

# THE PREZ SEZ!

Well another wonderfully attended meeting went by the board. Our November meeting was well attended and very interesting according to all those present. Your Prez was working that evening. Kenneth Dupont of STCC will be our guest speaker for December 3 meeting, and he has assured me that it will be interesting for everyone. Our Treas. Dick Chase, WALUYO is diligently working on his books to get our membership straightened out. It seems many new members. We also have many members who have strayed and we must get them back in the fold. Our Novice class at the Senior High School in Agawam is proceeding nicely and should produce some very good amateurs. I must compliment our FB instructors on a very good job. They are working under some handicaps but are still really producing informative and interesting sessions. I must say that I really believe that these Novice classes are the start of regular classes of various kinds by the H.C.R.A. I'm sorry that my work keeps me away from helping more at the meetings and classes. Once again I must say on behalf of the H.C.R.A. that many thanks are in order, for those who have helped and those who will, with the Novice Classes each week at the Agawam Senior High School.

73's  
WALGZO TED

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## ZERO BEAT

issue 3

\* \* \* \* \* H C R A O F F I C E R S \* \* \*

Pres.	Ted Lockwood	home	786-2464	office	786-3330
V. Pres.	Gary Potts	home	569-5277	work	568-5886
Sec.	Frank Pomeroy	home	569-5088		
Treas.	Dick Chase	home	592-4514	office	786-3330

### B O A R D O F D I R E C T O R S

Ed Stefanik	534-4685	Olie Quist	739-7361
Gerry Griffin	567-0367	Ralph Kemp	653-2519 or 653-6097
Dick Stevens	267-5110	Art Zaverella	
Norm Forrest	782-2026	Bob Tippet	562-9447
Bruce Felper	567-7240	Steve Shore	567-7954

N E X T M E E T I N G : D E C E M B E R 3 8 P. M.  
Feeding Hills Congregational Church.

Members please let the HCRA board or officers know who you would like from the league (ARRL) to speak at the January 7 HCRA meeting. All suggestions are welcome, and would be appreciated.

## NOTICES

HCRA NET: Is meeting every Monday 8 PM EST at 28.650 MHz.

DUES: Dick Chase, WALUYO, will accept the \$5 dues from any unpaid member at the next meeting. Or you can mail the \$5

to: HCRA

c/o Dick Chase  
51 Mayflower Ave.  
Chicopee, Mass.

or call Dick and he can arrange F-E payments.

Remember there is still 45 unpaid members receiving ZERO BEAT at the expense of the HCRA. ARE YOU ONE?

ZERO BEAT is now accepting commercial ads. For more info contact Bruce, WALPUY at 1-413-567-7240.

Just a reminder that you can pay your ARRL dues through the HCRA. By doing this the club will be getting a cut and you will be getting your renewal at no extra cost. You won't even have to mail it.

Your ad or article could have appeared here. Personal ham ads are FREE! For more info on articles or to place a ad call Steve, WALZEV 567-7954. Or you can call or write:

HCRA ZERO BEAT

c/o Bruce Felper

111 Academy Drive

Lonmeadow, Mass. 01106 or call me at 567-7240.

INFLATION!!! At the next meeting remember that coffee and donuts cost more than \$.25, so when you have coffee and donuts please more than a 25%.

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## EDITORIAL WALPUX Bruce Felper

In 4 years when sunspot activity increases, and 10 meter skip is as common as milk, what about 11 meter skip? Yes I am referring to the pain in the neck of the airwaves, that is growing exponentially, and has just gone from 23 to 40 channels. Yes that phenomenon called CB or Citizen Band. That radio mess now occupies a small part of the 11 meter band. When the F.C.C. gets around to moving the CB frequencies so that skip is not a problem, the move will probably be unsuccessful. Due to some 10 million 11 meter CB sets in the public bands. Also the problem comes up of where to move the new CB frequency to. It will probably be a high frequency (above 220 MHz), to the delight of the electronics industry, who will be able to sell that many more CB sets. But to us HAMs four years may be a long way off but...

