

The Zero Beat

Volume 30 Issue 2

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QRM ALERT! WD8S SPEAKS!

President's Corner

This month's program, scheduled for the HPARC meeting on Wednesday, October 12, is called "Those Radios that GLOW in the Dark." and will be given by Tom AE8O. Tom is a collector of old radios (boat anchors) and will display some of his treasures. Tom will show us that tube radios are not "dead". They are still alive and well and living on the amateur bands.

Thanks to Greg WB8FNQ, ARRL Public Information Coordinator, for his talk about how the club can help with public information. A lot of good ideas were discussed and I hope that all club members will give some thought as to how to help the club with publicity. I would like to thank Don AA8EG, and George WB8TIV for accepting positions as Public Information Officers. They will work with Greg and the League to let the Public know about the Hazel Park Amateur Radio Club.

We need someone to take charge of organizing and ordering of tee shirts and/or jackets. If a volunteer does not step forward and take charge of this project, it will be very difficult to continue this service. Also, I am looking for a swap nut to acquire a table at local swap and shops for the use as a place to sell small pieces of equipment and a "rest stop" for club members.

I would like to invite the membership to the board meetings. Most of the procedural club business takes place at this meeting. The next two dates for the board meetings are October 3rd, and October 31st. If you want the club to do something, this is the best place to start discussion of new business items.

HPARC Making Waves!

The HPARC 2 meter net convenes on the DART Repeater (146.640 MHz) every Sunday evening at 9:00 p.m. Start the week off right by catching KE8QT's latest insult regarding KB8QLV's CW fist! Will KF8KS break the absentee record currently held by the Michigan State House of Representatives? Check in and join the melee!

STOCKTON SPILLS THE CW BEANS!

HPARC Offers Free Hearing Tests!!!

Amateurs who pride themselves on aural acuity are invited to check into the HPARC CW Net at 8:00 p.m. every Monday night at 7.120 MHz or below. If you can cope with the conditions on 40 meters as of late, you don't have to worry about needing a hearing aid in the near future. If you haven't acquired HF privileges, why not upgrade at the next HPARC VE testing session on Thursday, November 17 at Hoover Elementary?

CW Made Easy

Or How To Stop Worrying and Start Enjoying The "Radio Operator's" Mode - by Don AA8EG

Okay, you have your HF privileges and 10 meters is in a purple funk due to miserable sunspot numbers. Do you claim the world's most expensive paperweight or QSY down to 80, 40 or 15 meter CW? Pretty scary thought, huh? It need not be. We'll go through a few operating tips that will make your plunge a bit less intimidating and, hopefully, help you become a proficient and "die-hard" CW operator.

First, let's talk equipment. You have, basically, three choices when it comes to keys. The **Straight Key**, the **Semi-Automatic** and the **Automatic or Electronic Keyer**.

The straight key should have adjustments for the pivot bearing, contact spacing and tension. The pivot adjustment places the upper contact directly over the lower contact. The contact spacing is largely a matter of personal preference but I find that narrow spacing works best for me. I set the gap to be about the thickness of a piece of paper. Tension is also your choice and I like a lot of tension.

The semi-automatic key is also called a "Bug". The lion's share of these keys are built by Vibro-Plex from a design that is about 100 years old. It has a side-to-side paddle much like the modern electronic keyer. Pushing the paddle to the left, the key acts just like a straight key. In other words, you make the dahs manually. Pushing the paddle to the right, the key sends dits automatically through a clever arrangement of springs and weights. It has all the adjustments of the straight key with the addition of the dit speed which is adjusted by sliding the weights in or out on the vibrating arm.

The charm of both of these keys is that you develop your own "Fist" or style. I find that copying an old timer with a "swing" to be far easier and more pleasant than "machine generated" CW.

The **Automatic Keyer** is such a machine. Push the paddle to the left... dahdahdah. Push to the right...didididit. Aside from the paddle itself, the adjustments are speed and weighting (the ratio between dits and dahs).

I have purposely omitted computer generated code because "that ain't CW, that's RTTY".

Whatever method you use is fine although I do encourage everyone to become proficient with a straight key. Let's face it, I'm a purist.

