THE ZARC CARRIER

The Newsletter of the Zanesville Amateur Radio Club

The Electric Telegraph 1860-1914

By Thomas H. White

ELECTRIC TELEGRAPH DEVELOPMENT AND MORSE CODE

The electric telegraph revolutionized long-distance communication, replacing earlier semaphore communication lines. In addition to its primary use for point-to-point messages, other applications were developed, including printing telegraphs ("tickers") used for distributing stock quotes and news reports

Early communications development included a variety of semaphore telegraph lines, where spotters used visual signals to relay messages from one elevated location to the next. By the early 1800s, these mechanically-operated visual telegraph lines were fairly common in Europe, although only a few simple links were ever built in the United States. However, visual telegraphs were slow, covered limited distances, and were usable only during good visibility, so inventors worked to develop a way to send signals by electrical currents along wires, which promised nearly instantaneous transmissions over great distances in all kinds of weather. But progress was slow, in part because the nature of "electrical fluid", as it was then known, was poorly understood.

"This is the age of telegrams. The public is accustomed to the consideration of facts in the briefest terms."
--The Science Record for 1873

William Cooke and Charles Wheatstone developed the first electric telegraph to go into commercial service, which began operation in England in 1838. Like the earlier mechanical telegraphs, this pioneer electrical telegraph used visual signalling -- in its initial configuration, two needles at a time, out of a total of five, rotated on the receiving device to point to letters on a display. Meanwhile, other inventors worked on electric telegraphs based on different principles, the most important being Samuel Morse in the United States, who developed a system that imprinted dots and dashes on a moving paper tape. (Later, operators would learn to read the dots and dashes directly, by listening to the clicking of the receiver). In 1844, the first commercial line using Morse's design went into service between Washington, District of Columbia and Baltimore, Maryland. Its success was followed by the rapid construction of telegraph lines throughout the United States, and eventually Morse's dot-and-dash approach became the worldwide standard. Although the electric telegraph made most visual telegraphs obsolete, telegraph wires couldn't be run out to sea, so, until the development of radio, a few semaphore links continued to provide ship-to-shore communication. A Semaphore Telegraph Station, from the April 20, 1895 issue of the *Scientific American Supplement*, described a French shoreline installation, which displayed meteorological signals, sent messages to passing ships, and also received commercial telegrams sent from the ships by semaphore flags.

Morse used standardized sequences of dots and dashes to represent individual letters and numbers for transmitting messages, and this became known as the American Morse Code. However,

Continued on page 5

Tubs of Tubes

by Dan Romanchik, KB6NU

The other day I got a call from a guy whose website I'm working on. He says he's calling from the Ann Arbor Reuse Center and that they have two tubs full of vacuum tubes there.

He asked, "Do you know anyone who might want them"?

"How much are they asking for them"?

I reply. "Ten cents a piece."

"How many are there"?

"I'd guess about two hundred."

"Well, tell them I'll give him 20 bucks for all of them."

He tells them that I'll give them $20 for the lot. I hear some mumbling. He comes back on the line and says they're negotiating. After a minute or two, he says, "OK. You got them. How do I get to your house"?

I gave him directions, and in about 15 minutes, he pulls up to my house, gets out, opens the hatch, and pulls out two plastic tubs and a cardboard box with vacuum tubes in them. I can tell he was way off in his estimate. There must be at least 400 tubes in all.

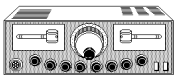
There's nothing really exotic--most of them seem to have been taken out of old TV sets--but I did find a couple of 6J6s. These are the tubes used for the single-tube transmitter I have been thinking about building. In one of the tubs, there was even a socket for the 6J6.

There are also a bunch of 6KS7s. According to the RCA tube manual, these tubes were often used as RF or IF amplifiers. That sounds like the beginning of a receiver project, doesn't it? In fact, 6SK7s were used in the receiver section of the ParaSet , a "spy radio" used during WWII.

And, of course, there are a bunch of rectifiers to make a power supply. Now, all I

Continued on page 5

ZARC OFFICERS



PRESIDENT
Joe Paul
255 Bryan Dr.
Zanesville, Oh. 43701
Ph. 740-453-7058

Vice-President
Earl Paazig, N8KBR
10660 Black Run Rd.
Frazysburg, Oh. 43822-9771
Ph. 740-828-1057

SECRETARY
Zippo Gillogly, K8CYN
4510 Pleasant Valley Church Rd.
Hopewell, Ohio 43746
Ph. 740- 452-5879

