A CW CODE OSCILLATOR, Continued

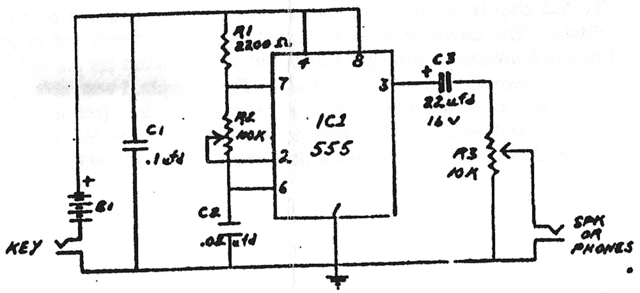
PARTS LIST

R1	2200 ohm (any size from 1/4 watt and up)
R2	100k variable (preferably linear taper but any will work)
R3	10k variable (audio taper volume control)
C1	0.1 microfarad (disc, mono or polyester)
C2	0.02 microfarad (disc, mono or polyester)
C3	22 microfarad (16v DC or higher)
IC1	NE555 IC chip (TLC555 or MC1455 also work well)
Misc	9v battery (or any voltage from 6 to 12), battery clip (made from a dead 9v battery), IC socket (8 pin or larger one cut to size), speaker or headphones (8 ohms preferred) plus jacks, knobs and box of your choice.

PARTS AVAILABILITY

All parts used are noncritical and readily available from the junk box. If you haven't collected a parts junk box yet, the best source I have found was an old CB radio. These are often sold at ham fleamarkets for a dollar or less. They are usually the 23 channel variety, and non functioning, but a great source of parts. All parts except the battery, chip and socket can be obtained from one CB chassis. The battery, a garden variety 9 volt type, is the most expensive component! Shop around a bit for the 555 chip. Prices locally vary from 37 cents to $2.79 for new ones and surplus chips may be cheaper. If you pay more for the socket than the chip as I did, then you know the chip was a bargain. Even more money can be saved if you go together with a buddy and buy 'in bulk' - the cost of two sockets or chips in a bubble wrap package can be shared to reduce the cost 50%.

The project is an excellent introduction to IC construction and experimentation, and with a bit of creativity you will produce a professional looking operational piece of equipment. So have fun, and good luck picking up your morse code.



The Hamilton Amateur

October 1991

(Established 1932)

Canadian Warplane Heritage Museum

Meeting: 16 October 1991 - 20:00 hrs

Nash Auditorium - Hamiliton

HARC EXECUTIVE FOR SEPTEMBER 1991/92:

PRESIDENT:	VE3OQG	Flore Manga	578-1789
PAST PRESIDENT:	VE3SON	Jim Walsh	689-6839
VICE PRESIDENT:	VE3GCP	Fred Robinson	575-5197
VICE PRESIDENT:	VE3OQX	Everett Englert	385-0829
SECRETARY:	VE3DNB	Ron Hawkes	383-7526
TREASURER:	VE3RBH	Ruth Hawkes	383-7526
MEMBERSHIP:	VE3LTD	Paul Webb	574-0818

HARC COMMITTEE CHAIRPERSONS FOR 1991/92:

AWARDS & CONTESTS:	VE3TTH	Scott Hamilton	385-3014
HISTORIAN:	VE3BLG	George Olenick	383-7338
PROPERTY:	VE3DWJ	Dave Bruton	383-9808
BULLETIN EDITOR:	VE3SON	Jim Walsh	689-6839
EDUCATION:	VE3EKY	Bernie Granby	527-7175
EMERGENCY COORD:	VE3NYC	Paul Hazen	
FIELD DAY COORDINATOR:	VE3OQX	Everett Englert	385-0879
FLEA MARKET:	VE3TTH	Scott Hamilton	385-3014
HEALTH & WELFARE:	VE3GFE	Stan Bollbruch	528-4002
PROGRAMS:	VE3GCP	Fred Robinson	575-5197
PUBLIC LIASON:	VE3GCP	Fred Robinson	575-5197
HOSPITALITY COORD:	VE3OGQ	Mary Urbanski	388-8383
CHRISTMAS DINNER PLAN:	VE3TTH	Scott Hamilton	385-3014
SWAP NET CONTROL:	VE3TJB	Ted Boerkamp	578-9266
REPEATER:	VE3OCY	Don Graziano	560-1960
TECHNICAL:	VE3OCY	Don Graziano	560-1960
VE3DC LICENCEE:	VE3FHQ	Glen Gibson	385-2786
VE3NCF LICENCEE:	VE3OCY	Don Graziano	560-1960
VE3RCB LICENCEE:	VE3NYC	Paul Hazen	
DESIGNATED EXAMINERS:	VE3EKY	Bernie Granby	527-7175
	VE3DKJ	Keith Johnson	529-1603
	VE3GCP	Fred Robinson	575-5197
	VE3SMF	Stuart Fedak	628-4131

SpaceNews

* HAM RADIO HEADS BACK TO SPACE *

NASA astronauts Brian Duffy and David Leestma have recently passed the Tech Class amateur radio operator license exams plus plus 5 WPM code at a W5YI-VEC Houston testing session.