The other critical piece of equipment is a **CW Filter**. 500 Hz is okay, 250 Hz is better. The filter will make the difference between an enjoyable chat and total frustration due to QRM. If your radio is not so equipped, a viable and low cost alternative (under \$80) is Radio Shack's new Digital Signal Processor (DSP). The hookup is quite simple as it goes between your rig and the speaker.

Now that we have the tools, let's listen to a CW QSO and interpret what we hear.

CQ CQ CQ DE KE8QT KE8QT K

KE8QT DE KF8KS KF8KS KN

**KF8KS DE KE8QT GA & TU OM= UR RST 599
5NN HR IN BLOOMFIELD HILLS, MI= OP
JIM=HW? AR KF8KS DE KE8QT KN**

**KE8QT DE KF8KS= R & TNX RPRT JIM= UR 599 HR
IN TROY, MI= NAME IS STEVE= RIG IS TS440S &
ANT IS ZEPP= HW? BK**

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BK FB STEVE ETC.....

Leapin' lizards....what was THAT????? Well, actually it DOES make sense. After Steve answered Jim's CQ, Jim sent "Good afternoon and thank you old man. Your readability, strength and tone report is 599 here in Bloomfield Hills, MI. The operators name is Jim. How are you copying me?"

Steve answered: I received ALL of your transmission and thanks for my signal report, Jim. Your signal report is 599 here in Troy, MI. My name is Steve.....and so forth.

Okay, so now you're wondering things like what is "=" and how do I send "&"...? The "=" is BT sent as one character and is the CW equivalent of "Um...". The ampersand (&) is an old American Morse character. It is sent as ES with only a half space between the E and the S. If you do the old "Shave and a Haircut" door knock, you've got the proper spacing. The CW sign for laughter "HI" which should NEVER NEVER NEVER... EVER be used on phone, is actually HO using the old Morse O. It is sent like an I with that half space between the dits. The end of that knock will give you an American Morse O. Other procedurals are AR sent as one character which means "end of message", K which means "Any station go ahead and R meaning I received ALL of your transmission. "RRR= SRI MISSED UR NAME...." is a sure sign of a LID. Other procedurals include, KN (one character) meaning "The SPECIFIC station I called, go ahead", SK (one character) meaning "I'm through with that station but will remain on the air", CL (two characters) meaning "I'm through with this QSO and going QRT" and BK (separate characters) meaning "Break". This may be used until your 10 minute ID is due.

As you can see, CW is an art form that takes time and effort to master but the satisfaction of being known as a FB CW OP is well worth it. Have fun with it and I'll see you on 40!

DE AA8EG

Unclassifieds:

Tower/HF Beam For Sale:

76 Feet of Rohn 25 Tower with Aircraft Steel Guys, TR44 Rotator and Mosley Classic 33 Beam.
\$650 - You take down. Will lend Gin Pole if needed.
Call Ken K8TFD. (313)-840-0700 (Beeper), (313)-801-0300 (Voice Mail) or (313)-522-8645 (Home).

Antennas For Sale:

Cushcraft Ringo Ranger - 2 Meter
 Cushcraft R5 Vertical - 10,12,15, 17, 20 Meters
 Wilson SY-33 Beam, 3 Element Tri-Bander, 10, 15, 20
 Meters. Call Frank K8ZDT at 810-758-4239

Miscellaneous Ham Stuff For Sale

Mint condition, unless noted otherwise:
 MFJ Artificial Ground - \$45.
 Palomar Engineers RX Noise Bridge - \$50.
 Palomar Engineers Amplified Loop Antenna. Base with
 AM BCB Loop - \$130 (some minor scratches).
 Remote mounting kits for Kenwood 742 front panel
 (DPK-3, DPK-4) - \$50 for both (never used).
 Avanti Scantenna - Outdoor Scanner Antenna (looks
 like a J-Pole on Steroids) \$15 (new).
 Call Arlan KB8QLV, (810)-399-6963 Evenings.

Yaesu 530 HT Accessories For sale.

