

ZERO BEAT

HAMPDEN COUNTY RADIO ASSOCIATION, INC

JANUARY 1982

WL QSL BUREAU

SPRINGFIELD, MASS

ARRL AFFILIATED, 34th YEAR

FEBRUARY MEETING

Gent Lam, W1CQF, an avid home brewer who has probably built more equipment than most of us have used, will speak on linear amplifiers. He will take us through a typical amplifier discussing, RF circuitry, DC circuitry, controls, etc. It promises to be an enlightening evening with a newly constructed 4-400A amplifier on hand as a show and tell experience to further familiarize us with a commonly used piece of ham gear.

ATTENTION HAMS

Listen to Amateur Radio Yesterday, Today, and Tomorrow on WRSI FM 95.3 at 7:30 PM Tuesday evenings. Bill Shahhen N1CQ is host for this program.

Would you like to appear on Bill's radio program? Contact him at 467-9075. He is in need of Speakers for the next couple of weeks. ALL HAMS ARE WELCOME TO SPEAK

FRIDAY JAN. 8 MEETING

Malcolm, WB1CLO, has arranged for an interesting meeting on R.F.I. Our Quest Speaker will be Chuck, K8CH from the A.R.R.L.



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HELP CURE THE BLUES

You may be able to help cure the blues.

The blues I am making reference to are not of the rainy day or post holiday variety; they are of the label variety.

The only symptom of label blues appears as a blue stripe on the second line the the address label attached to this months Zero Beat.

If the second line contains a blue stripe, look to the right of your call sign. The four digits separated by a slash indicate the month and year in which your H.C.R.A. membership expires. If the expiration date is 10/81 you owe \$8.00, 11/81 \$7.20, and 12/81 \$6.40.

This amount may be paid by mail or in person at the next club meeting on Friday January 8, 1982. If you wish to pay by mail please send a check for the proper amount made payable to H.C.R.A. to the club treasurer at the following address

Gregory D. Stoddard
1500 Mapleton Avenue
Suffield, Ct. 06078

The three different dollar amounts are a result of a conversion from a staggered expiration date system to a fixed date annual expiration system. Under this system all memberships will expire in October of each year.

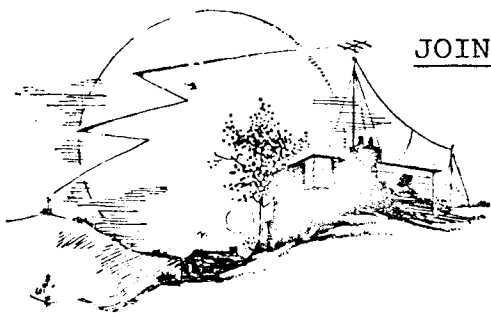
DO YOU WANT TO SAVE MONEY ?

The H.C.R.A. is again offering a membership service unique to this club. Club members may purchase 1982 callbooks at a reduced price.

United States callbooks may be obtained from the club for \$16.00 while foreign callbooks may be purchased for \$15.00. This amounts to a savings of \$3.90 on the United States callbook (\$18.95 + \$.95 tax) and \$3.85 on the foreign callbooks (\$17.95 + \$.90 tax).

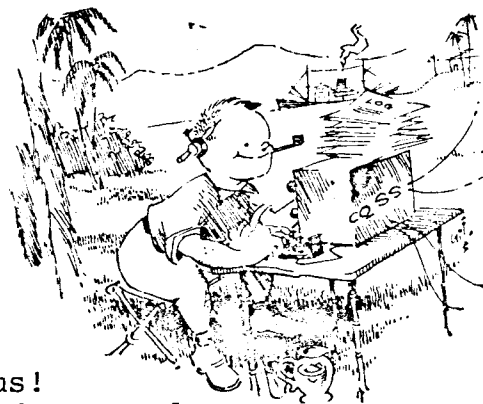
There a limited number of United States and Foreign callbooks in stock. So dont't hesitate, purchase your callbook from the H.C.R.A. now.

If the demand for the callbooks is greater than the supply we have in stock, we will reorder. The people who order after the supply runs out will be able to get the same discount but will have to wait for the next order to arrive.