Duffy is currently assigned to be pilot on STS-45, Atlantis, which is scheduled for launch in May 1992. Leestma is assigned as a Mission Specialist on the same flight. Both are currently awaiting their amateur call letter assignment. SAREX (Shuttle Amateur Radio Experiment) is requesting FCC waivers so they can operate from space.

Atlantis will carry a total crew of 7 on an 8 day mission. Because of space and power limitations, they will be restricted to battery powered FM voice operation on two meters. But they will fly a high inclination orbit, much like those flown by Owen Garriott/W5LFL and Tony England/W0ORE (57 degrees) so they will pass over most of the populated areas of the world. This will include good coverage of the United States.

As planned, this will be a CQ mission, meaning there will be several attempts to work as many hams as possible. There will also be some school contacts arranged. Working details will not be available until approximately 60 days before the launch. SAREX plans to release the time table and frequencies as soon as they are available, probably around March 1992.

The mission's prime objective will be to use an Atmospheric Lab for Applications and Science, that will be carried in an igloo in the payload bay.

* SATELLITE OF THE WEEK *

The "Satellite Of The Week" feature is in response to numerous requests for amateur satellite transponder passband and beacon frequency information. All active amateur satellites will be covered in upcoming weeks.

Name : AMSAT-OSCAR-20, NASA Catalog Number: 21087, Launched on 29-Jan-90
Orbit : Low-altitude, circular

AO-21/RS14 is a multi-function satellite supporting Mode B analog transponders as well as a multitude of digital store-and-forward modes. Unfortunately, post launch electronics problems have confined operations to limited Mode B transponder #2 communications.

Transponder #2:	
UplinkPassband:	435.123 to 435.043 MHz (100 watts EIRP)
Downlink Passband:	145.866 to 145.946 MHz (10 watts Maximum)
CW Beacon:	145.948 MHz (0.2 watts)
Digital Beacon:	145.838 MHz (0.4 watts, FM)
Digital Beacon:	145.800 MHz (2.0 watts, FM)

MESSAGE FROM YOUR PRESIDENT

September 18, 1991 General Meeting it was a good turn-out. Our guest speaker Don Knapp, he did a really interesting and a professional presentation. He elaborated on the Red Cross, Canada, and all around the world. He also reminded all Club Members to Donate Blood for a good purpose to help other people, but I feel if we contribute to donate blood it could be a day tomorrow which we need that, and we know they are there for us. (Thanks very much Mr. Knapp, for the good work)

Please contact your Red Cross office, at 400 King Street East, Hamilton, Ontario.

At the executive Meeting September 5th, 1991, our speaker co- ordinator (Mr. Fred Robinson), he presented a full list of upcoming guests speakers. I don't want to elaborate too much on the upcoming events, so please attend your regular General Meeting for update.

Let's see you there!!

73 Fiore Manga VE3OQG

DONORS OF DOOR-PRIZES FOR THE FLEAMARKET

Let's thank and patronize the following businesses and individuals who donated prizes to make our 9th Annual Fleamarket such a success:

Glenayre Communications Inc- 979 Main St E, Hamilton L8M 1N2 549-3042	1/4 wave 2m whip
Grote Electric- R.R.#1, Caledonia N0A 1A0 765-2926	two wire cutters
CHML- 875 Main St West, Hamilton L8S 4R1 521-9900	sweatshirt
Servicom Communications- 26 Garden Ave, Stoney Creek L8E 2N9 578-5467	two 1/4 wave 2m antennas
Hamilton Spectator- 44 Frid St, Hamilton L8N 3G3 526-3333	cushion and cooler
Stirling Printall- 574 King St East, Hamilton L8N 1C4	pads,pens,ruler,mug
Sam the Record Man- 17 King St East, Hamilton	compact disc and casettes
Redwood Inn- 443 Highway 20, Stoney Creek L0R 1P0 692-4995	dinner for two
Black Forest Inn- 255 King St East, Hamilton 528-3538	dinner for two

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 Boerkamp.

