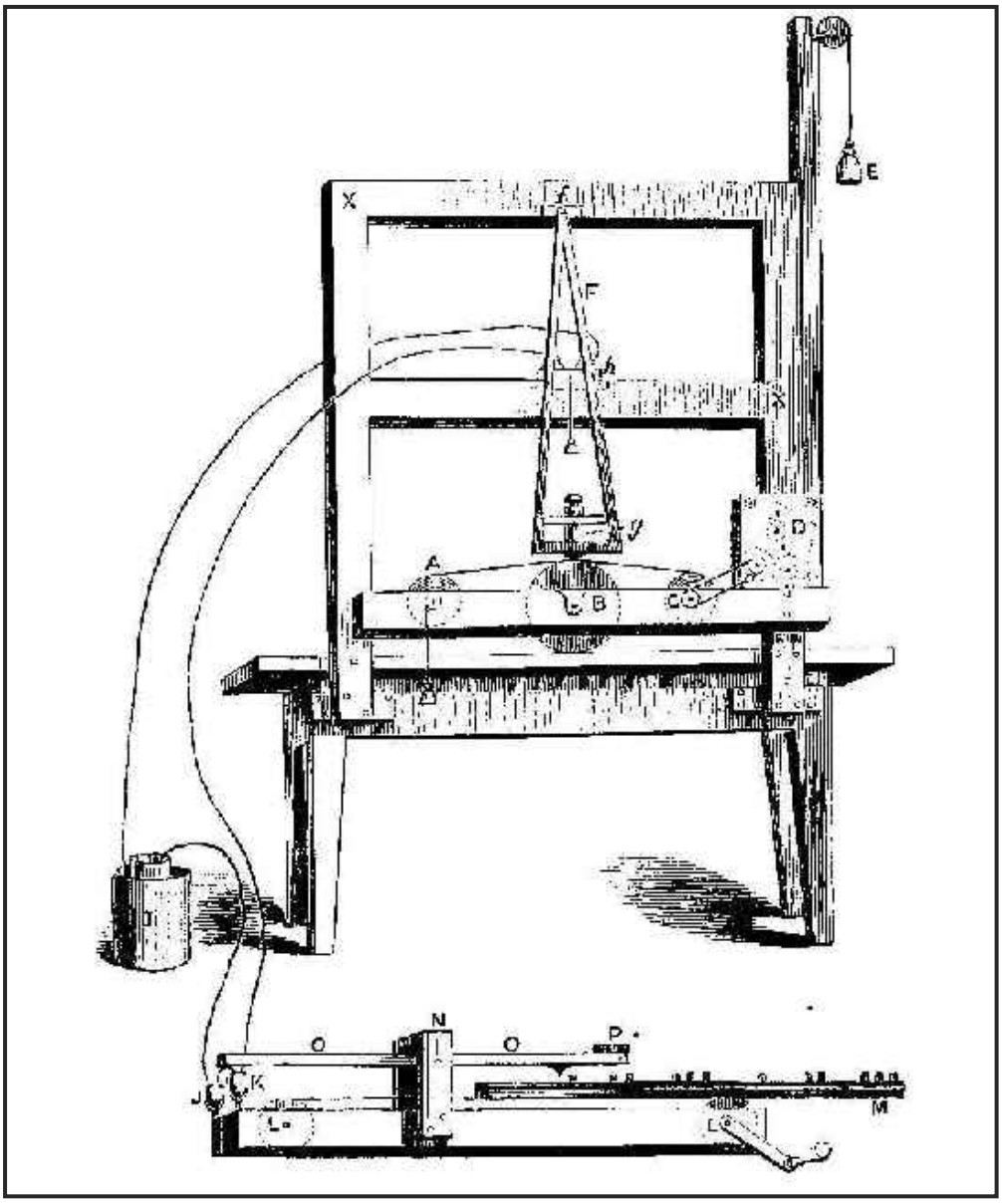
HAM PRIDE: OUR LEGACIES AND TRADITIONS

By Dave Ingram, K4TWJ

We occasionally hear fellow amateurs say they thoroughly enjoy on-the-air operations, but lack an electronics background for fully understanding technical details of modern equipment. Is that a deficiency? Absolutely not. Every amateur has a special place only he/she can fill in our great hobby/service and “technical know how” is not mandatory. The following tale examplifies that statement. Remember it and pass it on to future generation amateurs later in years as one of our proud legacies.

Although a little known fact, telegraphy and the Morse code were not invented by a technical genius, but by an artist and portrait painter. That’s right friends: Samuel F. B. Morse was an internationally recognized artist. While traveling between Europe and North America, he met Joseph Henry plus several other pioneers in electromagnetism. Soon afterwards, he devised an electromagnetic signaling device that worked by moving an artist’s pen from side-to-side on a painter’s canvas while it was being slowly drawn through a windowpane type stretcher. Like every innovation or invention, a series of small and natural steps followed. First, Morse devised a dot/dash code for converting pen movements into letters and words transmitted over wires. Then Morse’s assistant Alfred Vail designed and built a full mechanism key to replace the crude strap key Morse had quick-devised to use with his setup. Noting the difference in sound between dots and dashes, Vail also built an electromechanical sounder, to replace Morse’s original pen-and-canvas setup. Telegraphy was then off and running. Quick-formed telegraph companies on several continents began installing telegraph lines across sparse lands. Hundreds of small telegraph companies, most without interconnecting lines quickly flourished. In many cases, runners hand-carried messages between companies lacking interconnecting lines. As time progressed, the largest telegraph company purchased hundreds of small telegraph companies and combined then all under the now internationally recognized name of Western Union.

The next big step was Marconi’s development of spark gap communications, or wireless telegraphy. A slightly modified form of Morse code—using different combinations of dots and dashes for a few letters to permit easy copy with an earphone followed. That international version of Morse code prevailed, and is still proudly used by radio amateurs today. It has relayed desperate messages by radio, by hammer taps on sinking submarine hulls, via eye blinks by the severely handicapped and prisoners of war, and more (original text messaging!). Many radio amateurs even carry medic-alert cards illustrating the Morse code and explaining if severely injured, but able to move any body part, they can communicate via Morse code. Simply stated, this is a mode that promises to live forever!



MORSE ORIGINAL CANVAS-TYPE TELEGRAPH

This is an original 1850s-era sketch of Samuel F. B. Morse canvas stretcher-type telegraph setup that he nailed to the back of a drawing table. Weighted pulley was used to slowly move canvas forward while dot and dashes moved pen from left to right. Some imagination is helpful in visualizing how it works.