JOIN IN THE FUN!!!

VHF SWEEPSTAKES!!!



Once again the VHF Sweepstakes are upon us! Hams all over the U.S. will be competing for awards on the VHF and higher bands. Last year the HCRA set a new club record of 213,746 points and #2 spot in the country! Can we top this achievement? Sure can, if you all get on the air! Even a small score makes a big difference to the total club score.



This year should see higher scores because almost everyone has a synthesized radio. Members limited to FM and low power will have a great chance to see how far they can get on direct. If you've got equipment to lend or want to get in on a multi-op effort, let us know at the January meeting.

Those who are limited by the amount of time they can spend in the contest should try to get on at the same time. For both Saturday, January 16 and Sunday, January 17, use these local times for as much as possible, to get the most contacts:

1 to 2 pm 6:30 to 7:30 pm 9:00 to 10:00 pm (Local time)

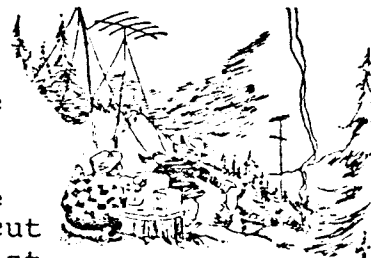
Each contact is given a consecutive number beginning with 001, an RS(T) report, and the section you're in. (Most of us are Western Mass) It's easy! It's fun! For example, your third contact would go like this: "W1RWU, you're my number 3, 59, Western Mass, QSL?"

If your call begins with a "K" or an "N", monitor and use 146.55 as much as possible.

If your call begins with a "W" or an "A", use 146.58 as much as possible. If you're limited to 146.52, call CQ and QRZ contest indicating ".52 only" (There is a four hour time limit on the use of .52. See December QST for the rules)

A log sheet and entry form are provided in this issue. If you can't figure out the scoring, we'll be glad to do it for you. (You're not alone!) Just sign it after filling in the other data, and mail it to us. Glad to do the computing!

The club station, W1NY, will be on the air. Operators are needed and you can contact Al, W1GLZ at 567-8462 for information. Look for W1QWJ to be on from New Hampshire. Do we have anyone willing to journey to Rhode Island and beam back to Western Mass? This Dx-pedition will count in the club totals, as long as you're not more than 175 miles from Feeding Hills! Who wants to put Vermont on the air for the SS? N1AAH, Larry gave us this multiplier last year. K1WVX in Connecticut will be looking for HCRA members during the contest. Look for these people to help increase your score!



PETITION

We, the undersigned members of Hampden County Radio Association, do hereby petition the Board of Directors to make the Courage Handi-ham system a club project. The purpose of this project will be to encourage and promote participation in amateur radio by handicapped persons. The project will be organized along the lines of the QSL bureau, to wit: a manager appointed by the board who will be responsible for its operation.

We, the undersigned, understand that by signing this petition we are stating our willingness to help make the project a success.

JANUARY 1982

NAME

CALL

The above petition will be presented to the Board of Directors the next meeting. If you sign it, you are not just committing the club to the project, but also yourself! Help would be needed on a one-to-one basis, and with group classes. Not every handicapped person would be interested in amateur radio, but everyone interested will be helped to the best of our abilities. If there are not enough signatures this project will die off. It is better to dump it now, then to try to keep it afloat without enough help. If it does pass, articles outlining our future plans will be in February Zero Beat. It is not our intention to supply radios, etc due to financial constraints. (We don't have any money.) The national Handi-ham Center will have to take care of that. We can put together a cooperative effort that will open up new worlds and opportunities to the Handi-capable people in Western Mass! This petition will be at the January HCRA meeting.

73,
Jeff klBE

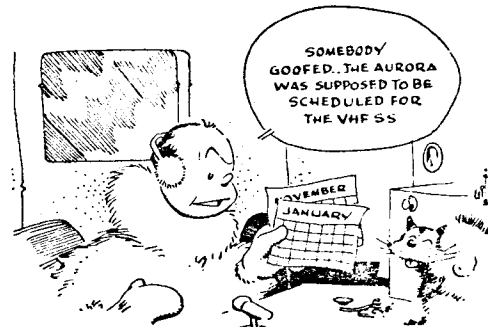


Some of the OLD, OLD TIMER's still go overboard about these VHF Sweepstakes. Look for Ed on the air, especially on six meters cw. (Usually a voice crying in the wilderness, not too many cw people on six at anytime!)