TREASURER
Don Wahl, WA8BOV
P.O. Box 8203
Zanesville, Ohio 43701
Ph. 740-454-0003

Trustees

REPEATER — 146.610
Zippo Gillogly, K8CYN
4510 Pleasant Valley Church Rd.
Hopewell, Ohio 43746
Ph. 740-452-5879

Packet -- 144.910
Dwight Bonifield, W8TJT
4235 Cherlick Cr.
Zanesville, Ohio 43701

CLUB CALL SIGN — W8ZZV
Danny Grandstaff, KB8RIM
2422 Marion Ave.
Zanesville, Ohio 43701

Web Master & PR

Earl Paazig, N8KBR
10660 Black Run Rd.
Frazysburg, Ohio 43822
Ph. 740-828-1057
http://zarc.eqth.info /

Editor - Publisher

Danny Grandstaff, KB8RIM
2422 Marion Ave.
Zanesville, Ohio 43701

ZARC & ZARC CARRIER
zcw8zzv@prodigy.net

THE ZARC CARRIER

The Zarc Carrier is the newsletter of the Zanesville Amateur Radio Club, located in Zanesville, Muskingum County, Ohio and is published January, March, May, July, September, and November.

Send in your items of ham related interest, such as swap n shop ads, new hams in the area, birthdays, anniversaries, silent keys, ham fests, special events, and original written articles. Deadline is the first of the month before the month to be published. Enclose a SASE if your material is to be returned to you.

Any material in ***The Zarc Carrier*** may be reprinted as long as you give credit to the newsletter, the original author , and the original publication, if given.

Sample copies are available upon request and a SASE. If your club receives a complementary copy of ***The Zarc Carrier,*** we would appreciate a copy of yours in exchange.

ZARC MEMBERSHIP

The Zanesville Amateur Radio Club is an incorporated not-for-profit association. Membership is open to anyone interested in the purposes of the organization and who agrees to abide by the by-laws and other rules and regulations that may, from time to time, be established by ZARC.

ZARC Membership Application

Date …… New Membership ……. Renewal …….

Name …… Call Sign ……...

Address ……

City, St, Zip ……

Phone …….. ARRL Member - Yes ……. No …….

Prorates apply to new memberships only.	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
• Full (*Licensed Amateur*)	… 20.00	… 15.00	… 10.00	… 5.00
• Family (*Of Full member—Licensed Amateurs—1st person, then $5.00 for balance of family*)	… 10.00	… 7.50	… 5.00	… 2.50
• Junior (*Licensed Amateur, 16 yrs. old or younger, still in school, not in same household as Family member)*	… 6.00	… 4.50	… 3.00	… 1.50
• Associate (*Un-Licensed)*	… 10.00	… 7.50	… 5.00	… 2.50

If Family Membership, Name and Call Sign of Full Member:

……

E-Mail Address ……

Share E-Mail Address With: …. Members Only …. Anyone …. No One

Send ZARC CARRIER by: …. E-Mail (Adobe) …. USPS

Make check or money order out to ZARC and mail to:

Don Wahl, WA8BOV, ZARC Treasurer, P. O. Box 8203, Zanesville, Ohio 43701-8203

January 2007 KB8RIM

ZARC Net Control Stations

The Zanesville Amateur Radio Club 2 meter net meets every Wednesday night at 9 PM on 146.610 PL 74.4. The PL and time out are off during the net. All licensed Amateur Radio operators are welcome to check in.

	February 2007		**March 2007**
7th	Mary Grandstaff, KB8ZXH	7th	Mary Grandstaff, KB8ZXH
14th	Open	14th	Open
21st	Danny Grandstaff, KB8RIM	21st	Danny Grandstaff, KB8RIM
28th	Zippo Gillogly, K8CYN	28th	Zippo Gillogly, K8CYN

Any ZARC club member is welcome to take an *Open* week as net control. Let me know that you are interested and I will see that you get a copy of the ZARC Net Preamble and assign you a Wednesday. Danny Grandstaff, KB8RIM, zcw8zzv@prodigy.net or 740-453-0400.

Printing Donated by Dan's Barber Styling, 819 Linden Ave., Zanesville, Ohio

The Armstrong Radio Repeater System

	Licking County	*Muskingum County*	*Guernsey County*	*Perry County*
VHF	146.835	147.075	147.000	146.820
UHF	443.925	442.250	444.375	none
PL	91.5	91.5	91.5	100.0

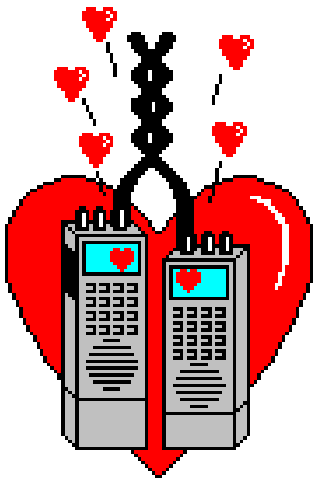
ZARC Meeting Place

From Rt. 40 at Pleasant Grove Rd. go north (Rt.93) on Pleasant Grove Rd. 1.1 mile, turn left on Adamsville Rd. and go about 0.3 mile. You will see a building on the right with multi antennas. Stop here. Coming from Underwood St. go north on Hall Ave. from the traffic light about 2.5 miles and the building is on the left. Call in on 146.610, pl 74.4.