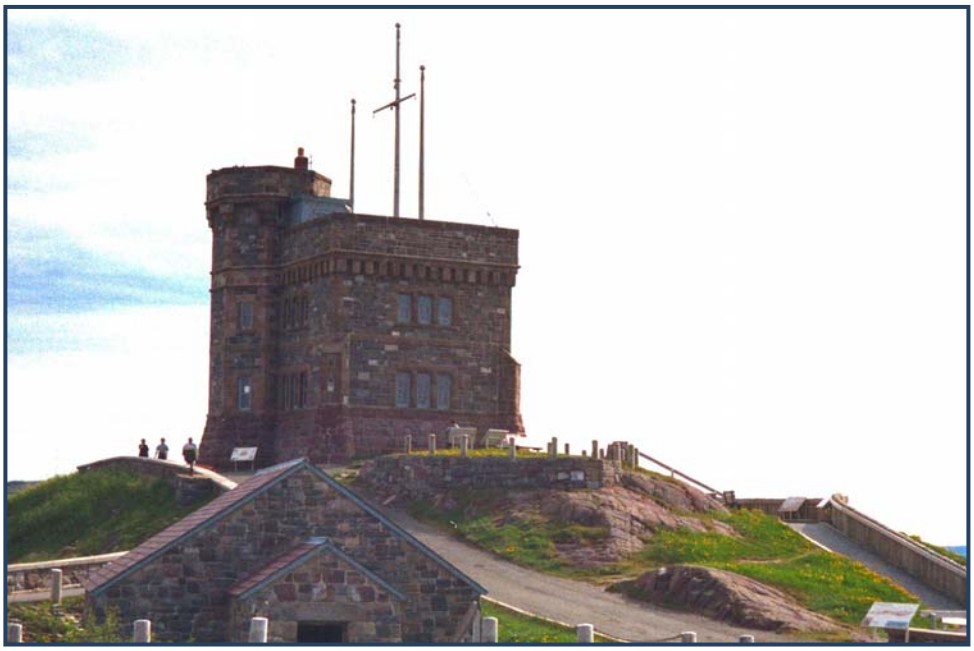
HAM PRIDE: OUR LEGACIES AND TRADITIONS

By Dave Ingram, K4TWJ

Radio amateurs have always been recognized for their interest in pioneering new areas of communication and dedication to serving their countries and communities during times of abnormal situations. We are also proud of our legally assigned call letters, captivated by new technologies and new models of equipment and always appreciate learning more about our remarkable history. Several of those facts are related in this Ham Pride article.

During the early days of radio (when it was called “wireless telegraphy”), people assumed long waves or frequencies below the standard AM broadcast band of 550 to 1700KHz were best suited for sending signals over long distances. The reasoning here was quite simple: only a few ultra long waves would be required to span hundreds or possibly thousands of miles while shorter wavelength signals would “run out of energy” trying to cover the same distance. As a result, frequencies below 500KHz were considered prime spectrum and limited in use while amateur experimenters were allowed open access to the less attractive shortwave areas above the AM broadcast band.

Radio amateurs found this HF area a delightful challenge and soon began communicating between continents, not by sending signals directly but by bouncing them off the earth’s ionosphere. Technical groups worldwide noted the achievements, shifted directions, designated most of HF spectrum for professional use and allocated only small segments for amateur use. Did that dampen our spirits? Nay, nay. We grew stronger. We spearheaded the development of Single SideBand and voice band/Slow Scan TV during the 1950s plus foreran cell phones, e-mail and wireless Internet concepts with handheld VHF transceivers and packet radio during the 1960s, ‘70s and ‘80s. Our endeavors continue today as we pioneer on-the-air use of digital audio, digital and multi-format SSTV, new ultra-weak signal modes like QRSS and use internet-linked VHF repeaters for global communications with handheld VHF FM transceivers. Yes and regardless of changes past, present and future, we recognize the importance of encouraging and nurturing newcomers in our midst. Through their work, our proud legacies and traditions will live on and flourish. Yes, radio amateurs are special. Always have been, always will be! 73, Dave Ingram, K4TWJ



The accompanying photo shows historical Cabot Tower atop Signal Hill in Newfoundland: the actual location where Guglielmo Marconi first received spark gap signals from Europe in 1901. The tower is now a famous landmark.

The second picture is the view of St. Johns, Newfoundland and its harbor as seen from Cabot Tower and Signal Hill. Today, it is a modern city complete with high-rise buildings.

HAM PRIDE: OUR LEGACIES AND TRADITIONS

One in a Continuing Series

By Dave Ingram, K4TWJ

Over the years, radio amateurs have pioneered many areas of electronic communication: HF, VHF, Single SideBand, cell phones (with handheld FM transceivers and autopatching repeaters), e-mail and wireless Internet concepts (with packet radio) and more. Few can compare, however, to the stouthearted beauty and rustic glamour of loop modulation. Its condensed story follows. We encourage all readers to remember this true tale and pass it on to next generation amateurs during future years so our legacies will continue strong and live forever…de K4TWJ.

As you have read in a previous Ham Pride article, amateur radio began as a form of wireless telegraphy using fire breathing, spark gap transmitters and crystal set receivers. They were followed by more mild mannered CW transmitters comprised of a single vacuum tube or electron valve oscillator with a large copper tubing plate coil. Enthusiastic about communicating by voice rather than Morse code, experimentally minded amateurs tried various ideas and techniques to transmit spoken words over the airwaves. Loop modulation evolved as the first means of accomplishing that feat—and it was as wild as it was successful.

Simply described, loop modulation involved connecting a carbon-element microphone like the type found in home/wired telephones to a two or three turn loop of insulated wire placed at one end or dangled inside of an oscillator-type transmitter's plate coil. As resistance of the mics carbon granules varied with speech, loading of the plate coil (and absorption of the transmitter's output power) also varied and resulted in 10 or 15 percent modulation. It was far from perfect, because loop modulation shifted an oscillator's frequency almost as much as it varied its amplitude, but it worked—and it also spun off two of today's most widely known modes of voice communication: AM and FM.

In reflecting back on our fearless forefathers and their open-air transmitters, we see that experimenting with loop modulation was an exciting but dangerous process. One slip of the hand and an operator could be jolted across the room with heart palpitations galore. The self-excited oscillator/transmitter shown in our accompanying photo vividly illustrates that fact. The vacuum tube/valve's envelope becomes very hot during use and high voltage lurks dangerously on the large plate coil.

A big-time oscillator/transmitter from the 1930s. It used a type 804 tube. Photo courtesy of W6JRY.

