

House Rules

1. If you open it, close it.
2. If you turn it on, turn it off.
3. If you unlock it, lock it.
4. If you break it, admit it.
5. If you can't fix it, call someone who can.
6. If you borrow it, return it.
7. If you value it, take care of it.
8. If you make a mess, clean it up.
9. If you move it, put it back.
10. If you don't know how to use it, leave it alone.
11. If it's none of your business, don't ask.
12. If it's not broken, don't fix it.
13. If it will brighten someone's day,
Say it!

The

Hamilton

Merry Christmas
and a Happy New
Year!

Amateur

Club Christmas Dinner
Izzy's Restaurant
354 Main St. West
(Call Keith to Reserve!)

December 1991

Dinner: 18 December 1991 - 19:00 hrs

(Established 1932)

HARC EXECUTIVE FOR SEPTEMBER 1991/92:

PRESIDENT:	VE300G	Flore Marga	678-1788
PAST PRESIDENT:	VE303N	Jim Walsh	688-6638
VICE PRESIDENT:	VE30CP	Fred Robinson	678-5187
SECRETARY:	VE30DX	Everett Engert	385-0878
TREASURER:	VE30NB	Ron Hewitt	383-7828
MEMBERSHIP:	VE3R8H	Ruth Hewitt	383-7328
	VE3LTD	Paul Webb	674-0618

HARC COMMITTEE CHAIRPERSONS FOR 1991/92:

AWARDS & CONTESTS:	Open	George Orntk	383-7338
HISTORIAN:	VE3BLG	Dave Blum	383-8006
PROPERTY:	VE30WJ	Jim Walsh	688-6638
BULLETIN EDITOR:	VE303N	Bernie Granty	827-7175
EDUCATION:	VE3EY	Stuart Fedak	828-4131
EMERGENCY COORD:	VE3SMF	Everett Engert	385-0878
FIELD DAY COORDINATOR:	VE30DX	Keith Johnson	628-1003
FLEA MARKET:	VE3DKJ	Stan Bodruch	628-4002
HEALTH & WELFARE:	VE3GFE	Fred Robinson	678-5187
PROGRAMS:	VE30CP	Fred Robinson	678-5187
PUBLIC LIASON:	VE30GCP	Mary Urbanski	388-6383
HOSPITALITY COORD:	VE30GQ	Keith Johnson	628-1003
CHRISTMAS DINNER PLAN:	VE3DKJ	Ted Boerstamp	678-8286
SWAP NET CONTROL:	VE3TJB	Don Graziano	880-1880
REPEATER:	VE30CP	Don Graziano	880-1880
TECHNICAL:	VE30CY	Don Gibson	880-1980
VE3DC LICENCEE:	VE3RHO	Don Graziano	885-2786
VE3NCF LICENCEE:	VE30CY	Don Graziano	880-1980
VE3RCHB LICENCEE:	VE3ANC	Paul Hazan	887-7178
DESIGNATED EXAMINERS:	VE3EY	Bernie Granty	628-1003
	VE3DKJ	Fred Robinson	678-5187
	VE30CP	Stuart Fedak	628-4131
	VE3SMF		

Our EDUCATION CHAIRMAN VE3EKY Bernie is quite happy with the progress of his students in this course. He is planning to offer another course in the New Year, probably starting February. Tentative plans are for a thirteen week course with enrollment strictly limited to ten students at a cost of \$50. This will be a basic "get your licence" course, and much as he would like to offer Morse code training, time simply won't allow it.

The executive has started working on creating a committee to oversee SPECIAL EVENTS for our Club 60th ANNIVERSARY YEAR 1992.

VE3SON Jim has been delegated the responsibility of finding candidates to fill the position of AWARDS AND CONTESTS. A synopsis of the regular awards that the Club gives out was published in the October bulletin. The chairman would be responsible for overseeing notification of these awards, jury selection and presentation. Reread your October bulletin and let Jim (689 6839) know if you are interested in the position. Speaking of awards, there were no nominations (and therefore no winner) for the ART FERGUSON TROPHY. Next contest is the ORDER OF THE GAVEL CW OPERATING contest, awarded in February for the most CW contacts (adjusted) during the previous calendar year. If you go all out between now and the end of the year, you could have a good chance to win this one.

ERRATA/UPDATES:

Corrections to the Autodial List in last month's bulletin:

- *VE3YOC Mary has autodial 75
- *VE3QVG Cam and
- *VE3YUM Erin have autodial 84
- *VE3QOB Robert has autodial 110
- *VE3NCK Bill and
- *VE3BNE Deryl share autodial 30

Our apologies for the error.

Additions to the List

- VE3XCR Jim has autodial 72
- VE3OIN Ken has autodial 28

Let's welcome VE3XCR Jim Smith who joined the club at the November general meeting.

Also, VE3EHU David Lander has rejoined this year. Good to have you back Dave.

VE3OIN Ken has renewed his membership. We wouldn't want to lose you Ken!

VE3ACJ David Sloan has joined as a new member.

ITEM 5. To commemorate the 75th Anniversary of the National Research Council of Canada, the following prefixes have been assigned for use by Canadian Radio Amateurs from 00:00 HRS on 20 November 1991 to 24:00 HRS on 20 December 1991, local time.