Printing Donated by:
Dan's Barber Styling
819 Linden Ave.,
Zanesville, Ohio

The Fix It People!
Communications Electronics
2617 Palmer Rd.
Hebron, Oh 43025

Happy Valentines Day



Area 2 Meter Nets

Sunday
147.045 Coshocton 9 PM

Monday
146.730 New Philadelphia 8 PM
147.030 Lancaster 9 PM
145.230 Coshocton 9 PM

Tuesday
146.760 Columbus 7:30 PM
146.850 Cambridge 8 PM & 8:15 PM
146.670 Millersburg 9 PM
146.880 Newark 9 PM

Wednesday
147.345 Logan 8:30 PM
146.610 Zanesville 9 PM
147.210 Wooster 9 PM

Saturday
* New Lexington 8 PM
* ☺ Multi-County Coalition 9 PM

* The Armstrong Radio Repeater System
☺ Alternate Frequency 146.610

Other Area Nets

Daily

147.240, PL 179.9 Columbus 7 PM

Wednesday s

1st - 8:30 PM 146.460

2nd - 8:30 PM 52.540 Simplex

3rd - 8:30 PM 28.390 SSB

4th - 8:30 PM 24.980 SSB

5th - 8:30 PM Wildcard
(Any of the above)

Thursday

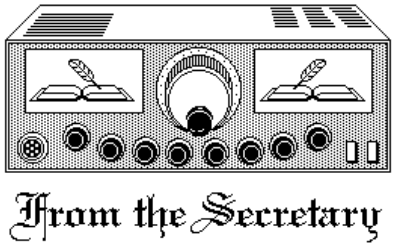
ZARC Six Meter Net 9 PM
51.135 FM Simplex

Friday

Johnny Appleseed 9 PM
28.450 USB

Multi-County Coalition N C S

First Sat. - Licking County
Second Sat. - Guernsey County
Third Sat. - Muskingum County
Fourth Sat. - Open
Odd Fifth Sat. - Coshocton County



ZANESVILLE AMATEUR RADIO CLUB

Zippo Gillogly
K8CYN

Date: 5 Feb 2008
Time: 7:00 PM
Location: Muskingum Co. EOC

Attendees:

(13) KA8UXT, N8KBR, WA8BOV, KD8WA, W8TJT, KB8ZXH, KA8UWO, AC8AD, AD4CO, N8IMW, W8FHF, N8LJF, WA8BNS, KB8RIM

Minutes:

President Joe, KA8UXT, called the meeting to order.

Secretary's Report - Minutes of the 4 Dec 2007 and 8 Jan 2007 Meeting were read by Vice-President Earl, N8KBR. Minutes were moved and seconded, as read.

Treasurer's Report - The Treasurer's Report was provided by Don, WA8BOV. Balance as of the meeting was $189.45. Report was moved and seconded, as read.

Old Business -
- Meeting Place has been established at EOC with an agreement between Sonny, W8FHF, District 9 DEC, and the EMA Director. Sonny Alfman has a key.
- Backup meeting place has been established at Washington Twp. Fire Dept. with an agreement signed between the Club President, Joe, KA8UXT, and Fire Chief Gene Hanning dated 9 January 2008. The text of the letter was read to the attendees and is posted on the website message board. Joe provided instruction to the attendees related to where to park, etc.
- N8LJF has been taking care of the repeater. Thank you Don.
- Backup for Secretary is needed. Earl, N8KBR has filled in during the past few meetings. He reported he will not be able to attend the March 2008 meeting due to a business trip. Lyn, N8IMW, will help.
- Joe, KA8UXT, mentioned the need for more publicity. Earl, N8KBR, (PIO) indicated the efforts that currently happen monthly and the great press received at Field Day from WHIZ and the Times Recorder.
- The proposed revision to the By-laws was discussed and the proposed narrative was revised in accordance with a motion and second. Earl, N8KBR, re-read the proposed revision for the attendees to ensure clarity and understanding. Sonny, W8FHF, volunteered to do the physical mailing of the proposal with the hope of voting on the changes at the May 2008 meeting. Earl, N8KBR, will send to email addressees and post to the website.