VE3NHK ROGER, (416) 547-4311
1 2M LINEAR AMP 100W+ OUT WITH 2,5 OR 10W IN MOBILE 6M RIG AND ANTENNA

VE3JIS JACK, (416) 648-6443
1 20A REGULATED PWR SUPPLY
o 300W TUNER FOR HF

VE3UNI JOHN, (416) 575-0784
1 INFO ON MINI-CAT JACK ON THE YAESU FT727R H.H. FOR INTERFACING PURPOSES

VE3SQD MIKE, CALL RICK VE3RPS (416) 383-2321
1 6M LINEAR AMP 50W OUT

VE3DEO MORRIS, (416) 633-1721
3 RED L.E.D. DIGITS FND-507
o SWAN 270 HF RIG

VE3DNB RON, (416) 383-7526
2 10M HUSTLER COIL
1 20M BEAM 3 ELE OR LARGER

VE3LJY VIC, (416) 765-4510
2 MANUAL FOR DRAKE TR3

VE3BTS EUGENE, (416) 529-0952
2 A STRAIGHT MORSE KEY

VE3RKK BOB, (416) 572-0843
2 VHF UHF ANTENNAS FOR OSCAR PREFERABLY HYGAIN 218S AND/OR CUSHCRAFT AOP1

VE3WLH LEE, (416) 637-6595
2 2M HYGAIN BEAM FOR APARTMENT USE

VE3OIK BOB, (519) 576-4216
2 PARABOLIC DISH FOR 10 GIGAHERTZ,19-36 INCH DIA.

VE3IZY WAYNE, (519) 653-3759
2 YAESU RECEIVER FR101D

VE3IMD IVAN, (416) 278-0418
2 BENCHER PADDLE

VE3PKY CHRIS, (416) 547-3169
1 MANUAL FOR HW20, OLD 2M CW AM RIG 1/4 IN. FERRITE SLUG TUNED COIL FORMS (3)

VE3JSO JACK, (416) 388-7419
1 MODIFICATION MANUAL FOR YAESU FT227RA

VE3JCO JACK, (416) 561-8664
1 DUMMY LOAD MIN. 100 WATTS

VE3TRK JERRY, (416) 227-8774
1 MOUNTING BRACKET FOR ALINCO ALD24T MOBILE RIG

VE3BEJ JIM, (416) 547-3358
1 MANUAL FOR HEATH SB301 CONVERTER 10M TO 6M

VE3WSW WALT, (416) 544-0200 AFTER 5:30PM
1 MANUAL+SCHEMATICS FOR HW32A 20M RIG

VE3CRB JOHN, (416) 244-1292
1 ACCESSORIES FOR FT727R DIGITAL MULTIMETER FLUKE OR SIMILAR

Miscellaneous

THE FOLLOWING LETTER was to be published in last month's bulletin, but was not received by the editor on time. The views expressed in it represent the views its author, and may or may not represent the feelings of individual members of the Hamilton Amateur Radio Club:

For the clubs information:

The licencee for VE3TBF and the past president took it upon themselves to change the direction of the antenna for the BlackFly repeater. This was done in May and then publishedin the TFM bulliten. The executive and membership was informed and asked to approve of this action at the general meeting on July 1.

It was generally accepted that the change was of a temporary nature and that if anything that was unacceptable or derogatory to this move, a motion of the board of directors would be used to have the antenna put back to its origional position.

Due to the change of the antenna some of the membership could no longer access the system except through a link from Ve3WPR. On checking the new footprint of Ve3TBF I found that there was now a great overlap in coverage with the StCatharines repeater. In actual fact I could now work the Black Fly as far south as the RPT hub at Uxbridge.

After receiving several complaints from members of Ve3NRS and comments from members of Ve3TBF about co-channel interference,I called a board meeting.

The results of this meeting was as followes:
1. The antenna was to be returned to its origional position.
2. The Sinclair radio CO. was to be asked about a different antenna system to solve the problem.

The repeater licencee has refused to change the antenna .

The co-channel interference still exists.

It is the expressed opinion that the Black Fly club is no longer under the control of the Board of Directors. It was with regret that I submitted my resignation of President of TBF.

Anyone having concerns about this subject may express their opinions to the Southern Ontario Western New York Repeater Council or Secretary Treasurer TBF Mr. George Laidlaw Ve3PLR Pickering Ontario.