- VE1-VE3 may use XN1-XN8
- VO1,VO2 may use XO1,XO2
- VY1,VY2 may use VX1,VX2
- VY9 may use VX9

ITEM 6. VAIS - The Marconi Amateur Wireless Society of Sydney, N.S. will operate special event station VAIS during the month of December 91 to commemorate the 89th anniversary of Marconi's first successful West to East Trans-Atlantic radio transmission on 15 December 1902, from Glace Bay, N.S. to Poldhu, Cornwall, England. An attractive certificate suitable for framing is available to confirm contact with VAIS. Send \$3 or 5 IRCs to Alan Leith VE1AL, 846 George Street, SYDNEY, N.S. B1P 1L9

ITEM 7. To commemorate the 500th Anniversary of the Discovery of America by Columbus, the following prefixes have been assigned for use by Canadian Amateurs from 00:00 HRS on 1 January 1992 to 24:00 HRS on 29 February 1992, local time.

- VB1-VE8 may use VC1-VO8
- VO1,VO2 may use CY1,CY2
- VY1,VY2 may use CZ1,CZ2
- VY9 may use CZ9

ITEM 8. CANADIAN INTERNATIONAL DEVELOPMENT AGENCY (CIDA) DEVELOPMENT DAY, WEDNESDAY 5 FEBRUARY 1992. Canadian Amateurs are being encouraged by CARP to set up stations on this date to contact Third World Countries. CIDA will provide QSL cards, and is in the process of negotiating for Special Prefixes. For more information contact: Fergus MacLaren at CIDA, 613-953-6089 or Dan Holmes VE3EBI, 613-746-0968, 33 Cowhill Road, GLOUCESTER, ON, K1J 7K5.

ITEM 9. VETNOR - will be operating during Western Canada's Largest Winter Extravaganza, the 32nd Annual Vernon Winter Carnival from February 7th to 16th 1992. Frequencies will be: 28.575, 14.275, 7.175, 3.775. To receive free 'Winter Carnival Award Certificate' please send \$1.00 or 2 IRCs to cover cost of postage, to: Winter Carnival Award VETNOR, P.O. Box 1706, VERNON, B.C., V1T 8C3. To qualify for our award, stations must send either a QSL card or the log information of a QSO with VETNOR to the above address. Contacts can be made with VETNOR at any time of the year to qualify for this award.

73 de VE3VCA Steve VE3GRS at the keyboard

CARF NEWS BULLETIN 18-91, 1 December 1991

Issued at CARF Headquarters
P.O. Box 356, Kingston, ON, K7L 4W2
Editor: Bernard H. Burtshall VE3NBB

ITEM 1. CANADIAN PROPOSALS FOR WARC92 SENT TO ITU. We have often reported DOC's saying, quote, "While amateur radio is not on the agenda of WARC92, amateur radio may be affected," end of quotation. We all know about the broadcasters' insatiable desire for more spectrum in the 6 to 9 MHz portion of the HF spectrum. We know, too, that HF broadcasting is on the agenda of WARC92.

On the matter of HF broadcasting DOC says, quote, "While it is recognized that the amount of spectrum available to satisfy the broadcasting requirements of all administrations is inadequate, existing usages of HF bands, particularly by the fixed services, must be taken into account. Consequently Canada could support the reallocation of a modest amount of spectrum, provided certain conditions are met." end of quotation.

DOC then sets out its position with regard to amateur radio and broadcasting saying, quote "With regard to the use of the 7 MHz band, Canada subscribes to the position that the allocations to the amateur and broadcasting services in the 6900 to 7400 KHz range should be aligned world-wide. Canada could thus support the realignment of the spectrum in the following manner: the allocation of the 6900-7200 KHz band on an exclusive primary basis to the amateur service; and the allocation of the 7200-7400 KHz band on an exclusive primary basis to the broadcasting service. It is further proposed that the realignment process be implemented over a period of 15 years, i.e., until 1 January 2007." end of quotation.

DOC has not proposed any specific changes to the ITU Regulations which would affect amateur radio. Other countries will be sending their proposals to the ITU and by early next year we should have a better knowledge of what to expect from WARC92, which takes place from 5 February to 30 March 1992 in Spain.

ITEM 2. DON'T FORGET the CARF Canada Winter Contest, Sunday 29 December 91. Complete information in December Issue of "The Canadian Amateur" magazine. Look for the Kingston HQ station VE3VCA, operators Bill VE3DXY and his son Kerry VE3KGB. Earn those extra points by working all VCA and TCA stations.

ITEM 3. CARF QSL BUREAU NOTICE: Please mail all outgoing cards to Box 66, ISLINGTON, ON, M9A 4X1. Be sure to include your CARF membership number. QSL Bureau Volunteer Staff will NOT accept any drop-offs at their homes.

ITEM 4. SATURDAY 1 FEBRUARY 1991 - NIAGARA PENINSULA AMATEUR RADIO CLUB 14TH ANNUAL BIG EVENT: a Hamfest and dinner-dance at the CAW Hall, 124 Bunting Road, St Catharines, ON. Hamfest admission \$4, tables: \$12 commercial, \$5 non-commercial. Talk-in 147.24 +600. For information please write NPARC, P.O. Box 692, ST CATHARINES, ON, L2R 6Y3, tel: 416-934-3231 or VE3KLM @ VE3KLM. Dinner-dance tickets available only in advance.

RULES REGARDING TESTING BY CLUB DESIGNATED EXAMINERS

After one year's experience, the designated examiners for amateur radio licences and upgrades have decided to institute clear rules regarding the tests.

These rules are considered necessary to insure the integrity of the volunteer testing process, the sanity of the examiners, and to discourage frivolous use of the service.