New Business:

- Dwight, W8TJT, and Don, N8LJF, provided a report on how Zippo is doing after his stroke. Zippo is at the Clay House, Room #113, Phone Number: 452-7037. Please remember him in your prayers and visit him.

- Joe, KA8UXT, asked everyone to introduce themselves.
- Sonny, W8FHF, gave a report related to EMA & ARES activities. He is currently looking for a person to sign on as the Muskinum Co. ARES Emergency Coordinator. He's filling that square for now. He briefed the attendees on CERT and LEPC Committee activity and indicated he would be providing a briefing at a future meeting.
- Earl, N8KBR, reported that he will be giving a presentation at the Newark ARA meeting this coming Saturday, 9 Feb 2008 @ 7:00 PM related to Amateur Radio Volunteer Examiner program. He offered to present this topic at a future meeting of ZARC and will be presenting the program at an upcoming meeting of the Cambridge ARA on 23 Feb 2008 @1000.

Meeting Adjourned.

Minutes recorded by Earl Paazig, N8KBR in Zippo's stead.

The Electric Telegraph 1860-1914

From page 1

Morse's original code specification included a few oddities, so although American Morse was widely adopted throughout the United States, a more consistent version was developed in Europe, known as Continental Morse Code. Telegraphic Codes, from the 1912 edition of the Electro-Importing Company's *Wireless Course*, compares the American and Continental Morse Codes with a third, short-lived code used by the U.S. Navy. Radio would also adopt dot-and-dash signaling in its early days, and radio operators generally used the same telegraphic codes as landline telegraphy, so at first most U.S. radio stations used American Morse, while a majority of the rest of the world used Continental Morse. However, radio's use in international communication meant that a single standard telegraphic code was needed in order to avoid confusion. Eventually Continental Morse was universally adopted for radio communication, and, reflecting its expanded status, it became known as International Morse. Meanwhile, the original American Morse largely disappeared from radio use.

TELEGRAPHIC NEWSGATHERING AND TIME SIGNALS

Although the telegraph was mostly used for sending individual messages, other more general applications were also developed. As lines spread throughout the country, the telegraph was recognized as ideal for rapidly gathering and distributing news items. In George B. Prescott's 1860 *History, Theory and Practice of the Electric Telegraph*, The Associated Press of the United States section reviewed the first telegraphic press association, which had been formed in 1848. (The Associated Press would later take seriously the threat that radio newscasts posed to newspaper sales. From 1922 to 1939 AP greatly restricted use of its reports by radio stations -- even those owned by newspapers -- in what became known as the "Press-Radio War"). It also became common to run special telegraph lines to major sporting events, so newspapers could receive up-to-the-minute reports. Banks of operators would be set up in the stands, each clattering away at their keys, such as those shown in Electrical Service at Harvard-Yale Football Game from the December 6, 1913 *The Electrical World*.

An important innovation occurred beginning in the late 1840s, when Great Britain used telegraph lines to establish standardized time throughout the country. The United States was somewhat slower to adopt this practice. The first step was to establish regional "railroad times", based on the solar noon at selected hub cities, which varied by railroad company. On the Allegheny System of Electric Time Signals by Samuel Pierpont Langley, from the 1873 *Journal of the Society of Telegraph Engineers*, reviewed how an astronomical observatory located near Pittsburgh, Pensylvania had expanded its telegraph time service, originally provided to local jewellers, in order to establish a standard time for use along the Pennsylvania Central Railroad lines. It wouldn't be until 1883 that the various railroad companies agreed on a common standard, using hourly time zones offset from the base time at the Greenwich Royal Observatory in London, England. Eventually the United States Naval Observatory in Washington, D.C. began using telegraph lines to transmit daily time signals nationwide, as reported in Distribution of Time Signals by Waldon Fawcett, from the March, 1905 *The Technical World*.

NEWS AND ENTERTAINMENT DISTRIBUTION

The information gathered by press associations was generally made available only to member newspapers. However, the introduction of printing telegraphs -- informally known as "tickers" -- which printed letters and numbers on paper tape, made it possible to also distribute news and information directly to paying customers. The original services were set up in major cities, serving mainly businesses and club, but also a few private homes. At first subscribers received stock and commodity prices, but later news items were added. The February 13, 1910 issue of *The New York Times* detailed the competitive race between ticker services in that city to provide "Fresh News Every Minute", while in the April, 1914 issue of *Technical World Magazine*, C. F. Carter's Within a Tick of the News reviewed a New York City based news distribution service which provided "up-to-the minute knowledge of what the outside world is doing" to customers for whom even hourly newspaper editions were not enough. And the 1914 edition of the *Our Wonder World* encyclopedia included a photograph, Receiving News of the "Titanic" Disaster Over the Electric News Tape System, of persons receiving ticker reports of the 1912 sinking.