Yaesu CSC-56 Case - Fits 530 w/FNB-26 or FNB-27
 battery - \$13. Yaesu YH-2 Headset Mic (Works with
 530's built-in VOX) - \$25. Yaesu NC-42 Rapid Battery
 Charger - \$85. Two Yaesu FNB-26 (7.2V @ 1000Ma)
 Nicad Batteries - \$40 each. W&W Associates FNB-27
 (12V @ 600Ma) Nicad Battery - \$30. Package price on
 batteries plus charger - \$185. Yaesu EDC-5B Filtered
 DC adapter - \$16. Yaesu MMB-54 Mobile Bracket
 (Unopened) - \$17. Buy the entire shootin' match for the
 ultimate 530 accessory package: \$250 Call Arlan
 KB8QLV, (810)-399-6963 Evenings

The Swap Hound

Slazy fine print: Swap Hound listings are based on flyers we find on our
 windshields, listings in other newsletters, and rumors we overhear at the
 Coachman during post-meeting debriefings. Errors may creep in
 occasionally. Be sure to double check with another source (preferably
 sober) if you're not certain, unless you enjoy needless road trips for sport.

SUN OCT 23RD WARREN, MICH Utica-Shelby
 ECA SwapnShop Macomb Comm College T.I.147.18
 Info: Virginia, N8NLS (810) 268-0691

SUN OCT 9TH LANSING, MICH Central Mich ARC
 Hamfair Gardener Middle School T.I.146.94 Info:
 Rowena, (517) 482-9650

SUN OCT 9TH LIMA, OH Northwest Ohio ARC
 Lima Hamfest, Allen County Fairgrounds, one mile east
 on 309 off I-75, Exit 125/126

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SUN OCT 16TH KALAMAZOO, MI Kalamazoo ARC
 & SW Mi AR Team Hamfest

SUN NOV 6TH SOUTHFIELD, MI Oak Park ARC
 SwapnShop - Southfield Civic Center Pavillion - For
 info call (810) 559-2442. Admission \$5.00. - Talk in
 146.640 (DART)

SAT NOV 19TH HOLLAND, MI Holland ARC
 Westshore Hamfest & Computer Swap, Holland
 Christian High School, 8:00 a.m. - 12:00 noon, Talk-in
 147.06(+), Admission: \$4.00, Tables - \$8.00, For Info
 call Jeff (616)-772-1846.

SUN DEC 4TH HAZEL PARK, MI - MARK YOUR
 CALENDAR!!!! Hazel Park ARC 29th Annual
 SwapnShop. Hazel Park High School. 8:00 a.m. -
 2:00 p.m. Admission only \$4.00! Commodious tables
 available - \$13.00. Talk-in on 146.640 (DART).

UFOs, Hams and Eggs!

Rumor has it that high-speed craft with glowing lights
 and topped with strange pointed antennas, show up
 shortly after 7:00 a.m. every Friday morning at a local
 eatery. What better way to spend the break of day than to
 join your HPARC pals for breakfast? Until the manager
 decides to kick us out, the Ram's Horn, north of 13 Mile
 on the west side of Woodward, remains the HPARC
 venue of choice for ingesting prodigious amounts of
 carbohydrates and Vitamin G (a.k.a. "grease").

**Homebrew Project:
Build a Tri-Band JPole!**

by Dale Kubichek N6JSX

The "J" antenna design goes back many-a-year, way
 before I became a HAM. "J" antennas have a very low -
 nearly straight-out angle of radiation. No ground plane
 is required, multiple bands can be handled by one
 antenna (with separate feedlines for each band), and they
 are easy and inexpensive to make.

Since a "J" requires NO ground plane or special
 counter poise it's ideal for mobile use. The "J" has
 approximately 3db of gain over a 1/4 wave ground
 plane antenna and can be made from almost any
 material; copper pipe, steel whips, and even TV twin
 lead.

Technically, the "J" antenna is an end-fed 1/2 wave antenna that uses a 1/4 wave matching stub. To some of the old timers it might be called an "end-fed ZEPP" bent 90 degrees. In actuality, the conductor is 3/4 wave length long and the match is 1/4 wave length long. The matching stub creates the 1/2 wave loading point. This makes the antenna effectively an omni 1/2 wavelength. The "J" can also be thought of as a balanced 1/4 wave matching stub feeding an unbalanced 1/2 wave load. A "J" can be fed by ladderline or coax. I found using RG-58u coax to be the best.