- 1: tests are by appointment only
- 2: positive ID is required (eg: Drivers Licence)
- 3: testing is performed once a month
- 4: only the candidate is allowed in the Red Cross Building, if friends or spouses come, they will have to wait elsewhere
- 5: a fee of \$3 per evening will be charged starting January 1992

The local Delegated Examiner process has been in operation since January 1990. Communications Canada decided that they could ease some of their workload, and introduce flexibility in the examination of licence candidates by certifying Club sponsored hams as "Delegated Examiners". Our Club nominated VE3SMF Stuart, VE3BEY Bernie, VE3GCP Fred and VE3DKJ Keith for this responsibility. Since January 1990, these four have conducted tests for all four classes of licence. The location, the Radio Room at Club Headquarters (Red Cross Building, 400 King St East) and the friendly nature of the examiners, are less intimidating than most of us experienced when we took our tests. The scheduled testing times are the Second Wednesday of the month at 7:00 pm, by appointment. Contact any one of the Delegated Examiners listed on the front cover of this bulletin to make arrangements for a friend, or to upgrade your licence.

MINUTES OF THE HAMILTON AMATEUR RADIO CLUB GENERAL MEETING OCTOBER 20 1991

- Meeting called to order by the President, VE3OQG Flore at 8:06 pm
- VE3GCP Fred introduced our guest speaker, Mr Larry Holzman from the Union Gas Company. Larry spoke on modern technology in home heating and control systems. He was presented with a Club crest.
- Meeting adjourned for coffee at 9:15 pm
- Meeting reconvened at 9:30 pm, VE3OQG Mary was thanked for handling the coffee and donations.
- VE3BEY Bernie reported that he has 20 students in his Amateur Radio Class.
- VE3MWH Mark, as treasurer of the Pleasmarket Committee, turned over a cheque for \$3139.02 to the Club. This represented net proceeds after expenses from the Pleasmarket.
- VE3OCY Don reported that he is waiting for a controller board for the 450 Club repeater he is working on. VE3ZP Ed asked Don if the beeper can be put back on the VHF repeater. Don

- VE3SCH CONRAD, (416)560-1031
- 2 KENWOOD TR2600A 2M H.H., SPKR MIC, WALL CHARGER, DC-DC DROP IN CHARGER, DC-DC CONVERTER \$300
- o 1/2 WAVE TELESCOPING ANT FOR HANDHELD \$35

- VE3XR BRIAN, (416)575-9733
- 2 ICOM MICRO 4AT H.H., 10 MEM., 2-BP22 BATTERY PACKS, WALL CHARGER, QUICK CHARGER, CASE, RUBBER DUCK, MANUAL \$375

- VE3JY SIL, (319)948-5911
- 1 YAESU FT208R 2M H.H., FT708R UHF H.H., NC8A DESK CHARGER, WALL CHARGER, EXTRA FBA-2 BATTERY PACK, TA3 DC-DC CONVERTER, YM24A SPKR MIC, YH1 HEADSET WITH BOOM MIC \$500 PACKAGE OR WILL SEPARATELY FT208 \$150, FT708 \$175 CALL FOR DETAILS.

- VE3UDY RAY, (416)688-0130
- 1 KENWOOD TS930SA T HF RIG, CW AND SSB FILTERS, HAND MIC, SERVICE MANUAL, MANUAL \$1400
- o 20M MONOBAND BEAM 4ELE BY HC CUSTOM BEAMS \$200
- o 10M MONOBAND BEAM 6ELE BY HC CUSTOM BEAMS \$150

- VE3ZR RICK, (416)330-7064
- 1 ICOM 271A ALLMODE 2M RIG, ACP, PREAMP, MAN \$850
- o ICOM 471A ALLMODE UHF RIG, TOWER MOUNTED PREAMP, MAN \$850

Seasons Greetings



VE3SON

THE JUNK BOX Continued (Identifying Inductors)

Last month I spoke a little on capacitors and how to identify them. This month I would like to discuss inductors. Inductors take all sorts of forms and shapes. But they are not as mythical as we are sometimes lead to believe! Firstly, everyone is aware that even a straight wire contains a certain amount of inductance and that if you coil the wire it increases the inductance. We can further increase the inductance by moving the coil windings closer together and we can increase the inductance even more by adding a core in the center of the coil of either powdered iron or ferrite material. These few facts are the basis for most home brew or commercially available inductors!

Air Wound Coils

Air wound coils are by far the simplest to identify and to homebrew. Chapter two in the ARRL HANDBOOK contains a formula that I have found useful in the past for both identification and construction of air wound coils. The formula is not exact but it does serve as a good starting point.

It states that:

$$L = \frac{d^2 \times n^2}{18d + 40C}$$

Or rearranged to find the number of turns for a given inductance.

$$n = \frac{d}{\text{sqrt}(L(18d+40C))}$$

- Where
- L = inductance in microhenrys (uh)
 - d = coil diameter in inches
 - n = number of turns on coil
 - C = length of coil in inches

For example: I wish to wind a 2.25 uh coil to be used in parallel with a 56pf capacitor to form a 20mWdm trap antenna. I have some 1.5 inch PVC pipe laying around that would make a good coil form. The PVC is already cut into 2.0 inch lengths. Substituting these values into our formula to calculate the number of turns we have.

$$L=2.25$$

$$d=1.5$$

$$C=2.0$$

Therefore n= 10.3 turns over the two inches.

The Swap Shop: For Sale - 1

To list items:

VE3NCF (146.76) Tuesdays 8 pm. OR Call Ted (VE3TJB) 578-9266 or Ralph (VE3BYM) 388-6146 or Rich (VE3ANB) 547-8192.

OR leave message on the VE3DC Packet BBS (145.590 MHz) or via modem on BBS at 575-4745 (pick your password) to Ted Boeckamp.