## NOVICE COURSE

Jeff Duquette W1SNJ

The H.C.R.A. is presently teaching a novice course at Agawam High School. We will soon be graduating about 25 new hams that (hopefully) will join our club. If we decide to run another ten week course in January, where should it be? Should we stay at Agawam High School or go to the Westfield YMCA? If you know of a place or have friends who would join a class in one of these areas, let us know now. Names and QTH's to any club officer would be appreciated.

Is there any interest out there in a General/Advanced class? If you don't speak up who will ever know? Are you interested in helping to teach one of these classes? Let us know!

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## HAMMING IT UP ON THE TRAIL

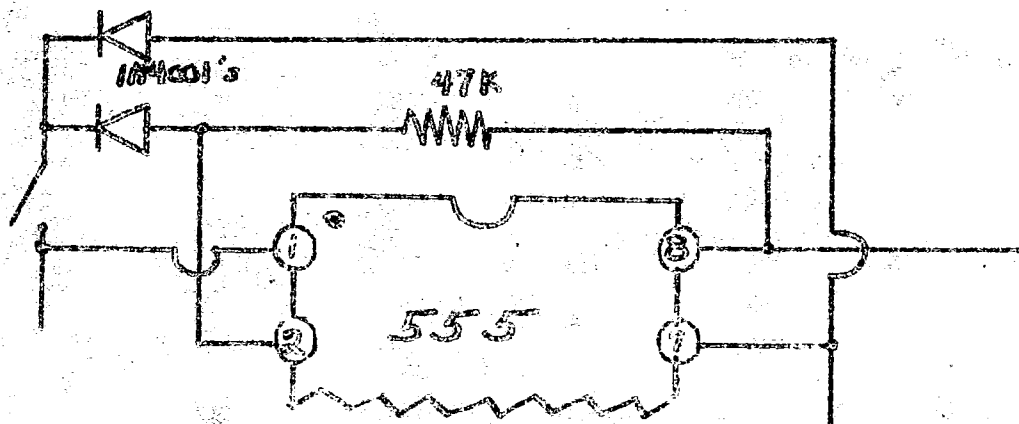
Jeff Duquette W1SNJ

Have you ever wanted to know just how "portable" that rig really is? Do you enjoy a sore back and tired feet? Your just the ham I've been looking for! I'd like to get together with hams interested in going portable in the wilds. Maybe climb up a high mountain and talk to the world, or just tent out in the wilds in a "mini-field day". If this is fun to you please let me hear from you. The landline is 569-6739 or better yet, the HCRA net on Monday nights, 8 PM on 28.650 MHZ. Call W1SNJ, Jeff.

EDITORS NOTE: Jeff has 3 good ideas, in his last article;  
1) having fun with ham radio,  
2) practicing for field day, i.e. portable operation,  
3) use of the HCRA net, for discussion of ideas, no matter what they be.

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In the November ZERO BEAT, the article "SOME MORE TIMERS" by Jerry Griffin, W1WGT, two diodes were omitted from the schematic. So, if you're wondering why your timer does not work properly, the installation of these diodes (1N4001's) should remedy the situation.