Today's radio amateurs may assume the golden age of home experimenting has passed—that modern "do it all" gear enclosed cases leaves little to be developed—but look closer, friends. Our ideas of using multiple formats with SSTV are being integrated into commercial digital TV tuners. Our use of low orbiting satellites is flying VHF/UHF repeaters is paving the path for commercial satellite use by everyone with a cell phone and our homebrewed batteries using lemons and tomatoes to power QRPp gear opens new doors and sources of natural energy. Yes friends; you may be justifiably proud to be a licensed radio amateur. Live long and may the force of good signals always be with you! K4TWJ.

HAM PRIDE: OUR LEGACIES AND TRADITIONS

One in a Series **By Dave Ingram, K4TWJ**

Amateur radio organizations around the world are working on restructuring license exams and operating privileges, and the change is renewing widespread interest in our internationally famous service/pursuit. Existing amateurs realize this fact and understand the important role new/next generation amateurs play in carrying our proud legacies and traditions forward in time. We welcome newcomers and we also encourage you to include full HF band operations in your activities, even if it requires studying for a higher class license or you do not expect to purchase HF gear anytime soon. Why?

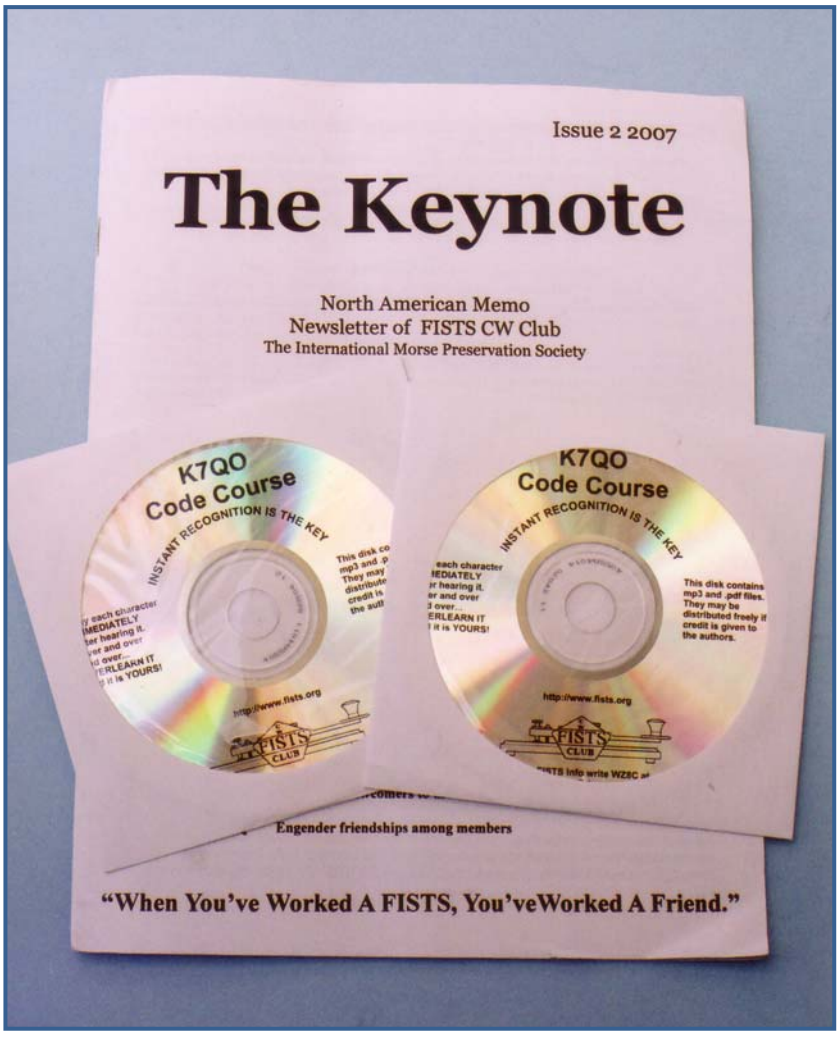
The HF bands support person-to-person communications with other radio amateurs across the country and throughout the world. HF is the heartbeat and the "bright lights and glamour" side of amateur radio, it is extremely valuable during emergencies, and becoming HF active may be easier and more affordable than you think. Three special factors make that possible: using Morse code, working CW and operating QRP.

Maybe it is reverse psychology, but studies have confirmed Morse code is more popular and more widely used when it is not required for licensing. Studies also confirm CW reaches out better and farther than voice modes like FM or SSB. Indeed, five or 10 watts on CW continuously exhibits more communications power than 100 or 200 watts on SSB. Numerous amateurs have proven that fact by contacting over 100 countries while using battery powered QRP gear—and you can do it too! Future Ham Pride articles will look more closely at some exciting varieties of keys and QRP gear plus overview some helpful hints for new HFers. This time however let's focus on the benefits of knowing Morse code.