Items accepted should be related to the enjoyment of our common hobby, Amateur Radio - this has been interpreted to include also computer equipment, C.B. and other electronic gear that can be used or converted to Amateur Radio use. All prices are negotiable unless otherwise stated. Listings are read over the air for our website, published once in The Hamilton Amateur, and posted on the packet and computer BBS VE3DC (every month) at 8:30 p.m. on VE3NCF 148.780. During the swap shop, a telephone number is usually provided for those without 2 meter capabilities (SWL's, new hams) to provide access to the net. Number in front of listing is number of weeks already on.

4 DEC 1991

VE3JIS JACK, (416)648-6443

- 1 D104 MIC \$60
- 0 HALLCRAFTERS S120 SHORTWAVE RECEIVER, COVERS S.W. AND HAM \$95
- 0 KENWOOD TS120 HF RIG, MIC \$470
- 0 ALLIANCE UI00 ROTOR AND CONTROL \$60
- 0 CHANNEL MASTER ROTOR AND CONTROL \$75
- 0 MC30 MIC \$60
- 0 WILL CONSIDER TRADING ITEMS FOR CB RADIOS WHICH CAN BE MODIFIED FOR 10M.

VE3NYX RENZO, (416)521-1064

- 2 SHORTWAVE RECEIVER, ALLIED SX-190
- 0 GOOD CONDITION WITH MANUAL \$135
- 0 BARKER+WILLIAMSON VS300 ANT TUNER 300 WATTS \$70

VE3ANB RICH, AUTODIAL, 10

1 KENWOOD PCI PHONE PATCH, 4 PIN TYPE \$60

VE30ZY RICE, (416)544-3253

- 3 YAESU FT101ZD MARK 2 HF RIG, CW 500HZ FILTER, STOCK MIC, COOLING FAN, MANUAL \$650
- 0 YAESU FT101ZD SERVICE MANUAL \$25
- 0 DC TO DC CONVERTER FOR 101ZD OR 901/902, WITH PWR CORD \$75
- 0 LEGEND 808 PRINTER IBM COMPATIBLE \$45

VE3TTH SCOTT, (416)385-3014

2 ICOM 2SAT 2M H.H., 50 CH MEM., 7.2V 1.4A HR BATTERY, CHARGER, MANUAL \$350

VE3BSC KEITH, (416)634-0724

2 KENWOOD TS520S HF RIG, 10-160M, 500HZ CW FILTER, DS-1A DC-DC CONVERTER, FULL SET SPARE TUBES, TURNER 350 HAND MIC, EXT. SPKR, HEADPHONES, MANUAL, BOXES \$625

Notes from HARC - 7

Using a Grid Dip Meter to Determine an Unknown Inductance

I'm always surprised at the number of people who do not have a grid dip meter in their shack as a standard piece of equipment. Used properly, you can do everything, from determining the resonant frequency of that new antenna you built to adjusting home brew circuits to resonance.

To start you will need a practical way of placing the unknown inductor in parallel with a known capacitor. I find the use of my bread board a quick and easy way of doing this. This way I can easily plug in different values of capacitance to accommodate the frequency range of my dip meter.

The next step is to choose a capacitor. For smaller coils start at around 100pf and for larger coils use a smaller capacitor value. Make sure that you use a capacitor that has a tight tolerance, +/- 10% will be sufficient but a smaller tolerance would be even better. Look in the Handbook under 'component data' if you need to know which letter denotes what tolerance.

As an example of the whole procedure lets determine the inductance of one of these coils from the Radio Shack kit.

I scrounged through the junk box and found a 100pf capacitor with a 'J' marked on it which gave it a nice tight tolerance of +/- 5%. Next, I plug the capacitor and coil into my bread board in parallel. Now I get the the grid meter out and plug in the coil that will yield the lowest frequency and adjust the oscillator level so that I have a signal that is about half power on the meter. Couple the grid dip meter to the unknown inductor by placing the frequency coil of the meter parallel and as close as you can to the unknown coil. The next step is to adjust the oscillator frequency to find a current minimum or a dip on the meter. If no dip is found then plug in the coil of the next highest frequency range and try for a dip again. Keep trying different coils until you get a dip on the meter. If you are not able to get a dip on the meter try using a smaller value of capacitance (the resonant frequency may be so low as to be outside the range of your meter).

When you have found the point of minimum current on your grid dip oscillator then move the oscillator away from the capacitor/inductor combination and note that the meter climbs back to it's original position. This indicates that you truly have found the resonant frequency. If your meter does not exhibit this behavior then you have found what is called a false dip (a common occurrence on some of the older meters) and will need to continue searching.

When you are sure that you have the point of minimum current on your meter then you can read the frequency directly off the meter or you can place the dip meter near the antenna connector of a general coverage receiver and listen for and make a note of the frequency of the oscillator tone.

For the unknown radio shack coil I found the resonant frequency to be 5.120 Mhz. Substituting this value and our 100pf capacitor into the formula for capacitive reactance we get 310.85 ohms (don't forget to convert pf into uf: 100pf is equal to .0001 uF). We already know that at resonance the inductive reactance is equal to the capacitive reactance so we may now substitute the 310.85 ohms and the 5.12 Mhz into our formula for inductance and come up with a value of 9.66uh for our unknown inductor.

This may sound like a lot of work to go through but once you get familiar with your grid dip

meter and approximate values for different coils. You can then predict where the approximate resonant frequency will occur and then choose the correct frequency coil for your grid dip meter accordingly. To make calculations quick and easier I have included a copy of a program that I wrote last year for calculating inductance, capacitance and resonant frequencies. The program was written for my Commodore 64 but with a few minor changes it will run on most computers. You will note that the formulas incorporate a combination of the reactance and inductance formulas previously mentioned but yield the same results.

Next time we will talk about using and identifying inductors that employ ferrite and powdered iron in their construction.