The telegraph was also sometimes utilized for group connections, both by businesses and private citizens. In 1860, the A Novel Meeting section of *History, Theory and Practice of the Electric Telegraph* reported how thirty-three offices of the American Telegraph Company were linked together in order to conduct a business meeting. In the February, 1917 *QST* magazine, Irving Vermilya's Amateur Number One (telegraph extract) recalled a private line, begun in

Continued on page 6

Tubs of Tubes

From page 1

have to find some cheap transformers. Anyone know a good source for them?

When he's not wondering what he's going to do with more than 400 vacuum tubes, KB6NU works CW and PSK on the HF bands and blogs about ham radio at www.kb6nu.com. You can reach him by e-mail at cwgeek@kb6nu.com

By
Woody Epp
8813 Benson Road
Lynden, Washington 98264

The Electric Telegraph 1860-1914

From page 5

1903, which eventually connected forty-two locations, creating a telegraphic party-line for youths in Mount Vernon, New York to exchange messages with each other 24 hours a day. And in Germany commercial enterprises made use of an innovative printing-telegraph system that provided an early form of electronic mail, as the August 21, 1912 issue of *Electrical Review and Western Electrician* reported in The Teleprinter that "Business offices, large hotels and other establishments in Berlin and Hamburg, are now subscribers to the teleprinter exchange" and "Messages are thus sent and received directly and without any loss of time".

The clicking noise made by telegraph receivers led to audio experimentation, as recounted in Music by Telegraph section of *History, Theory and Practice of the Electric Telegraph*. Dr. G. P. Hachenburg spent many years promoting the use of telegraph lines to remotely operate distant musical instruments -- Musical Telegraphy, from the November 14, 1891 *Electrical Review*, was one review of his not-very-practical ideas, although, despite very little progress after more than thirty years of promotion, Hachenburg extolled his system as "An invention that in the near future will assert its importance as one of the great inventions of the age", and one with great financial potential, "For who would not pay an admission fee to hear this electro-music?" A somewhat more practical device, although not a financial success, was Dr. Thaddeus Cahill's electronic synthesizer, the Telharmonium. Marion Melius' Music By Electricity, from the June, 1906 *The World's Work*, reported that it was now "as easy to create music at the other end of fifty miles [80 kilometers] of wire as to send a telegraph message". A second reviewer, Thomas Commerford Martin, was equally impressed, and in the April, 1906 *Review of Reviews*, The Telharmonium: Electricity's Alliance With Music reported that "In the new art of telharmony we have the latest gift of electricity to civilization". The Telharmonium consisted of a massive assembly of 145 electrical alternators, whose currents could be combined using a musical keyboard to create a full range of notes. Although Cahill looked forward to today when four concurrent services would provide electronic music 24-hours a day to subscribing commercial establishments and private homes, the invention ultimately proved impractical, in part because the high currents produced interfered with adjoining telephone lines. In the March 8, 1907 New York *Times*, Music By Wireless to the Times Tower reviewed Lee DeForest's experimental radio broadcast of a Telharmonium concert, but, given the extremely crude nature of De Forest's arc-transmitter at this stage, it could hardly have impressed Cahill, whose Telharmonium was lauded for its "purity of tone".

EARLY WIRELESS SPECULATION

The earliest experimental telegraphs employed multiple connecting wires -- in some cases a wire for each letter of the alphabet -- but over time simpler setups requiring fewer wires were developed. By 1844, Morse's line between Baltimore and Washington consisted of just two wires, one carrying the electrical current for signaling, and the other acting as a return line, to make a complete circuit. However, it turned out that even that could be simplified, and the return wire eliminated, if the sending line was "grounded", i.e. physically connected to a plate buried in the earth. The ability to eliminate the return wire was something of a mystery at the time, and the phenomenon became known under the misnomer of the "ground return", since it was incorrectly thought that the return electrical current was somehow flowing through the ground all the way back to the sending location. Actually, the earth around the grounding point was acting as a sink, so the "return current" was not traveling any significant distance. However, this mistaken belief that "return" currents were traversing the ground for extended distances suggested the idea of signaling without any connecting wires at all. Investigating this possibility, disappointed experimenters quickly found they were unable to send electrical currents through the ground more than a few meters, which they found perplexing, given their mistaken belief that "ground return" currents were somehow readily traveling hundreds of kilometers. In 1860, the Steinheil's Telegraph section of *History, Theory and Practice of the Electric Telegraph* reviewed what was known about the seemingly contradictory phenomenon, finally concluding that "It must be left to the future to decide whether we shall ever succeed in telegraphing at great distances without any metallic communication at all." In the end, it turned out that there was in fact no way to send standard electrical currents for long distances through the ground. However, in 1895 Guglielmo Marconi would discover the next best thing -- ground-wave radio signals -- which were radio waves that used the earth as a waveguide, traveling across land and sea to the "great distances" envisioned by Steinheil.