Yours Truly,
Paul Hazen Ve3NYC

VE3MWD SERAFINO, (416) 662-4526
o 3 ATI EGA WONDER CARD VIDEO BOARD FOR IBM COMPATIBLES, WITH FLOPPYS AND MANUAL $125

VE3XBR BRIAN, (416) 575-9733
3 ICOM U4AT 440 HANDHELD,10 MEM CH.,RUBBER DUCK,RAPID CHARGER, STANDARD CHARGER, 2-BP21 BATTERY PACKS, CARRY CASE $400

VE3UDX RAY, (416) 688-0130
3 11 ELE 6M BEAM KLM 30FT BOOM $140

VE3NYX RENZO, (416) 521-1064
2 SHORTWAVE RECEIVER, ALLIED SX-190 GOOD CONDITION WITH MANUAL $150

VE3JSJ GORD, (416) 575-3647
2 HAPN BOARD - PACKET TNC 1200 BAUD $125
o FAX CARD 9600 BAUD SEND + RECEIVE WITH TEXT AND GRAPHICS EDITORS $125

VE3LMS GRANT, (416) 544-4151
2 HEATH HW8 QRP RIG, COVERS 15,20,40,80 2 WATTS OUT, WITH PWR SUPPLY,MANUAL HAS RECEIVE INCREMENT TUNING CCT AND CRYSTAL CALIBRATOR ADDED. PAIR OF HEADPHONES $100

X

VE3XXT PAUL, (416) 530-4008
2 ATI EGA WONDER CARD VIDEO BOARD FOR IBM COMPUTER $100
o SONY AN-1 ACTIVE INDOOR ANTENNA $100

VE3CRB JOHN, (416) 244-1292
2 CODESTAR CODE READER, READS RTTY, CW, ASCII 8 CHARACTER 14 SEGMENT ALPHANUMERIC DISPLAY, 12V DC PWR SUPPLY, ALL BRAND NEW $250

VE3HLI GERRY, (416) 528-7688
1 GENERAL COVERAGE RECEIVER, LAFAYETTE KT200 COVERS 550KHZ TO 30MHZ WITH MANUAL ~~$100~~ 85 O.B.O.

VE3DVV JOHN, (416) 692-3802
1 EPROM PROGRAMMER CARD FOR MS/DOS COMPUTERS HANDLES UP TO 512 SIZE EPROMS, MADE BY MODULAR CIRCUIT TECHNOLOGY, UPP 512 $120 O.B.O.

VE3IMD IVAN, (416) 278-0418
1 APPLE 2+ CLONE COMPUTER, 2 D/D, 100K CARD, Z80 CARD, MODEM, WILD CARD, AND PRINTER CARD $ 120

In the early days of my practice when we were both R.C.A.F. veterans, we played cribbage in my empty office. As time progressed, our careers paralleled, our lives intertwined - we married, had children, and enjoyed the salty masculine friendship that found its zenith in competitive golf. Over the years we ended up even, but no joy of the week exceeded that of winning the coffee after a round of golf!

On a more serious note, we were concerned about our community. We discussed many goals and problems of the community. We discussed the nuts and bolts of conducting a group medical practice. As recently as a few weeks ago, Jack demonstrated his interest in these problems and as usual had some sage advice.

I do not wish to make the long well-known list of his community and medical achievements. By now these are well known to everyone.

Let me recount a simple story. A colleague of mine was having some delay in acquiring her privileges at McMaster. I spoke to Jack for her and he cut through the red tape. He promoted her application and the deed was done. Later Jack said to me in mock seriousness, "You owe me one."

Let me answer Jack now - No, I do not owe you one. I owe you a hundred and one.
I owe you for your friendship.
I owe you for your wisdom.
I owe you for your warm smile.
I owe you for the outstanding role model you have been.
I owe you for the hours you cried with me when our family had its problems.

Now cracks a noble heart - good night sweet prince and flights of angels sing thee to thy rest.

AWARDS AND CONTESTS

The Hamilton Amateur Radio Club has several regular awards and contests open to its members. Past Awards and Contests Chairman VE3AAH Gordon summarized them for us:

1) ORDER OF THE GAVEL --- JANUARY
Given to the retiring H.A.R.C. President

2) ORDER OF THE GAVEL CW OPERATING --- FEBRUARY
Given to the Club member who has made the most CW contacts during the previous calendar year. Certain requirements and credits are involved.

3) ORDER OF MERIT --- MARCH
Given to a member or past member of H.A.R.C. Receiver must have performed more than is required of an officer or member. Results must provide greater interest and enjoyment to the Club.

It is my intention to have 3 or 4 hams to work in different shifts, and I would be happy to hear from you if you would like to help.

This seems to be a very different and interesting Public Relations effort for the Club, so call me at 387-2424 or 575-5197 or contact Stan VE3GFE at 528-4002 or on the air.