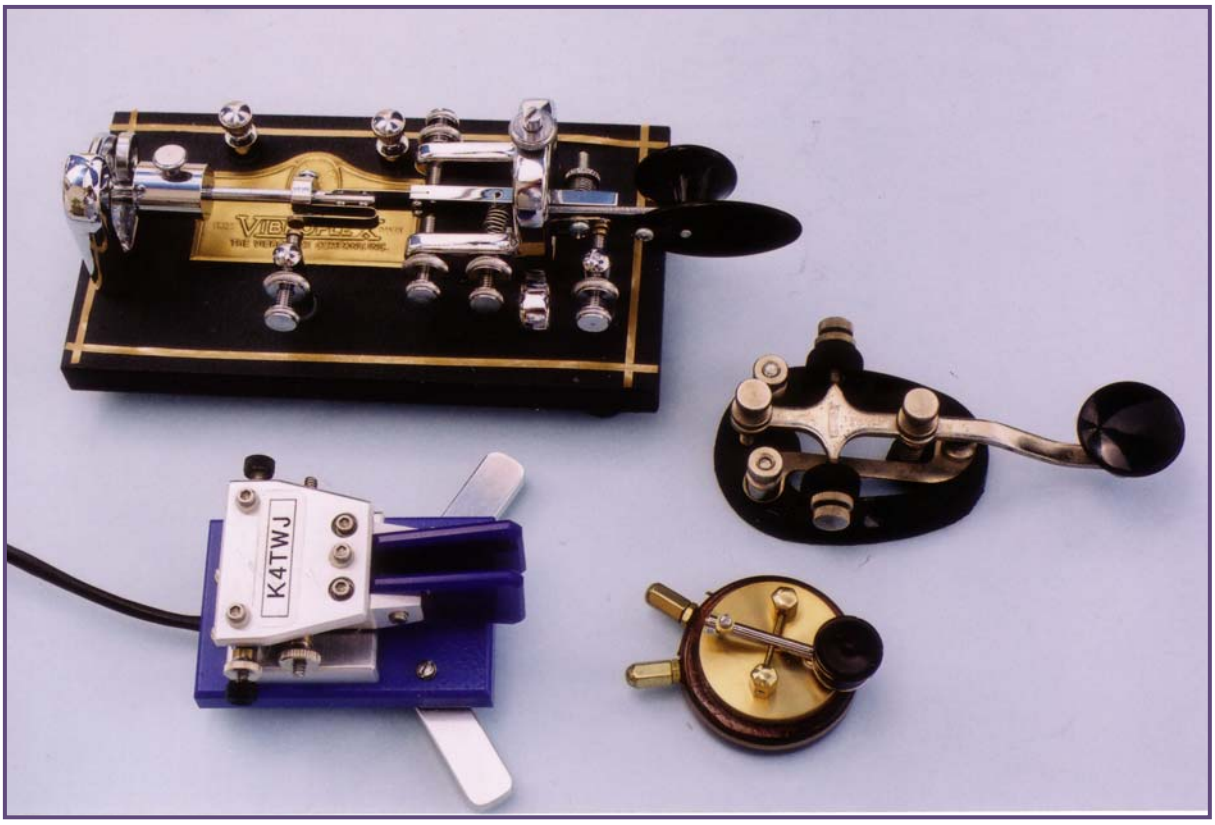
A common problem in contacting amateurs in distant/foreign lands is language differences. Using Morse code, CW and universally-known "Q" codes, however, help overcome language barriers and let you understand amateurs of all lands and tongues. A few short years ago, Morse code taps on the hull of a submarine that sank in the Barents Sea was the sole means of communicating with crew members. Morse code has also been used for passing messages by earthquake victims, the severely handicapped and prisoners of war by pipe taps, straw sips, eye blinks and more. In one of many examples, a nurse at a major U.S. hospital helped a totally paralyzed lady learn Morse code in only two weeks. Within two months, the lady was eye blinking beautiful poems. A few months later, the paralyzed lady was eye blinking a full book of religious poems for worship. There's more!

Realizing Morse code's endless capabilities, an increasing number of radio amateurs are carrying Medic Alert cards showing the Morse code and explaining if severely injured but able to move any body part, they can communicate by Morse code. Could Morse code someday prove useful for helping save your life or the lives of

others? No one knows for sure, but we know it is definitely worth considering! Watch for more encouragement to try HF in future Ham Prides. Meanwhile, check www.k4twj.blogspot.com for more information on keys, CW, QRP and Getting Started in HF Fun. 73, Dave, K4TWJ



An excellent way to learn Morse code and become proficient in its use is by joining FISTS, the International Morse Preservation Society. Their Morse code study CDs and Code Buddy program (learn code with a friend) are top-grade and their "KEYNOTE" newsletter is always filled with good encouragement for operating CW. More details at www.fists.org.



Illustrating the four main categories of keys is: left top/a world-famous semi automatic key or “bug” (available from www.vibroplex.com), right top/a classic Speed-X hand key available from www.MorseX.com, lower left/a dual lever paddle (hand made by WB9LPU) and lower right/a round based miniature key hand made by K6VDH.

HAM PRIDE: OUR LEGACIES AND TRADITIONS

One in a Continuing Series

By Dave Ingram, K4TWJ

Our encouragements to include globe-spanning HF operations in your amateur radio activities continue this month with a glitz-and-glamour look at radio's all-time favorite accessory: keys. Next time, we will discuss using a just-right-for-you key for operating QRP on HF at low cost.

Throughout the world, telegraph keys proudly stand as one of the most well-known symbols of amateur radio—and with good reason. They are forms of art in metal. Keys have been produced in a captivating variety of styles and sizes, older keys represent a piece of radio history you can hold in your hand, and operating CW with a special key is a thrill of the best kind. Finding that key (or paddle) may require some hunting and test-using, but that too is a delightful experience!

Generally speaking, keys are produced in four basic categories: manual or "pump" keys, semi-automatic keys or "bugs", paddles for use with electronic keyers and miniature versions of each category for portable or "just for fun" use.

Manual keys are easy to use and do not require external power for operation. Some are quite elaborate in design, workmanship and action. Sending speed with a manual key is usually limited to less than 15 words-per-minute.

Semi Automatic Keys or "bugs" use a horizontally-moving lever and a vibrating pendulum with attached speed-adjusting weight and dot contact assembly. You move the lever one direction to manually make one dash at a time or move it the other way for the vibrating pendulum to automatically produce a series of dots. Using a bug requires good wrist action and much practice. It is tremendous fun, but it is very difficult to master (you and the bug must become one).

Paddles are made in two varieties: single lever and dual lever, and they are also produced in some of the most artistic designs imaginable. Single lever paddles are easiest to use because their lever can move in only one direction at a time so sending a dot or a dash is almost error free. Dual lever paddles add iambic action to operation: move one lever to make dots, the other lever to make dashes, or squeeze both levers to produce alternating dots and dashes. The word "France" is sent, for example, with 5 squeezes; the dot lever leading/contacting first on the F, R and A, the dash lever leading/contacting first on the N and C, and the E produces with one tap on the dot lever.

Miniature keys typically range in size from 3 inches to one inch in length. Although tiny, many are very attractive and capable of sending good CW—assuming you know Morse code well enough to send good CW, naturally!

As further introduction into the wonderful world of keys and CW, a flash tour of some very unique keys from the four main categories are included in this Ham Pride article Like to learn more about keys, QRP and Getting Started in HF Fun? 73, Dave, K4TWJ