73 for now,
de Grant VESLIMS

The VESLIMS Program For Determining Inductance, Capacitance or Resonance

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10 PRINT"SHIFT CLRHOME"1 NOTE: A SHIFT CLRHOME CLEARS THE SCREEN
AND GENERATES A HEART SHAPED CHARACTER ON THE SCREEN
11 PRINT" "
12 PRINT" "
20 PRINT" ENTER L FOR INDUCTANCE..."
30 PRINT" ENTER C FOR CAPACTANCE."
40 INPUT" ENTER F FOR RESONANT FREQUENCY..." :QS
50 IF QS="L" THEN GOSUB 90
60 IF QS="C" THEN GOSUB 175
70 IF QS="F" THEN GOSUB 240
80 GOTO 10
90 PRINT"SHIFT CLRHOME"
100 PRINT" INDUCTANCE CALCULATION"
110 PRINT" "
120 INPUT" ENTER THE RESONANT FREQUENCY IN MHZ":RES
130 INPUT" ENTER THE KNOWN CAPACTANCE IN PF":CAP
140 IN=(10*6)/39.48*(RES^2)*CAP1 USE THE UP ARROW IN PLACE OF
THE "*" SYMBOL ON THE COMMODORE 141 PRINT"
142 PRINT" "
150 PRINT" THE INDUCTANCE IN MICRO-HENRYS=":IN
155 GET A$:IF A$="" THEN 155
160 RETURN
170 END
175 PRINT"SHIFT CLRHOME"
180 INPUT" ENTER THE RESONANT FREQUENCY IN MHZ":RES
190 INPUT" ENTER THE KNOWN INDUCTANCE IN MICRO-HENRYS":IN
200 CAP=(10*6)/(4*(3.14*2)*(RES^2)*IN)
201 PRINT" "

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202 PRINT" "
210 PRINT" THE CAPACTANCE IN PF":CAP
220 GET A$:IF A$="" THEN 220
230 RETURN
240 PRINT"SHIFT CLRHOME"
250 INPUT" ENTER THE INDUCTANCE IN MICRO-HENRYS":IN
260 INPUT" ENTER THE CAPACTANCE IN PF":CAP
270 PRINT" "
280 PRINT" "
290 SD=SQR(IN*CAP)
300 RES=(10*3)/2*3.14*SD)
310 PRINT" THE RESONANT FREQUENCY IN MHZ=":RES
320 GET A$:IF A$="" THEN 320
330 RETURN

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FROM A.R.R.L. GOOD PHONE OPERATING

1. Listen much...with care. Avoid distractions in your operating room. Tune the band well after each call.
2. Time your calls; monitor your own frequency. Call only when a station is free.
3. Make short calls, with breaks to listen. Speak clearly, at a steady, moderate rate. Three short calls are better than one long one.
4. Use Vox or push-to-talk technique...speak near the mike. Watch the modulation indicator. Keep local background noise at a minimum.
5. Make notes. Avoid misting points for comment. Jot down topics to avoid repeat.
6. Talk in connected thoughts and phrases. Notes will help avoid making up subjects. Vox and push to talk techniques will help brother (and sister) amateurs from calling you a monologuist.
7. Speak naturally. QSO's need not be cut and dried. Make them interesting. Avoid exhibitionism. Use proper operating form to promote efficiency in communication and add respect and prestige for your station.

Use the standard phonetic alphabet.

Ten turns would be close enough for our purposes. We could fine tune our trap to resonance with a grid dip meter by increasing or decreasing the spaces in between our coil turns!

Working backwards, we could easily calculate an unknown air wound coil by using the other formula.

Commercial Coils

I was in Radio Shack not too long ago, looking for something that they did not have and I noticed that they stock a package of assorted inductors(RS# 273-1601). I had a spare couple of dollars, so I purchased it. Most of the encapsulated inductors where colour coded and posed no problem to identify. However the other coils were wound on forms, were in cans (shielded) or were slug tuned. In order to calculate the values for these inductors I would have to use another method other than the previous formula.

Looking in chapter 2 of the Handbook we find that the inductive reactance is equal to the capacitive reactance at resonance. In other words if we have a stable capacitor of a known value and we place it in parallel with our unknown inductor we can use the capacitors reactance at the resonant frequency to determine the value of the inductor. This may sound complicated but is really quite simple if you write down each piece of information as you acquire it and proceed step by step.

The formulas that you need are out of the Handbook and are as follows:

$$Xc = \frac{1}{2\pi f C}$$

and
 $Xl = 2\pi f L$

- Where:
- Xc = reactance of the known capacitor
 - f = resonant frequency in MHz
 - C = capacitance of known capacitor in uf
 - Xl = reactance of inductor (this is equal to Xc)

To determine the resonant frequency you will need to use your grid dip meter. The use of a general coverage receiver to spot the grid dip oscillator signal will yield greater accuracy but is not necessary if the frequency readout on your meter is accurate.