H A M A D S

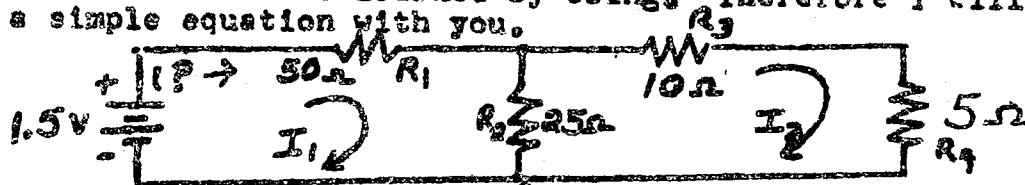
- FOR SALE: Heathkit HW-101 HF XCVR  
Heath SWR bridge  
CALL: K1BUB, Bob 568-3120.
- FOR SALE: Drake TR-22 XCVR with ni-cad batteries, 4 sets of  
xtals, leather case, mike holder, power cord,  
manual, etc. \$170.00  
CALL: WALVAH, Bob 562-9447.
- FOR SALE: 800 watt homebrew linear  
CALL: Dennis 737-2018.
- WANTED: Scope calibrator like Heathkit IOA-4510-1 or similar  
CALL: WALPUX, Bruce 567-7240.
- WANTED: SAVE ME FROM BOREDOM! I'm always falling asleep  
when I study for my extra class ticket. If you're  
going up for general, advanced or extra, let's get  
together! I have all the goodies, I only need some  
company. We'll go over any aspect of radio you  
want to, including code. Call me and we'll get  
together to pore over the books!  
CALL: WALSNJ, Jeff 569-6739.
- WANTED: Sine and/or square wave generator. Like or similar  
to Heathkit IG-18.  
CALL: WALPUX, Bruce 567-7240.
- FOR SALE: Special for the ham on your XMAS list. Heathkit  
HW-202, 2 meter 10 watt FM XCVR. With 5 sets of  
xtals... for only \$175.00.  
CALL: WALZEV, Steve 567-7954.
- FOR SALE: Drake TR-22 2 meter FM xcvr with ni-cads, AC power  
cord, rubber duck, case, 6 sets of xtals, manual and  
bad mike. \$175.00.  
CALL: WALSNJ, Jeff 569-6739.
- FOR SALE: VHF amplifier, by VHF ENGINEERING, 15 watts output  
\$40.00.  
CALL: WALSNJ, Jeff 569-6739.
- WANTED: YOUR DUES... Dick Chase will accept the \$5 dues from  
any unpaid member at the next meeting or you can mail  
the \$5 to: HCRA, c/o Dick Chase, 51 Mayflower Ave,  
Chicopee Mass. Or call Dick and he can arrange EZ  
payments. Remember there are still 45 unpaid members  
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YOU one?

## MESH ANALYSIS

(the second in a series of engineering circuit analysis articles)  
by Glenn Robertson WA1FVB

### SIMPLE MESH EQUATIONS

MESH EQUATIONS may be the most popular in use by engineers because of its ease of use. It is basically used with voltage sources and can best be learned by doing. Therefore I will solve a simple equation with you.



You may first notice that I have labeled two clockwise arrows  $I_1$  and  $I_2$  but ignore these for now. I will first go over this circuit the old way. We want to find the current going through the  $50\Omega$  resistor. We first add the  $10\Omega$  and  $5\Omega$  resistor together to get  $15\Omega$ . Next add the  $15\Omega$  and  $25\Omega$  resistor in parallel using

$$R = \frac{R_1 R_2}{R_1 + R_2} = \frac{15 \cdot 25}{40} = 9.375\Omega$$

Now we have a  $9.375\Omega$  resistor and  $50\Omega$  resistor in series giving  $59.375\Omega$  total. Using Ohm's law  $I = E/R$  we find  $I = 0.0253A$  or about 25 mA.

Going through this using mesh analysis, we set up two equations by starting at the far lower left hand corner. We write the equation as we see it in voltage drops. Using  $E = IR$  then:  $-1.5V + R_1 I_1 + R_2 (I_1 - I_2) = 0$

Notice its relation to Kirchhoff's voltage law. I have  $I_1 - I_2$  because  $I_1$  is the object of our first equation and  $I_2$  is entering  $R_2$  while  $I_1$  is leaving it. Re-writing and inserting values into the equation we have:  $50I_1 + 25(I_1 - I_2) = 1.5$

$$\text{which becomes } 75I_1 - 25I_2 = 1.5$$

For our second equation we start at point A and write the equation as we see it:  $25(I_2 - I_1) + 10I_2 + 5I_2 = 0$