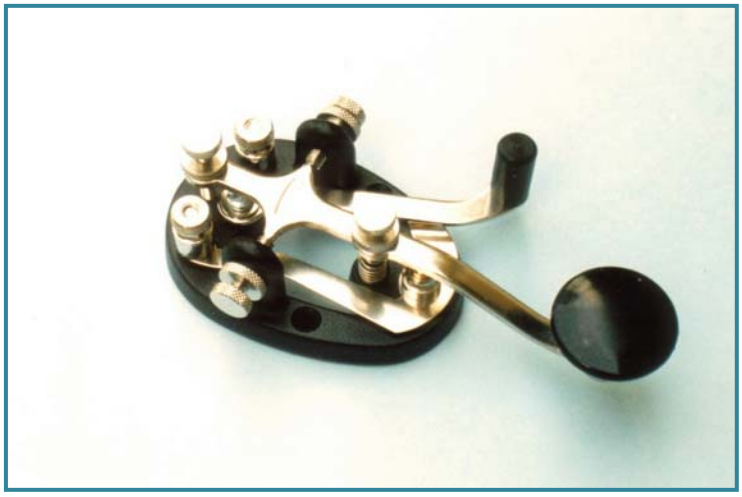
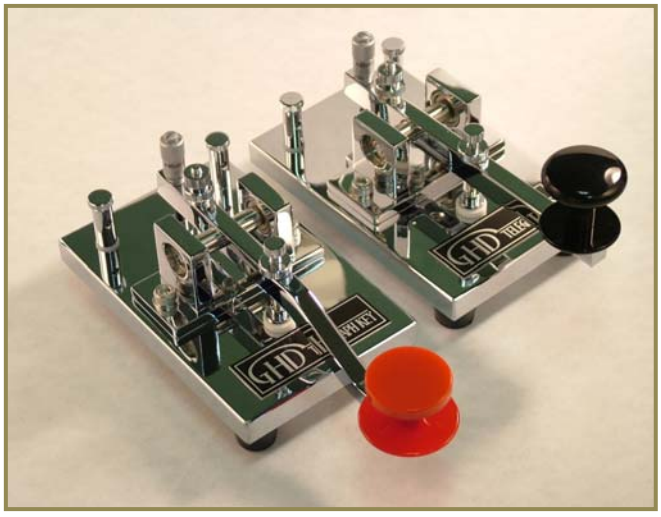


Photo 1: Simple elegance best describes this classic Speed-X Pump key that has been produced in the U.S. since the 1940s. It has adjustments for gap, tension, is reasonably priced and handles good. It is available from www.MorseX.com.

Photo 2: These chrome-plated beauties from GHD have aircraft-grade ball bearing assemblies at their fulcrum, calibrated micrometer-adjusted contact spacing and two knob mounting holes for effectively changing their arm/lever length. The feel of either key in operation is superb! Keys also available from www.MorseX.com.



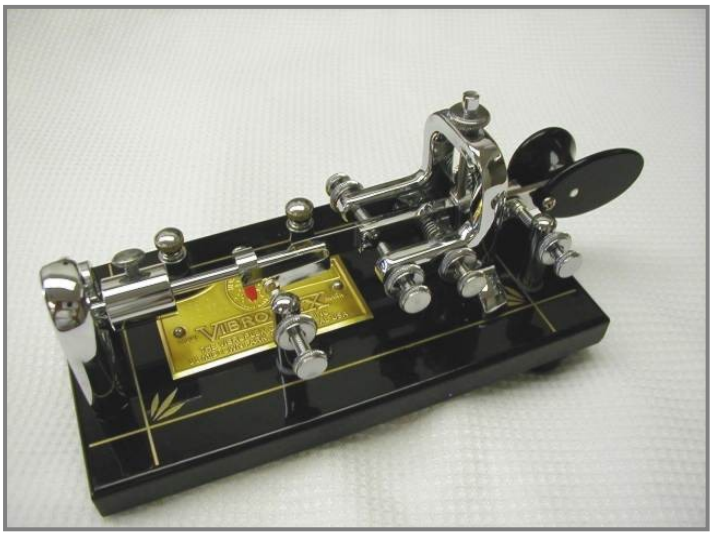
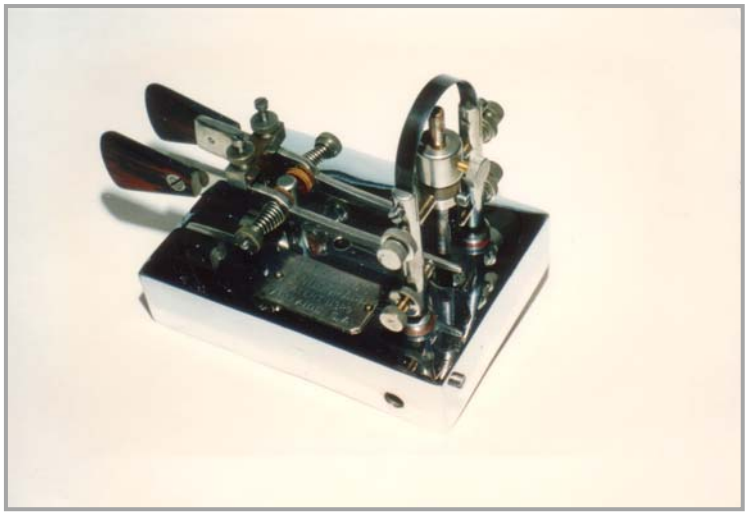


Photo 3: Semi automatic keys or "bugs" have been produced in many styles, but the classic beauty of this 100th Anniversary Model Vibroplex is hard to beat. Its sparkling chrome mechanism sits proud on a glossy black base with gold pinstriping, just like its 1904 brother. Bug available from www.vibroplex.com.

Photo 4: This rare and exotic vertical bug is called the "Pendograph". It was made in Australia during the 1930s and has a rear pendulum assembly that is insulated from the base. Contacts on the rear arch mate with contacts on vertically swinging dot pendulum and horizontally pivoting dash arm to send code. It is a Morse marvel!



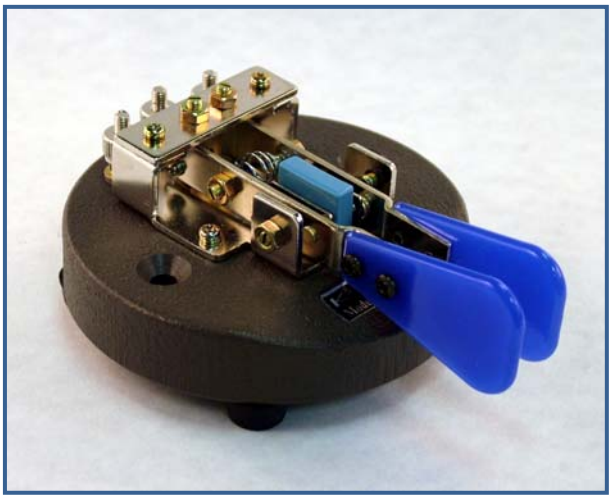


Photo 5 This round-based paddle is made by Japan's long-time producer of high quality keys, Katsumi. It has dual levers, needle bearings that wear in rather than out at pivot points and great looking blue fingerpieces. It is a joy to use, economically priced and it too is available from www.MorseX.com.

Photo 6 Small, glamorous and smooth as silk accurately describes this round and solid brass paddle presently available from Tony Baleno at www.n3znkeys.com. It is fully magnetic tensioned (no springs), has Indian Rosewood fingerpieces, and its fine polished and lacquered base has a luster like pure honey. Paddles like this make CW operations a sheer delight!