I have designed a Tri-band and Dual-band "J" antenna with 1/2" rigid copper pipe, copper "T"s, 90 degree elbows, and copper pipe caps. Using rigid copper pipe makes it a snap to assemble. Simple plumbers soldering techniques are used for solid construction. These materials will withstand a lot of abuse and weather.

Each band has its own feedline and all three radios can be run simultaneously. I have even made a mobile 2 meter "J" from a Radio Shack 104" CB whip. The whip has a mounting bolt on the bottom for easy attachment to mounting clamps. I fabricated a plastic insulator and metal support bracket for the 1/4 wave matching section. The coax was connected by using electrical split bolt connectors. Also the split bolt connectors give mobility in adjusting the VSWR.

Below is a table of measurements on the "J" construction - these measurements are not absolute but a very close proximity to the antenna you might build.

VHF & UHF "J" antenna dimensions (in inches)

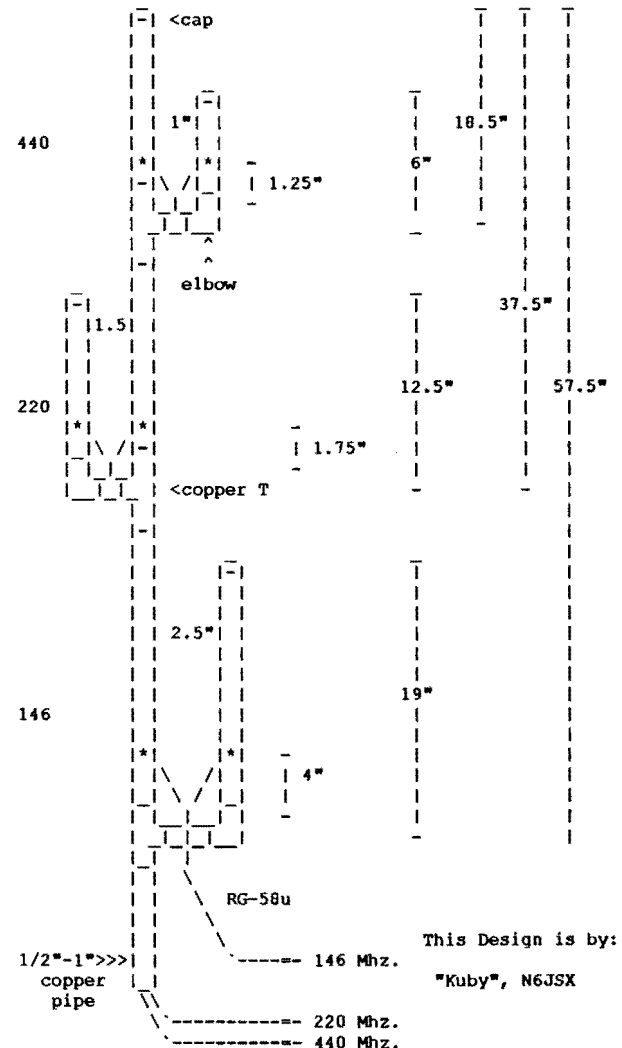
	146	223	446 MHz.
1/4 wave	19.3	12.6	6.3
1/2 wave	38.6	25.2	12.6
Antenna			
radiating element	57.5	37.5	18.5
matching element	19.0	12.5	6.0
coax tap-offs			
combo 2m,220	5.0	2.25	
combo 2m,220,440	4.0	1.75	1.25
spacing between elements (ID)			
	1.5-3	1-2	.75-1.5

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Construction Notes

- * On the 3 J antenna combo I took the matching elements and placed them 120 degrees from one another, this appears to help in eliminating the cross band RF desensitizing. It is advisable to tune the 440 section first and then the 220 section with the 440 coax disconnected from the radio and so on.
- * Insulators between the match stubs maybe required to keep the elements equidistant.
- * Mounting brackets can be obtained cheaply from Radio Shack
- * Silicone caulk the antenna feed points and open coax for preservation.
- * Try to keep the coax feeders at electrical 1/4 wave length multiples; this seems to make a large difference in the matching.

Copper Pipe Tri-Band "J" ANTENNA !!!



Note: All matching elements were placed 120 degrees from one another.