- VE3FBK EARL, (519)428-2020
- 2 MFL 945 ANTENNA TUNER 300 WATTS \$85
- 0 ICOM IC3200A MOBILE DUALBAND RIO 25 WATTS, DUAL BAND ANTENNA IN-CLUDED \$475
- VE3RMT DAVE, (416)957-7137
- 1 KENWOOD SP430 EXT SPKR IN BOX \$60
- 0 YAESU FT470 DUALBAND H.H., NC28B WALL CHARGER, NC29 DESK CHARGER, FNBI7 7.2V BATTERY PACK, 2-FNB 12V BATTERY PACKS, 2-SOFTCASES FOR FNBI7 AND 12V PACKS, PA6 DC-DC CONVERTER, MH18A2B SPKR MIC, MH19A2B MINI LAPEL MIC WITH EAR PIECE EXCELLENT SHAPE \$650
- VE3RON RON, (416)560-2103
- 3 KENWOOD TS180 HF RIG, MIC, MANUAL, SERVICE MANUAL \$900
- VE3AAR DAN, (416)374-0583
- 3 YAESU FT225RD 2M ALLMODE \$425
- VE3FJC WALT, (416)263-2338
- 3 ICOM AT500 AUTOTUNER 900W ANTENNA TUNER \$450
- VE3DSW PETE, (416)935-6732
- 3 STANDARD FREQUENCY GENERATOR BY MEASUREMENT CORP. MODEL 80, MANUAL, SPARE UNIT FOR PARTS, SPARE TUBES \$75
- 0 FREQUENCY COUNTER HEATHKIT IM4100 \$95
- 0 PAIR OF 4CX300 CERAMIC TUBES WITH SOCKETS \$35/PAIR
- VE3OCT DON, (416)560-1960
- 3 2A146A TUBES, 1-6CL6 DRIVER TUBE \$45
- 0 HEATHKIT TUBE TESTER \$50
- VE3ORCA KARL, (416)389-4307
- 3 TURNER PLUS 3 MIC, REQURES 9V BATTERY, HAS DIN PLUG \$40
- 2 YAESU FT811 UHF H.H., STUBBY ANT., FNB-17(2V) BATTERY PACK, FBA-17 BATTERY CASE(V)FOR 6 AA CELLS, WALL CHARGER NC28B, MANUAL, MINT CONDITION \$375
- 0 UHR(440) MAG MOUNT \$40
- VE3DND RON, (416)383-7526
- 2 ABA FASTSCAN TV TRANSCIVER MODEL 430A \$400
- 0 FASTSCAN AMP 1W IN 10W OUT, HOMEBREW \$40
- 0 DENTRON HF AMP MLA2500B \$425
- 0 NYE VIKING 3000W ANT TUNER MBVA \$500
- 0 DESK AND SWIVEL CHAIR \$50
- 0 2M STRIP LINE FILTER \$20

Notes from HARC - 4

- will look into this.
- VE3DKJ Keith reported on the Christmas Dinner - Izzy's Restaurant 354 Main St West (at Locke), Wed 18 December 7:00 pm, tickets \$20 inclusive tax and tip, call Keith 529 1603, limited number still available.
- VE3LTD Paul, Membership, reported 142 paid up members as of 20 Nov 91.
- VE3RBH Ruth, Treasurer, reported a balance of 3691.44
- Motion by VE3DKJ Keith, seconded by VE3LTD Paul to authorize VE3TJB Ted to contact the Department of Communications on behalf of the Club to obtain a Special Callign for use during our 60th Anniversary year special events. Carried.
- Motion to adjourn by VE3RBH Ruth, seconded by VE3ZF Ed. Carried 10:29 pm.

Presidents: VE3OQG Fione Manges
Secretary: VE3DNB Ron Hawkes

VE3NCF REPEATER UPDATE

As you probably have noticed by now the intermod on VE3NCF VHF has virtually disappeared. Why we do not know. Some of the changes that have taken place are: we have cleaned up the roof area at the site of all loose metal, the pagers at the site have been moved downtown to the Century 21 building. These changes were not the reason why the intermod has stopped, although they have helped. There is still some intermod getting into the repeater but it is minimal. If you hear a lot of intermod it is now probably being picked up directly by your radio. If you live downtown the intermod has really gotten bad because of the pagers' relocation. We hope to install a sub audible tone on the transmitter to allow radios with tone decoders to reduce problems with the intermod. This will still allow all members to have full use of the repeater. If you do not have tone decoding on your radio it will not help you, and you might hear a slight hum on the signal. The receiver in the repeater will NOT have tone decode so you will not need a tone encoder to access the repeater.

VE3NCF UHF repeater has been off the air for a while but will be back on the air soon. It will be on the same frequency 444.075 or 449.075 m. The repeater is being built in my basement, that is why it is taking so long. It might not be too fancy when it first gets back on the air but we will be making improvements. The repeater that was up there was the property of the past Club president VE3JTO Mike who was gracious in loaning it to the Club during the past year. It is now operating in the Ottawa area where Mike has moved.

During the summer and fall, the repeater crew (VE3LTD, VE3NYC, VE3SCH, VE3TJB, VE3TTO) have been busy at the site doing clean-up and antenna tear down. We now have two large cabinets, a 4 bay commercial UHF antenna, 2 UHF yags and lots of hardline and connectors. It was a lot of work getting the stuff but it will come in handy for the repeater system.

73 de VE3OCT

The Swap Shop: Wanted - 1

To list items:

VE3NCF (146.76) Tuesdays 8 pm. OR Call Ted (VE3TJB) 578-9266 or Ralph (VE3BYN) 388-6146 or Rich (VE3ANB) 547-8192. OR Leave message on the VE3DC Packet BBS (145.590 MHz) or via modem on BBS at 575-4745 (pick your password) to Ted Boestamp.