The "Paraset" Suit-case Spy Transceiver of WWII

By Kenneth G. Gordon, W7EKB

This was one of the first truly successful miniaturized transceivers, built by or for Britain's S.O.E. (Special Operations Executive) which conducted sabotage, spying, and other nefarious activities behind German lines during WWII. The schematic I have shown below is most probably an early version, since another schematic I have shows a different keying system, a bit different transmitter section, and the voltage dividers for the receiver are different.

The "Paraset" receiver covers 3.0 to 7.6 mHz. in one band, while the transmitter covers slightly more than the receiver in two bands, selectable by a toggle switch. Power output is 4 to 5 watts. I think the transmitter is really neat. The transmitter output coupling system has the capability of matching

quite large variations in impedance. It seems as though there was much more thought expended on the transmitter than the receiver. It is rather crude even by 1939 standards. There is no "bandspread" tuning in this early version, nor an RF amplifier stage to isolate the detector from the antenna, nor is there any possible provision for any sort of sidetone so that it is impossible to hear your own sending.

Several people have built replicas of the "Paraset" and are operating them on the air. Mario, IK0MOZ has an entire and very complete web page devoted to this neat little rig . Here is the URL : http://www.qsl.net/ik0moz/paraset_eng.htm.

Continued on page 7

The "Paraset" Suitcase Spy Transceiver of WWI

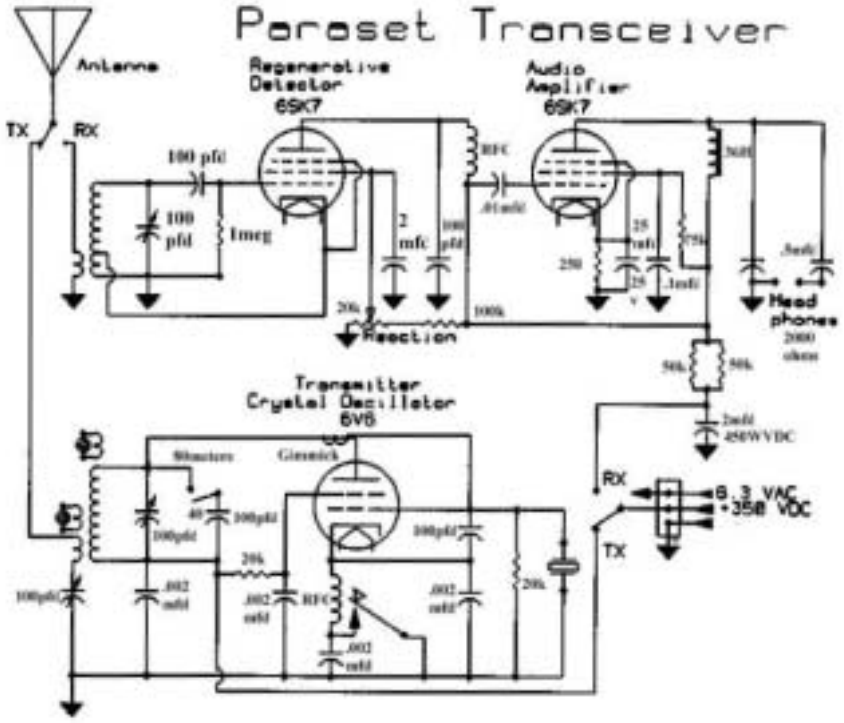
From page 6

Also, please see this URL: http://www.qsl.net/ik0moz/LA5MT_Paraset.htm for another working replica.

Here is a nice photo (previous page) of a "Paraset" which was used by the Norwegian agent Oluf Reed-Olsen, who worked for Britain's SOE during WWII. This is an earlier model which was mounted in a leather suitcase, and may have been known as the SS-TR-1 from the document inside the lid in the photo, but I had thought that the SS-TR-1 was a completely different rig.

This particular Paraset also has a 6 VDC power supply included with it which connected to a car battery via large alligator type clips. The switch is the 80/40 meter bandswitch. There is also a nice all-brass key connected to the rig out of the photo to the left . The plain black knob just below and a little to the right of the band-switch is the emergency key. The pointer-type knob near the center is the transmit-receive switch.