Notice now that it is  $I_2 - I_1$  because  $I_2$  is the object and it is seen as entering  $R_2$  with  $I_1$  leaving  $R_2$ . Re-writing equation two and putting both equations together:

$$E1: 75I_1 - 25I_2 = 1.5$$

$$E2: -25I_1 + 40I_2 = 0$$

We want to find  $I_1$ . This can easily be done using DETERMINANTS and I suggest you use them if you know how. But since I don't have room in this paper to explain them, we will use simultaneous equations. We first multiply E2 by 3 so that the two  $I_1$ 's will be equal. Adding:

$$75I_1 - 25I_2 = 1.5$$

$$-75I_1 + 120I_2 = 0$$

$$95I_2 = 1.5 \quad I_2 = 1.5/95 = .016A$$

Inserting  $I_2$  into E1 we have:

$$75I_1 - 25(.016) = 1.5$$

$$= 75I_1 - .4 = 1.5$$

$$75I_1 = 1.9$$

$$I_1 = 1.9/75 = .0253A$$

or about 25mA. Boy was that hard. No wonder Amateur Radio operators do it the old way. But is the old way really as easy as it seems? Suppose I asked for the current going through  $R_2$  in the downward direction? By mesh analysis I would simply subtract  $I_1$  from  $I_2$ .

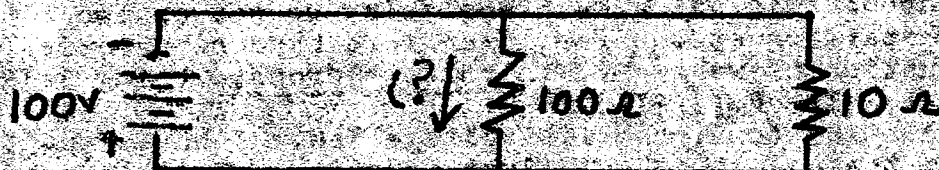
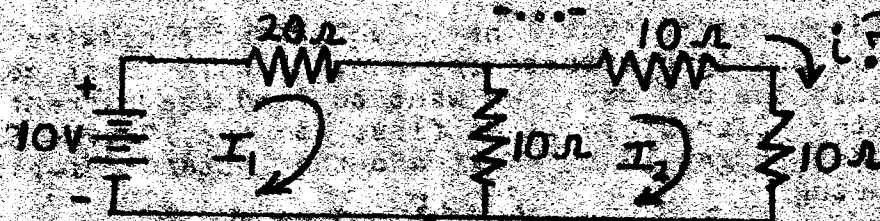
$$I_1 - I_2 = 25mA - 16mA = 9mA$$



I leave it to the reader to find it the old way, (if you can). You will find mesh equations much easier (especially after you have done a couple hundred like I have). Next month  
 NODAL ANALYSIS.

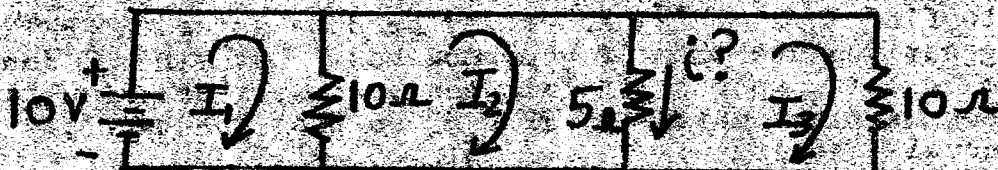
# DRILL PROBLEMS

Here are some drill problems to get you started using Mesh with the answers (the answers are not in order). Do them both ways if you like, but do them! Who knows someday you may have to use what you've learned.



CLUE: start with the +100 on the left side of the equation.

If you think your really good then try this.



ANSWERS: 1.11A ; 2A ; 0.2A (NOT IN ORDER).

P.S. Good luck and have fun.

# T V I

If you hear a "CB/HAM/unidentified" radio station on your TV receiver, it is usually the fault of your set in 90% of the cases, according to FCC figures. Most TV manufacturers will furnish a high pass filter for the TV set, upon request, at NO COST, for the alleviation of the problem. When requesting a filter from your manufacturer, the MODEL # and SERIAL # of your set must be given. The model # and serial # is usually found on the back of the TV set. One filter to ask for is the DRAKE-TV-300-HP high pass filter.