For Sale: 40 Foot Telescoping Heavy Duty Steel mast with 5 overlapping 9 foot sections, with pins and 3 guy eyes at top of each section. 2½ inch O.D. bottom and 1 inch O.D. top section. Very good condition, as used only on a few field days. \$50.00
WIMM, Bob Stephens. Tel. 532-6020

JAN 82

5



VHF SWEEPSTAKES

CONTEST STARTS: 1800 UTC
Saturday January 16th

ENDS: 0400 UTC, Monday January 18th.

Send an RS(T), consecutive number beginning with 001, and section.

If your call begins with W or A, use 146.58

If your call starts with K or N, use 146.55

For equipment, other info:

Frank Potts, W1RWU
657 Springfield St.
Feeding Hills, Mass 01030
Phone: 786-6045

Extra logs, summary sheets:
January HCRA meeting

or

Jeff Duquette K1BE
P.O. Box 346
Southwick, Mass 01077
Phone: 569-6739

Return logs and summary sheets to
Frank IMMEDIATELY after the contest.
He'll double check them and mail
them out to the league.

Just call to get them, be
glad to mail them out!

TIDBITS

Ed Strom, W1ACJ, has moved to Texas. His address is: c/o Mr. Thomas Westerberg, Rte 1, M.C. AA-10, Salado, TX 76571...Will cw skills disappear when the old timers do? Maybe we should expand the phone bands again...From June 1950 ZB- W1PHU and W1NLE saved the issue by contributing timely articles...K1IJU looking for people to earn the "Worked all Hampden County RA" award... How do you feel about articles in ZB dealing with how to prepare for a nuclear accident?...W1CJH playing with his Atari TV game. Bought it for the kids?, sure Larry!...W1UCB is Southwick's radio officer...K1CHI passed amateur Extra, FB, Ron!...W1UD, W1LH received Certificates of Merit for their hard work in organizing the ARES in their areas... K1FVT passed his general, FB, Bob... DX-ers- who could submit an occasional article about upcoming dx to ZB? Would not have to be super rare, just something for us "little guns"...W1KK, W1UOC, (K1APR, W1RWU) listed in the UHF contest...The Classic Radio Exchange is January 30-31...K1DOL tuned his 40m dipole to get into WMN on 3562 khz! Chris enjoys traffic handling and cw... K1CHI is now K1S!!!!

K1HYL, Ollie, listed in Worldradio....
W1GTR demonstrated amateur Slow Scan TV to the Air Force and received a comendation for his efforts...K1BE, on the first day of the season, the first time he'd ever gone hunting, got a deer!....





Do not write above this line.

Call Used _____

VHF Sweepstakes

ARRL SECTION _____
or COUNTRY _____

CLAIMED SCORE _____

Band	Contacts	Points	Mults.
50 Mhz.	X 2 =		
144 Mhz.	X 2 =		
220 Mhz.	X 4 =		
432 Mhz.	X 4 =		
1296 Mhz.	X 8 =		
Mhz.	X 16 =		
Mhz.	X 16 =		
TOTALS	QSOs		

SCORING: _____ QSO POINTS
 X _____ MULT. (sections + 10)
 = _____ CLAIMED SCORE

- Single Operator Station
- Multioperator Station (show calls of ALL operators, loggers)

Club participation? Yes ~~XXX~~
 If yes, print the name of your ARRL Affiliated Club: HAMPDEN COUNTY RADIO ASSOCIATION

Equipment Description:

Transmitter Receiver

Antennas

"I have observed all competition rules as well as all regulations established for amateur radio in my country. My report is correct and true to the best of my knowledge. I agree to be bound by the decisions of the ARRL Awards Committee."

I am a member in good standing of the Hampden County Radio Association.
 Date Signature Call

Note your soapbox and other comments. Enclose your photos, as well as your SS logs and check sheets, and mail promptly to: ARRL Communications Department, 225 Main Street, Newington, Connecticut 06111.