4 DEC 1991

- VE3AGG SID, (416)389-2861
- 2 MINATURE CERAMIC CAPACTORS 0.02UF 1000V

- VE3CIB BOB, (416)383-2054
- 3 MANUAL FOR HEATHKIT EF3 SIGNAL GENERATOR
- APPLICATIONS TRAINING PACKAGE

- VE3IZY WAYNE, (519)653-5759
- 3 4-10KV OR 20KV 500PP DOORKNOB CAPACTORS
- 4-ELMAC SOCKETS SK620A + CHIM-NBY'S SK626
- NATIONAL VEL VET VERNIER DIAL MECHANISM
- 1 YAESU BASB MIC YD&44
- YAESU RECEIVER FR101D
- VE3NTZ FRANK, (416)389-0114
- 3 TOUCH TONE DECODER

- VE3OKA EARL, (416)389-4307
- 2 DIGITAL RBA DOUT FOR FT101B MODEL V0501

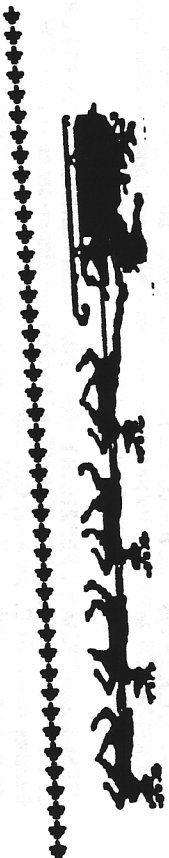
- VE3FRK EARL, (519)928-2020
- 2 MANUAL FOR KENWOOD 205 HAND-HELD

- VE3NCR BILL, (416)945-3579
- 2 PRO-8 SCANNER
- 1 KENWOOD TR.7990 2M RIG

- VE3YR BILL, (416)664-3350 OR 692-4998
- 1 JOHNSON MATCHBOX TUNER

- VE3ZRB RICE, (416)330-7064
- 1 UHF MOBILE RIG 25W

- VE3DEO MORRIS, (416)633-1721
- 1 SWAN 270A OR 270B HF RIG WORK-ING OR NOT



FROM THE BULLETIN BOARDS - 2

BULLETIN 36 (PACKET CRLE036) FROM CRRL, LONDON, ONTARIO 1991 DECEMBER 1

Item 1: WARC-92 is now only three months away. Canada's Defense of Amateur Radio Fund (DARF), established to assist IARU, the International Amateur Radio Union, with its work at WARC-92, now stands at \$22,445.87. If you have not yet contributed to this fund, please consider doing so now. Send your cheque to DARF, c/o Tim Ellum, VE8SH, 107 Strathcona Rm., SW, Calgary, AB T3H 1K5.

Item 2: Dave Noon, VE3IAR, is CRRL's new Awards Manager. He replaces Garry Hammond, VE3XN, who retired from the post earlier this year. Dave, well known on the HP bands, will be issuing the Worked All QST awards, acting as a checkpoint for the IARU Worked All Continents (WAC) awards and certain awards issued by IARU member-societies, and forwarding awards sent by IARU member-societies to CRRL. Dave can be contacted through the CRRL Headquarters office, Box 56, Arva, ON N0M 1C0.

Item 3: CLARA, the Canadian Ladies' Amateur Radio Association, will be celebrating its 25th anniversary next year. Check out an upcoming QST Canada for details of a special CLARA contest to be held on March 17.

Item 4: South of the border, the Technician license -- available with and without Morse code -- has become the license of choice for those entering the US Amateur Service. Last September was typical: the number of first-time Novice licenses was only 679, while the number of first-time Technician licenses was 1680.

Item 5: Amateurs everywhere will be saddened to learn of the passing of Jean Evans, VE3DQG. For many years, Jean was president of the Ontario Trilliums, manager of the CRRL VE3 Incoming QSL Bureau and manager of the CARF Outgoing QSL Bureau. In 1986, she was named CRRL Amateur of the Year.

UPCOMING EVENTS

ARRL 10-Metre Contest	December 14-15
CARF Winter Contest	December 29
ARRL Straight Key Night	December 31-January 1
ARRL RTTY Roundup	January 4-5
NCJ North American QSO Party - CW	January 11-12
NCJ North American QSO Party - phone	January 18-19
CQ WW 160-Metre CW Contest	January 24-26

73 DE VE3GRO @ VE3GTQ, CRRL, BOX 56, ARVA, ON, N0M 1C0

Notes from HARC - 1

THE PRESIDENT'S MESSAGE

Best Wishes to Members, Family and Friends of the Hamilton Amateur Radio Club. May you have a pleasant Holiday Season with loved ones, and may the New Year bring you success and joy.

73, VE3OQG Flore

BITS AND PIECES

VE3RBH Ruth has received a job offer she can't refuse - in Florida. As of 1 January, she and VE3DNB Ron will be moving south into the sun. While our hearts go with them (I will be thinking of them, I'm sure, whilst digging my car out of the driveway), this leaves a gaping hole in the Executive board. The Constitution now requires the board to appoint two new executive members from among the general membership of the club. The positions to be vacated are Treasurer and Secretary, and these are probably but not necessarily the jobs to be filled. If you have any interest, ability, or are just feeling public-spirited (or guilty that you haven't contributed much to the Club), contact the chairman of the ad-hoc Search Committee, VE3DKJ Keith 529 1603.

The DECEMBER EXECUTIVE MEETING will be held FRIDAY DECEMBER 20, 1991 at 7:30, Red Cross Building. PLEASE NOTE THE CHANGED DATE!!! I guess the exec figured the turnout wouldn't be that great on the fourth Wednesday of the month (the 25th). All Club members are quite welcome to attend these executive meetings.

A new EMERGENCY COORDINATOR has been appointed. VE3SNP Stuart will be taking over the reins of this very responsible and demanding position. Stuart is no stranger to emergency work, having been ARCS emergency coordinator in Northern Manitoba, and having been involved in many related exercises and events.