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**ADMIRAL**  
Admiral Sales Corp.  
Customer Service  
903 Morrissey Drive  
Bloomington, Ill. 61702

**PANASONIC**  
Panasonic Consumer Parts Div.  
Matsushita Electric Corp.  
3201 Tollview Drive  
Rolling Meadows, Ill. 60008

**AIRLINE**  
Montgomery Ward  
Customer Service Division  
619 W. Chicago Avenue  
Chicago, Ill. 60607

**PHILCO-FORD**  
Manager, Consumer Technical Affairs  
Philco  
Union Meeting Road  
Blue Bell, Pa. 19422

**CURTIS MATHIS**  
Curtis Mathis Sales Co.  
P.O. Box 5610  
Dallas, Texas 75222

**RCA**  
RCA Sales Corporation  
Consumer relations Department  
600 N. Sherman Drive  
Indianapolis, Ind. 46201

**GE and HOTPOINT**  
General Electric Company  
Consumer Electronics Division  
Electronics Park  
Syracuse, N.Y. 13201

**SEXTONIA TRUETONE**  
Western Auto Supply Co.  
Customer Service  
2107 Grand Avenue  
Kansas City, Mo. 64108

**MAGNAVOX and SENTINEL**  
Magnavox Company  
Customer Relations Dept.  
2131 Buster Road  
Ft. Wayne, Ind. 46803

**SYLVANIA**  
Sylvania Electric Products, Inc.  
Entertainment Products Division  
700 Ellicott Street  
Batavia, N.Y. 14020

**QUASAR ELECTRONICS CORP.**  
R. Cooper, Jr. Inc.  
Customer Service  
5600 W. 74th Street  
Chicago, Ill. 60608

**SONY CORP. OF AMERICA**  
47-47 Van Dam St.  
Long Island City, N.Y. 11101

**MUNTZ**  
Muntz Electronics  
1020 Noel Avenue  
Wheeling, Ill. 60090

**OLYMPIC**  
Lear Seigler, Inc.  
Olympic Radio & TV Division  
34-01 38th Avenue  
Long Island City, N.Y. 11101

WESTINGHOUSE  
Westinghouse Electric Corp.  
Consumer Electronics Division  
Edison, N.J. 08817

ZFNITH  
Zenith Sales Corp.  
Attn. F.L. Uhrus  
5801 W. Dickens Avenue  
Chicago, Ill. 60639

PACKARD-BELL  
Customer Service  
12333 W. Olympic Blvd.  
Los Angeles, Ca. 90064

SILVERTONE \*  
Sears, Roebuck & Company  
Customer Relation Dept. 157  
925 S. Homan Avenue  
Chicago, Ill. 60607  
\* Sears Service Flash #57-163  
requires them to provide the  
filter, free, in most cases, and  
is still valid, as verified by  
Dept. 157.

\*\*\*\*\*

### SAMPLE FORM LETTER

Date \_\_\_\_\_

\_\_\_\_\_  
(manufacturer's name)

ATTN: CUSTOMER SERVICE

\_\_\_\_\_  
(manufacturer's address)

\_\_\_\_\_  
(city) (state) (zip)

Gentlemen:

Please send me a Drake TV-300-HP high pass filter for the  
alleviation of interference from a radio station operating  
below 54 MHZ. My (brand name) \_\_\_\_\_ TV receiver  
is model No. \_\_\_\_\_, Serial No. \_\_\_\_\_.

I understand that 90% of interference problems require treatment  
of the TV receiver rather than the transmitting equipment,  
(statement to television receiver owner, FCC).

Thank You.

\_\_\_\_\_  
(consumer's name)

\_\_\_\_\_  
(consumer's address)

\_\_\_\_\_  
(city) (state) (zip)

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Editor's note: Please take advantage of this form letter.  
Who said you can't get anything for free is right, but...  
for a 13¢ stamp and a letter, you can get yourself a high pass  
filter, so don't be lazy, unless you want to spend your \$\$\$.