Here is the schematic of an early model as I have it.



Our top ten reasons for joining ARRL and receiving QST...

10. Instructor of the year awards. "Na, na, na na na na...my Elmer is a centerfold..."

9. That certificate saying "...has been elected to membership..." Just goes to show you - in America, buying an election is easy.

8. Those hot pictures of naked circuit boards with all the good parts showing. "Wow - I've never seen LEDs that big before!"

7. Those guys make the best darn repeater directory...hey, wait a minute - they make the ONLY repeater directory!!!

6. YL News and Views...you can read about who that lucky .00001% of all male hams are married to.

5. "Product Reviews - Expensive Amplifiers that Won't Work With Standard House Wiring"

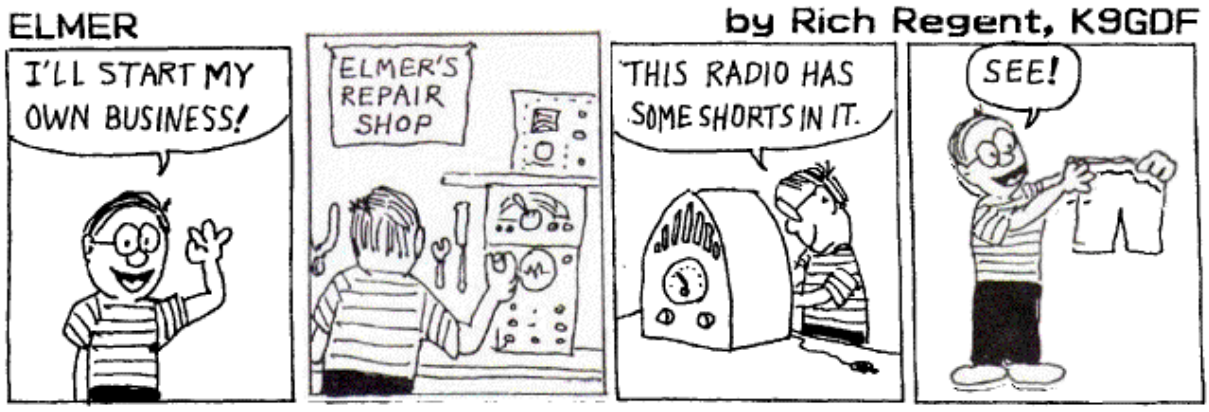
4. AMSAT News: You Too Can Work Our New Satellites on 100 THz Easily.

3. Hints and Kinks for Dorks and Dinks...

2. DXpeditions: Places you'll never be able to spell or pronounce, let alone visit!

1. Q street? Sounds like a nice place to live...

The Buckeye Belles are looking for nominations for the Founders Award. It is an award that goes to a Belle who best exemplifies what it is to be a Belle. It is called The Buckeye Belles Founders Award. To nominate a Belle for the Founders Award, you need to send the information about the Belle to HYPERLINK "mailto: kc4iyd@yahoo.com" kc4iyd@yahoo.com or call Nancy Rabel Hall at 440-327-0334



Jones 1936 Push-Pull Transmitter

By William U Walker, WV7G

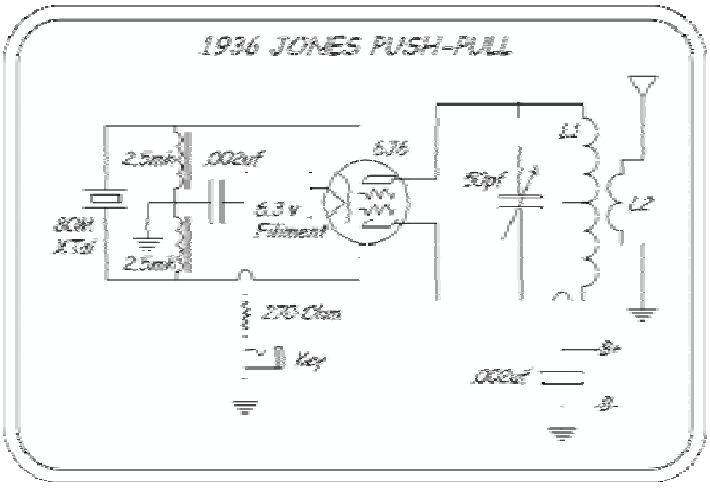
Have you ever wanted to try your hand at building a CW rig using vacuum tubes? Well put it off no longer! Here is a neat little CW circuit which has been used for decades as a Novice Hams first transmitter. This circuit was published in the mid 1930's by Pacific Radio Publishing Co. in The Radio Handbook for Amateurs and Experimenters by Frank C. Jones. This book is still available today from Lindsay Publications Inc. and is a must have, in my opinion, for anyone interested in vintage radio construction. In his book, Frank used a single type 53 or 6A6 dual triode vacuum tube. Many Hams since have used a wide range of dual triodes or even two single triodes in this simple push-pull configuration.