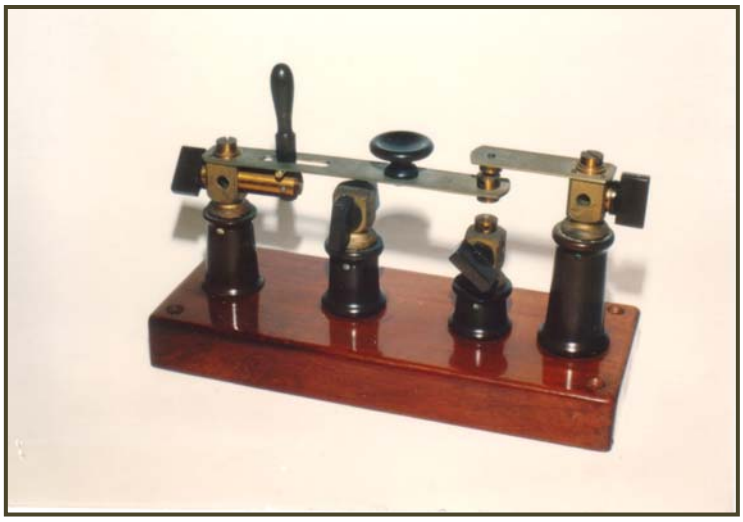


Photo 7 Yes friends, this is an honest-to-goodness pump key. It is the Frankfurt Cable key made by the Hartmann & Braun Company of Germany during the 1930s, and it is a prized collectible today.

Photo 8 One of the most historically-significant style hand keys of yesteryear was the famous Chubbock Camelback. This miniature replica Chubbock measures 2.5 x 1.5 inches, works very good and is available direct from DK1WE in Germany. Nice!

Photo 9 Don't laugh: this is the Pump Handle key complete with fully adjustable mechanism in its marvelously detailed base. You pull down on the handle rather than pushing down on a knob like a regular key. It is fun galore, and what a conversation-inspiring item. Yes it is a rarie!

HAM PRIDE: Our Legacies and Traditions

CW Treats: Sideswipers and Crickets

By Dave Ingram, K4TWJ

Several of our previous Ham Pride articles discussed the timeless use of CW and Morse code plus describe some popular styles of keys, bugs and paddles. Two special types known as Sideswipers and Crickets were not included in those Ham Prides however, so we are proud to discuss them this time.

The origin of both Sideswipers (nicknamed Cootie Keys) and Crickets (also called Double Contact Keys) date back to the very early days of telegraphy. A Sideswiper's manually-operated and horizontally moving arm allowed an operator to send Morse code faster while eliminating carpal tunnel syndrome caused by the constant up/down motion of using a hand/pump key. This key was invented several years before the semi-automatic key or "Bug" and continues popular today among many CW-favoring radio amateurs. As I will explain later, it also has a second function CW devotees will find appealing. Cricket keys were used on early ultra-long overland and underseas cable lines. The long propagation delay in these cables made sending Morse code with a regular pump key impossible, so double keys connected to send dots of one polarity and dashes of another polarity were invented. Today, a number of amateurs enjoy occasionally using Crickets in place of their dual lever paddles for "change of pace" CW operations.

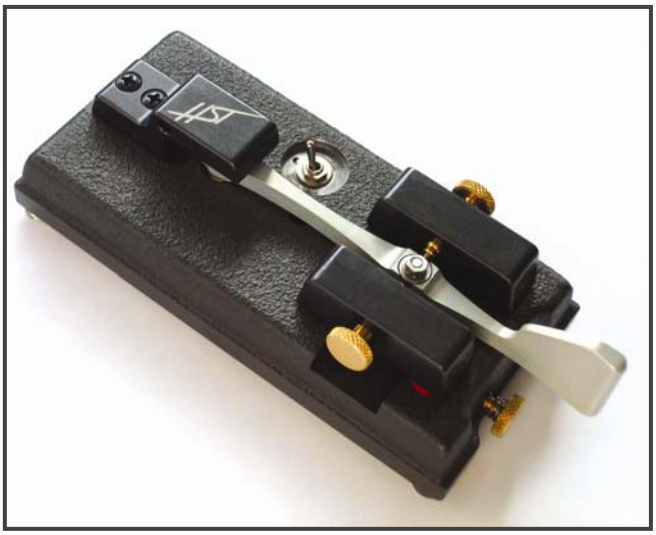
A Sideswiper or Cootie key is a manually operated key that looks like a Single Lever Paddle, but its left and right contacts are connected together rather than wired to separate dot/dash terminals or binding posts. Rather than sending dots by moving the key's lever right and dashes by moving the lever left like using a paddle, you send both dots and dashes with alternating left-right movements of the lever. An electronic keyer is not used with a Sideswiper. All timing and spacing is made by the operator's hand movements. As an example of use, you would send "OH" with three long left-right-left lever moves followed by four short right-left-right-left lever moves. The technique seems unusual but it is fun to practice and ideal for communicating during poor band conditions. That is because you can instantly change dot-dash length and weight. There is a second benefit. By rewiring a Sideswiper's left and right contacts to separate binding posts it can become a Single Lever Paddle. Also, operators with shaky fingers find using a single lever paddle easier and more accurate than using a dual lever (iambic) paddle. That is because it has only one lever and that lever can only move one way at a time.

Crickets are similar to two hand/pump keys on one base, and they can be wired to become a dual lever/iambic paddle with vertically moving levers. Musicians and "table top tappers" often like to use Cricket keys. They are an entertaining change of pace from regular paddles, and they are often beneficial when an uncomfortable wrist/paddle angle makes sending CW challenging.

Most importantly, both Sideswipers and Crickets are marvelous little items of telegraphic history you can hold in your hand, use "mix-and-match" style with your other keys on the amateur radio bands today and pass on to future generation amateurs later in time. In doing so, you play an important role in ensuring our proud legacies and traditions live on throughout the annals of time. Yes friends, it is the keys that makes operating CW so enjoyable year after year! 73, Dave, K4TWJ

Photo 1 Bruna Begali, daughter of key producer extraordinaire I2RTF, introduces their new “HST” combination Sideswiper and single lever paddle. Details at www.i2rtf.com. E-mail: bbegali@gmail.com

Photo 2 Upclose look at the new Begali HST shows switch for selecting its Sideswiper or single lever function, its gold-plated adjustment screws and hardened stainless steel contacts. Key handles great at both low and high speeds.