The 1991 FLBAMARKET, run by committee this year, was a resounding success. As noted in the minutes elsewhere in this bulletin, a cheque representing net proceeds from the event was turned into the Club vault. The amount was \$3139.02. This amount is comparable to the money the club receives from MEMBERSHIP DUES!! VE3DKJ Keith has been appointed FLBAMARKET CHAIRMAN for 1992, and he is looking for a capable EXECUTIVE ASSISTANT to work with him this year, with an eye to heading the event in 1993.

The TREASURER VE3RBH Ruth submitted her report to the November executive meeting. Balance forward from last month- \$3541.44 plus membership dues of \$50.00 plus Fleamarket revenues of \$139.02 plus other revenues of \$5.00 minus outstanding cheques of \$70.03 gives a balance of \$6825.43.

The Auditor's Report for 1990/91 has been prepared but time does permit insertion in this month's bulletin. Look for it in January.

THE HAMILTON AMATEUR RADIO CLUB

BOX 91215 Effort Square Postal Outlet, Hamilton Ontario Canada L8N 4G4

CLUB MEETINGS:
8:00pm on the 3rd Wednesday of each month except for July & August (special arrangements are often made for the December meeting as well), in the Nash Auditorium, Chedoke Hospital. Non-members & friends are welcome - coffee and donuts on the house!

EXECUTIVE:
Meets at 1930 on the fourth Wednesday of the month, except June & July, in the Radio Room, Red Cross, 400 King Street East.

STATION:
An emergency radio station is maintained in the RED CROSS, HAMILTON BRANCH (400 King East).

MEMBERSHIP:
\$25.00 per year with a common renewal date of September 1. Included is a subscription to the club bulletin. Additional Family Memberships (no bulletin) \$1.

EDUCATION:
Call Bernice (VE3BKY) or Stan (VE3GFB) for information on Amateur Radio training opportunities. Phone numbers are on the front cover. Licence testing on the 2nd Wednesday of the month (with appointment).

REPEATER:
VE3NCP, Located on the Hamilton escarpment it is available for use by any amateur. Input: 146.16 Mhz. Output: 146.76 MHz. Part of the VE3RPT Link system. Contact a member of the Club Executive for information concerning Emergency use, Autopatch, Mail-boxes, Links etc.

FIELD-DAY:
HARC operates a multi-station site during Field-Day. Contact coordinator Ev Englelt, VE3OQX, for information. His number can be found on the front page.

SWAP-NET:
Every Tuesday at 8:00 pm on VE3NCP (146.76/16) except July & August. Contact Ted, VE3TJB if you have items to buy or sell. Swap Shop listings are also available on the club's pocket bulletin board station VE3DC operated by VE3JSJ on 145.390 FM.

FLEA-MARKET:
Held during September each year at the Ancaster Fair Grounds. Note that the flea market has both indoor and outdoor sales facilities. Call to reserve tables/power.

BULLETIN:
"The Hamilton Amateur" the official news bulletin of the club, is published 10 times a year and sent to all full club members (family members share a bulletin) during the first 2 weeks of the month (except July and August).

SHIRTROCKET/PACKARD

PAUL'S MITHENZY

and send this item to us, arrived in the mail on the 1st. It's a Hyperland Scientific Calculator programme for Pocket Packet. Paul will try to get the programme listing to us before press deadline. Failing that, he has included his address, street & Packet Thanks for this

great article Paul, sure packet Bill Duncan's interest when I told him about it. Bill (VE3ED) is a professional programmer and HP guy, who will write great stuff for the HERMETT PACKARD Programmable Scientific Calculator among his other commercial projects.

FROM THE TORONTO PC COMPUTATIONS SOCIETY INC NEWSLETTER

Since I've just signed on with TRACCS, most of you probably don't know me (except perhaps if Lynn BEG, John POL, and Van ARV recall their visit to the Toronto club). I've been a ham for two years and in packet for one, and I'm currently in college.

While I enjoy getting on the air with the packet, party to get away from the books, and party because I think it's so interesting. We have a club station at school (K6JRS - perhaps you've heard the call on 10m?) which has a packet setup, but I don't always get to the shack when I want to. What I needed was a QRP station of my own - something I could carry around in my backpack (love notes the abundance of backpacks around campus) for whenever the packet bug struck.

The first step was to get a portable rig - easy enough, already had it. I use a Yaesu FT-411. Second, to find a portable TRC. Heretofore has a nice unit about the

size of a deck of cards, and will run on an internal re-charge pack. This model is HK-21 and it's got some neat features to boot. It's a bit pricy for a college student, but hey - it's for them, right?

Lucky, I needed a display terminal, I wasn't willing to shell out the cash for a laptop, because, it's kind of overkill for this application and it's also a bit too bulky. So I turned to my programmable calculator (which, like backpacks, are all the rage among students at engineering schools). I had just bought a Hewlett Packard 19748, and it had just what I needed - a small LCD port, and 32k of memory. All I needed was to write a program to emulate an ASCII terminal, since HP didn't build this in fact for this feature in the next HP product - a "terminal" got - no problem, right?

Well, a few months and much coffee later, a colleague and good friend of mine, Paul Bernack (K6DNO, K6COON), and I had a working version together.

It performs the basic functions of a terminal, and will display 10 lines by 30 characters - a nice standard for the 80-column format of most BBS's, but will pretty good for a calculator. We have ideas for all kinds of features for future versions, including

text filtering and formatting, scripts or macros (such a hardware BBS' or split-screen for multiple-connection), as well as a few others. Another interesting note is that the HP even has a terminal emulation built on at a certain time and date, for scheduled packet operations. If you're interested in hearing if you have seen anything like this, or if you have any suggestions for features you think might make the terminal program better. If you are inclined to share some code, or have any questions, feel free to get hold through TRACCS or send a note through W3SEK, W4VY, W4VNA, USA. Packet address is not current.