MULTIPLIER CHECK-OFF LIST

1	2	3	4	5	6	7	8	9	0	VE
Conn	ENY	EPa	Ala	Ark	EBay	Ariz	Mich	Ill	Colo	Mar-Nfld
EMass	NLI	Del	Ga	La	LA	Ida	Ohio	Ind	Iowa	Que
Me	NNJ	MDC	Ky	Miss	Org	Mont	WVa	Wisc	Kans	Ont
NH	SNJ	WPa	NC	NMex	SBar	Nev			Minn	Man
RI	WNY		NFla	NTex	SCV	Oreg			Mo	Sask
Vt			SC	Okla	SDgo	Utah			Ncbr	Alta
WMass			SFla	STex	SF	Wash			NDak	BC
			Tenn	C.Z.	SJV	Wyo			SDak	VE8
			Va		SV	KL7				
			W.I.		Pac.					

(CROSS OFF EACH NEW SECTION AS WORKED.)

MAIL TO:

Frank Potts, WA1RWU
 657 Springfield St.
 Feeding Hills, Mass 01030

OR
 Mail promptly with comments and photos to:
 ARRL - Communications Dept.
 225 Main Street
 Newington, Connecticut 06111

Print or type:

NAME: _____ CALL: _____

ADDRESS: _____

CALIBRATING PANEL METERS

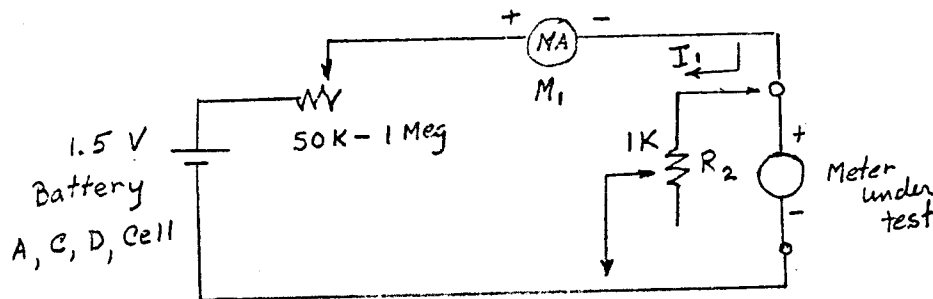
With the rising cost of everything (ham goodies also) most of us can't justify the cost of new panel meters for our projects, especially when more than one are required for a project. A viable alternative is the purchase of reasonably priced units as sold at the many ham flea markets. It's not uncommon to find Triplett, Simpson, and other quality units selling for \$1.50 to \$5.00.

There are a few things to look for. Of course the unit should be in reasonable mechanical condition. The needle should deflect a little to the left and right as the unit is gently shaken back and forth by hand. Units marked 50 μ a, 200 μ a, 500 μ a, up to 1 ma full scale are especially super buys since they can be easily made to read other ranges full scale by appropriate shunts or multipliers.

If these aren't available almost any D'Arsonval type meter can be converted to read other scales as long as the case can be opened to gain access to the interior. Stay away from R.F. ammeters (unless that's what you're looking for) and moving vane meters (usually the cheapie type A.C. volt-meter).

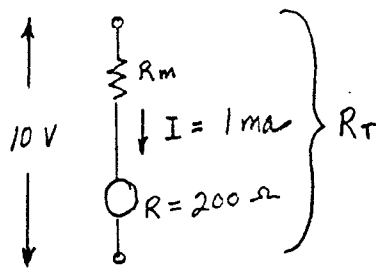
After you have brought your new goodies home and have shown the XYL the super bargains you've aquired, carefully disassemble them and remove any resistors inside (usually soldered to the external meter terminals) and connect the internal meter leads so that each lead goes to a meter terminal. Reassemble the meter being careful not to damage the movement and try and keep dust and other junk out. Resist the temptation to give the needle a little push with your pudgy fingers.