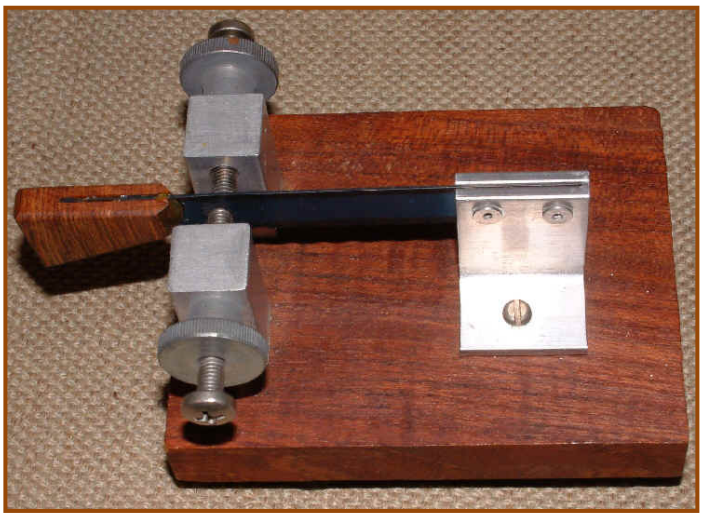
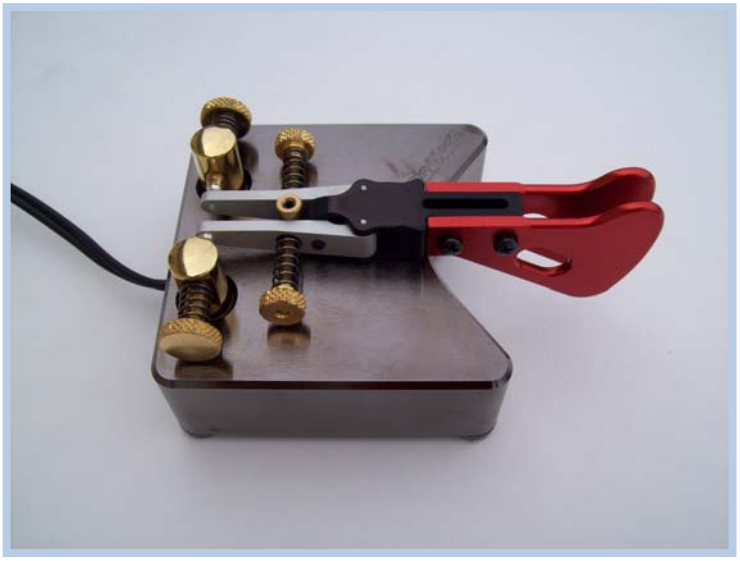


Photo 3 A number of amateurs use a hand-cut wood base and fingerpiece, metal angle brackets and pillars plus steel screws and a hacksaw blade to home-assemble their own Sideswipers—and they work good. Average length of hacksaw blade from bracket to fingerpiece is 3.25 inches for best “feel”.

Photo 4 A single lever CW paddle like this popular Begali “Simplex Mono” version can be converted to Sideswiper function by clip lead-connecting its left and right contacts together. Alternately, a stereo-to-mono adapter plug installed between paddles’ plug and transceivers’ socket will change paddle to Sideswiper.



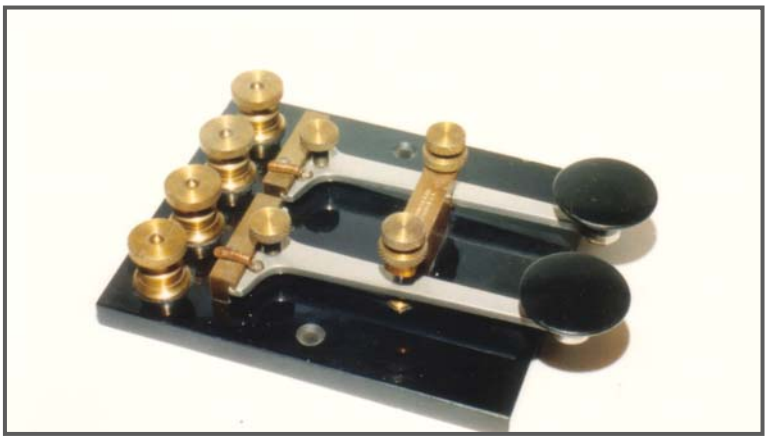
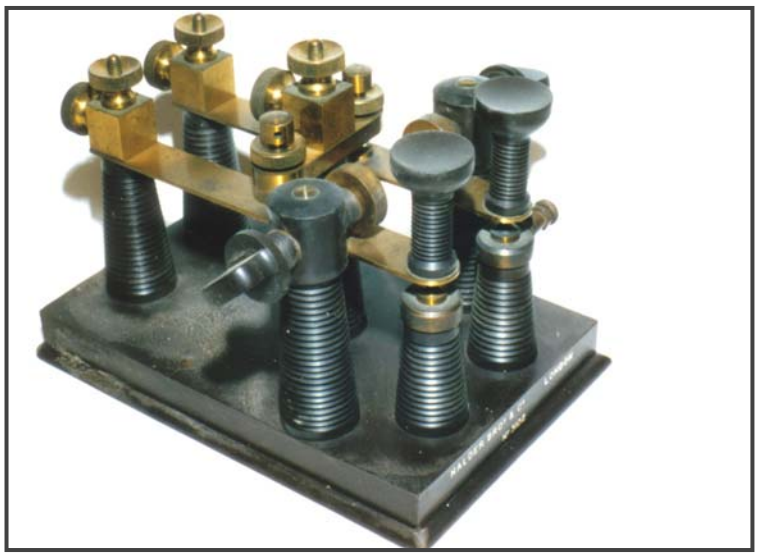


Photo 5 One of the first versions of commercially-produced Cricket keys is this J. H. Bunnell item of the late 1800s. It is akin to two hand-pump keys on a single base. This is a piece of history you can hold in your hand.

Photo 6 This rare and unique Cricket key was made by the Nalder Brothers Company of England and was one of the very first British Cricket keys. Each lever has spring leaf-type arms plus adjustments for gap and tension. Imagine wiring it for operation with an electronic keyer and using it on the air today. Wow—what a thrill!