Shown below are some images of one such transmitter that I put together using a small 6J6 dual triode. The 6J6 offers small construction options and requires only 150vdc for the plate voltage. The power supply for this little rig was constructed using a 1:1 isolation transformer for the plate and a small 6.3 volt filament transformer from Radio Shack. I have found 6J6 tubes for as little as $0.25 each at hamfests and due to the low crystal current in this circuit, the small readilly available HC49/U size crystals may be used. The note produced by this rig is mellow and has little or no chirp.

Front view with a FT-243 crystal plugged in. The 1/4" jack to the right of the crystal is for the strait key.

Top view showing parts placement

Top view showing size comparison with my strait key.



Circuit Data

L1 - 31 turns of 22 guage enamled copper wire close wound on a 1.9" PVC form.
L2 - 2 turns of 14 guage enamled copper wire loose wound over the center of L1.

B+ - 150 - 160 VDC
Plate Current - 24 ma
Output Power - ~2 watts (Depends on emission strength of the tube.)

- **WARNING * WARNING ***
- **WARNING * WARNING ***
-

Lethal voltages are present on components and power connections. If you are not experienced working on or around high voltage equipment or electronic components, please seek a qualified person to help you.

This project may not be suitable as a first electronics project and you **must** be a properly licensed amateur radio operator in order to operate this transmitter.

If you choose to build this project or one similar, you do so by your own choice and at your own risk!

Ham Radio for the compleat idiot.

jcox@x102a.ess.harris.com (Jamie Cox)

(true, smirk)

The following is an actual letter. The original was typewritten, and all spelling and grammar has been carefully left intact, including errors. I thought this was pretty funny.

To Mr. (name omitted) District Manager for Alabama Radio Shack 3300 N. Pace Blvd Pensacola, FL. 32505
Dear Sire,

This letter is complain about the problems I have having with the ham radio model number 19-1101 I had got from your company Radio Shack. I had this shipped special to me from your store 1096 Eastdale Mall Montgomery Alabama. I was got this because I think that i would get transmitt furthur that I did with the TRC 217 40 channel walkie talkie.

The problem that had first was when I was going to hook this radio HTX-1000 to the antenna the conektor on the radio was wrong it wouldn't attach to my cable. I was able to hook it finally by making a small change in in the connektor. As soon as I tried to use it there was no sound coming at all. This happened for two days and I never did get to talk to anybody the whole two days. That day the cable company came knocking my door and said there was something causing problems at my house and disconnekted my radio from the cable line. you knew when i brought the Radio that I was going to use that for my antenne. You didn't tell me not to why not?

Next time I decided to put the HTX-1000 in my automobile I thought I would see how it worked their. I hooked it to my CB-antenna and at least I could hear people. But what happens now is no one wants to talk to me because they says you have to have a licencs to talk to them. Why? I dont have to have a licencs to talk on my CB. They'll talk to me there. Anyhow it dont matter much anymore because somebody done took the radio HTX-1000 from my automobile.

What I would like for you Radio Shack to do is refund my money because I don't have the radio anymore and its not my fault i dont and I think you should give me back my money. Also the cable company here says that I hurt something in there line and want to be paid fix it. It will cost $27482.98 to fix the equipment they say was damaged because you didnt tell me not to hook it to the cable. Please remit to me the check for $27758.53 for damages due. To save this matter from going to court the check must be in my hand by June first or I will turn this over to my attorneys of law.
Thank you .
name withheld.

Down Memory Lane

July 2001 KB8RIM
June 2003 KB8RIM

January / February 2008 Vol. 11, No. 1

THE ZARC CARRIER

Danny Grandstaff, KB8RIM
2422 Marion Ave.
Zanesville, Oh 43701

CLUB MEETING:
First Tuesday of each month 7 pm
EOC Building
Adamsville Rd.
Zanesville, Ohio

ZARC Packet Station 144.910

UNDER THE COVERS

Page 1. The Electric Telegraph 1860—1914

Page 1. Tub of Tubes

Page 3. Area Nets

Page 4. From the Secretary

Page 6. The "Paraset" Suitcase Spy Transceiver of WWII

Page 7. Our Top Ten Reasons For Joining ARRL

Page 8. Jones 1936 Push - Pull Transmitter

Page 9. Ham Radio For The Compleat Idiot

Page 9. Down Memory Lane

From the Best of Beasley—Worldradio Books