The following is a quick and dirty way to determine the full scale deflection current and internal resistance of the meter:



R_1 should be initially set at maximum resistance. Adjust R_1 so that the meter under test indicates full scale deflection. Meter M_1 will indicate the full scale sensitivity of the meter under test (all elements in a series circuit have the same current flowing through them). For example, M_1 indicates 1 ma, e.g., 1 ma full scale sensitivity for the meter being tested. Leave R_1 alone and connect R_2 across the meter under test (initially set R_2 for maximum resistance). Now slowly adjust R_2 until your meter under test shows half scale deflection. Carefully disconnect R_2 and measure its resistance. This will give you the internal resistance of the meter under test. For example, $R_2 = 200$ ohms. (When your meter shows half scale, it indicates that half the total current is flowing through R_2 . Since I_1 and I_2 are equal, R_2 must equal the meter resistance).

Suppose you wish to make this unit into a 0-10 VDC volt-meter. You need to calculate a multiplier resistor.



$$E = IR_T$$

$$10 = (.001) R_T$$

$$R = 10K$$

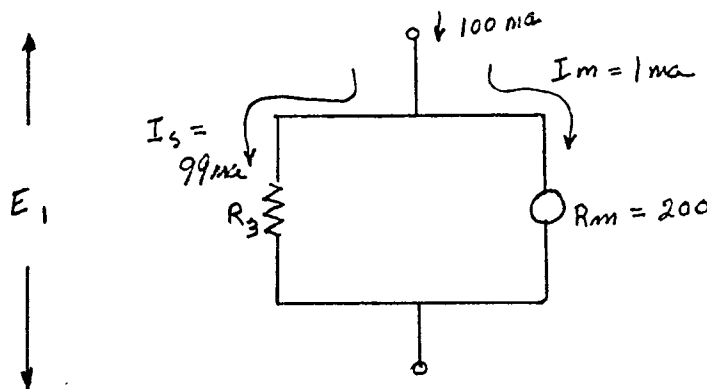
$$R_m = R_T - R_{\text{meter}}$$

$$R_m = 10,000 - 200$$

$$R_m = 9800 \text{ ohms} \Rightarrow 10K \text{ close enough!!}$$

By using ohm's law $R_T = 10K$. The internal meter resistance of 200 ohms can be disregarded since this is much smaller than the 10K calculated to draw 1 ma from a 10 volt source. Therefore, a 10K series resistor is all that is necessary to make a 0-10V voltmeter.

Now suppose instead you wanted to make it into a 0-100 ma milliammeter. You need to calculate a shunt resistor.



$$E_1 = I_m \cdot R$$

$$E_1 = (.001)(200)$$

$$E_1 = .2 \text{ V}$$

First calculate the voltage drop across your basic meter. This happens to be .2 V for our example. Notice most of the current flows through our shunt (99ma vs 1 ma through the meter). Using ohm's Law:

$$E_1 = I_s \times R_3$$

$$.2 = .099 R_m$$

$$R_m = 2.2 \text{ ohms}$$

Make sure your shunt resistor has a high enough wattage rating to handle the full scale current.

$$P = E \times I$$

$$P = (.2) (.099)$$

$$P = .198 \text{ W} \Rightarrow \text{A } \frac{1}{4} \text{ watt resistor will do.}$$

Try to use full scale sensitivities which are tens multiples of the full scale meter markings. This will alleviate re-marking of the meter face which is a relatively painstaking chore.

Gent
WALCQF

JAN. ZERO BEAT 82

HAMPDEN COUNTY RADIO ASSOCIATION, INC.
RAY MORIN, KALRG, EDITOR
97 BROOKHAVEN DRIVE
EAST LONGMEADOW, MASS. 01028

HAMPDEN COUNTY RADIO ASSOCIATION, INC.
Calendar for 1982

Club Meetings

<u>Date</u>	<u>Topic</u>	<u>Chairman</u>	<u>Speaker</u>
Jan. 8	R.F.I.	MALCOLM WB1C10	K8CH CHUCK
Feb. 5	Linear Amps	Dick N8BQU	WALCQF GENT
Mar. 5	International DX	Steve WA1EYF	K1MM BILL
Apr. 2	VHF, UHF, & Moonbounce	John AC1T	K1WHS DAVE
May 7	Flea Market	Larry K1GXU	
Jun. 4	Banquet	Ron WB1ETS	