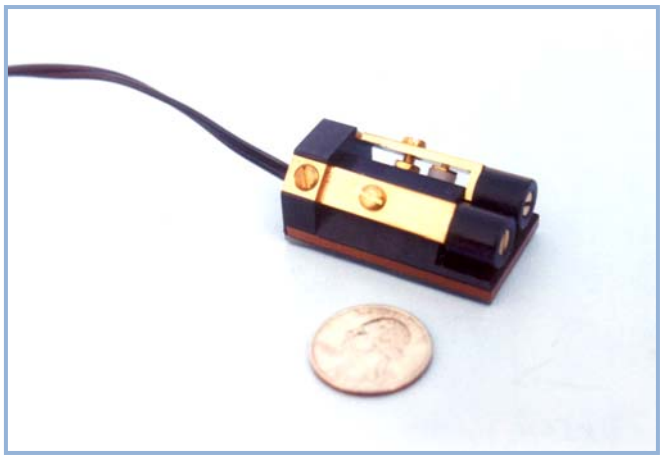


Photo 7 DK1WE of Germany makes this Cricket/iambic “Squeeky” paddle, and its 45 degree-angled arms make sending CW from unusual positions quite enjoyable. Note round fingerpieces for vertical, horizontal or angled operation. Details at www.morsekey.com. E-mail inseco.wenk@t-online.de.

HAM PRIDE: OUR LEGACIES AND TRADITIONS

The Famous "Bail Out" Switch

By Dave Ingram, K4TWJ

As you may recall, the main purpose of this occasional Ham Pride series is relating true tales from amateur radio's past to newer amateurs with the encouragement to pass them on to future generation amateurs later in time. In doing so, each of us helps ensure our proud legacies and traditions live on throughout the annals of time—a most commendable effort.

BACKGROUND

THE MYSTICAL KEY CLOSING LEVER

During the early days of landline telegraphy, each "station" along a particular "line" was equipped with a telegraph sounder and a pump key—and that key in turn was fitted with a shorting bar or circuit closing lever. Voltage was continuously applied to the telegraph line and all "stations" were connected in series, so all circuit closing levers were necessarily kept closed when not specifically sending a message.

BAILOUT!

Later when radio telegraphy came of age, both amateurs and professional operators alike found the circuit closing lever a handy aid for freeing both hands to tune up a multi knob transmitter. As radio telegraphy grew in popularity, it also became a vital means of communication aboard ships and airplanes. Many times, lightly experienced and quite young operators were hired on as communications officers. Two of the first questions a new recruit typically asked were "why the circuit closing lever on the key" and "how long should I remain at my post if our voyage meets with ill fate." If aboard a ship, the captain typically responded by raising one of the young operator's trouser legs, whipping out a large black marker pen, and marking a spot midway between his ankle and knee. The captain then said "If we begin taking on water, stay at your post transmitting an SOS, our ship's name and our position. When the water reaches that pen mark, use the key's circuit closing lever to transmit a continuous beacon signal, pray for a quick rescue and abandon ship!" The circuit closing lever's duty and name began to change.

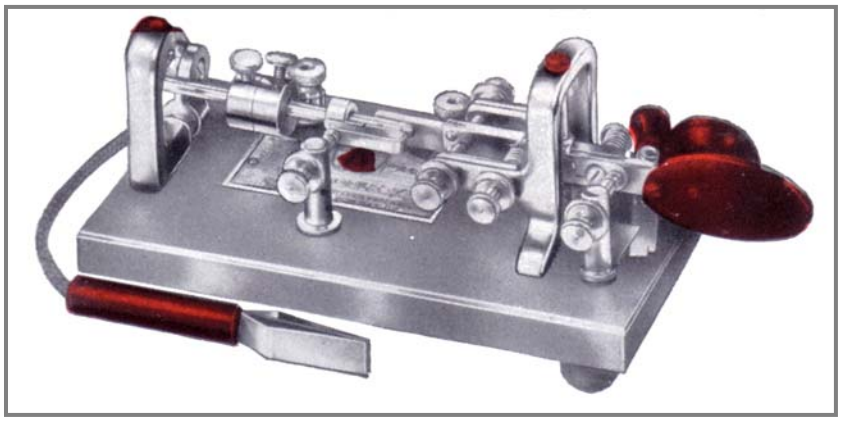
If aboard an airplane, the captain usually replied with "If we start to go down unexpectedly, transmit an SOS, our aircraft's call letters and location until objects on the ground become frightfully large, then close the key's circuit closing lever, pray for quick rescue and bail out!"

THE NO SOCKET PLUG

Owners of Vibroplex semi-automatic keys or "Bugs" often acquire their optional wedge-shaped plug, and then experience hopeless confusion locating a mating socket. Surely someone offers a socket for this !?*! plug, they reason. Eventually they realize—there is no socket. Since a bug typically substitutes for a pump/hand key in a radiotelegraph setup, its wedge inserts between the key's contacts. After use, the wedge and bug are quickly and easily removed from the station. Gotcha!

Photo 1 Note the circuit closing lever or “Bail Out Switch” on right side of this classic style pump/hand key. Does lack of said switch on modern keys indicate our stalled economy has been bailed out for the last time?

Photo 2 The optional cable and wedge used with a Vibroplex semi automatic key or bug—but where is its mating socket?



A LOOK BACK IN TIME

What did it cost?

How does the cost of 1936 gear compare to modern/2010 radio gear? A short article written by well-known author of the time, Howard S. Pyle and published in July 1936 Short Wave Craft Magazine (plus some additional research) gives us good insight to the situation.

The 25 Dollar Station (1936)

Invest 7.50 in parts to build a 2-tube receiver or convert/add a BFO to an on-hand shortwave receiver. It could be upgraded later as funds permitted. Invest 15 dollars in parts to build a transmitter, 1.50 for a hand key, one dollar for 60 feet of wire for a random wire antenna, and you were good to go.

The 42 Dollar Station (1936)

Expand above setup to a 3 or 4 tube receiver, maybe a higher power (CW) transmitter, and add a better transmit antenna plus a wave meter for checking frequencies and monitoring your transmitted CW. Big time radio!

The 100 Dollar Station (1936)

Expand above setup to include a higher power transmitter, a modulator, mic and meters for the transmitter, and you were “In Like Flint”.

In 1936 a dozen eggs cost 18 cents and a shiny new Pontiac Straight 8 (that’s an in-line 8 cylinder engine, friends) cost 615 dollars. Multiply a dozen eggs by 10 and we have today’s cost of $1.85. Multiply the Pontiac’s cost by 30 and we have today’s cost of a G5: 18,450. Next multiply a 1936 Voice/AM station by 20 (midway between 10 and 30), and—by Jove—we can purchase a nice Kenwood, Yaesu, Icom, Alinco, Ten Tec, etc. transceiver plus power supply, mic, key, multiband vertical, and one or two extras for two big ones. Even percentage-equalized, however, today’s gear gives you ten times the capabilities for the cost. The times are good! Enjoy them to the max!

At the time Dave wrote this these facts were true, but have probably since changed....Sandy, WB4OEE