P.S. if you have not already got it figured out, the SPEBSQSA stands for:
Society for the Preservation and Encouragement of Barbershop Quartet Singing in America.

Thanks,
Fred Robinson VE3GCP
Public Relations/ V.P.

From the Windsor Amateur Radio Club Bulletin

SOMETHING LOST IN TRANSLATION

OUTSIDE A HONG KONG TAILOR SHOP;
'Ladies may have a fit upstairs'.

IN A BANGKOK DRY CLEANERS;
'Drop trousers here for best results'.

IN A NORWEGIAN COCKTAIL LOUNGE;
'Ladies are requested not to have children in the bar.'

ON THE DOOR OF A MOSCOW HOTEL ROOM;
'If this is your first visit to the U.S.S.R., you are welcome to it.'

IN AN ACAPULCO HOTEL;
'The manager has personally passed all the water served here.'

IN A ZURICH HOTEL:
'Because of the impropriety of entertaining of guests of the opposite sex in the bedroom, it is suggested that the lobby be used for this purpose.'

The Junk Box
(identifying capacitors)

Several months ago I found the time and energy to organize my junk box. I came across a lot of items that I could not put a value to so I did a little research in the handbook and came up with some information that may be of interest to anyone who wishes to do the same.

Firstly , I would like to emphasize that all the information I'm about share with you comes directly from either the ARRL HANDBOOK, QST or some other ARRL publication. The Handbook is a good source of information, so don't be afraid to use it!

Air Variable Capacitors

Everyone has a few of these tuning capacitors laying in their junk box, scavenged from dads' old broadcast radio.

But what capacitance do they have? Are they in the pf (pico-farad) range or uf (micro-farad).

A good place to start is to make a few measurements and a few notes. First, what area does one plate occupy? This can be determined by using a small ruler and eye-balling the diameter of the plate. Record the diameter and divide this figure by two to get the radius. Using the simple equation 'pi*(radius^2)' [pi is 3.14159 and the ^ means "to the power of"] we can calculate the area of the plate.

Divide this figure by two for the area of one side of the plate.

While you still have that ruler out eye-ball the separation between the plates (unmeshed) and make a note of the figure.

The last thing to do is to count the number of plates on one half of the capacitor.

Using the formula in chapter 2 of the handbook we can calculate the rough minimum capacitance of one half of our capacitor.

$$C = \frac{0.224 * KA * (n-1)}{d}$$

where C= capacitance in pf
K= dielectric constant of material between plates
(constant for air= 1)
A= area of one side of one plate in square inches
d= separation of plate sufaces in inches.
n= number of plates

TO CARE FOR THE MOST NEEDY FIRST. THIS ORGANIZATION IS A VOLUNTARY ORGANIZATION AND IT REMAINS NEUTRAL WHILE RESPECTING THE LAWS OF ANY COUNTRY IT IS ASSISTING.

AFTER THE SECOND WORLD WAR THE RED CROSS TURNED TO MANY FIELDS TO ASSIST THE NEEDY. THE MOST FAMOUS OF THIS IS OF COURSE THE BLOOD DONATION PROGRAM. THE RED CROSS COLLECTS THOUSANDS OF UNITS OF BLOOD AND PRODUCTS EACH YEAR. THIS SERVICE IS ONE THAT IS USED BY PEOPLE FROM EVERY WALK OF LIFE. NOT JUST THE BLOOD IS USED OR NEEDED. THERE ARE MANY PARTS OF THE BLOOD THAT ARE NEEDED FOR PEOPLE WITH VARIOUS TYPES OF DISORDERS IN THEIR OWN BLOOD. THERE IS ALWAYS A NEED FOR BLOOD AND THESE PRODUCTS. THEREFORE BECAUSE EACH OF US NEVER KNOWS WHEN WE WILL NEED TO AVAIL OURSELVES OF THIS SERVICE WE SHOULD ALL TRY TO GIVE "THE GIFT OF LIFE" AND DONATE SOME BLOOD TO THE RED CROSS. IF WE ALL DID OUR PART THERE WOULD NEVER BE A SHORTAGE WHEN THE NEED ARISES.

OTHER SERVICES THAT THE RED CROSS DOES THAT ARE NOT SO WELL KNOWN ARE:

FIRST AID... PROGRAMS THAT TEACH BASIC FIRST AID, BASIC HEART SAVER ANDCPR. ETC.

WATER SAFETY... SWIMMING LESSONS FOR CHILDREN.

COMMUNITY SERVICES... ONE OF THE LARGEST SICKROOM EQUIPMENT RENTAL SERVICES IN ONTARIO. LOANS OUT THINGS THAT PEOPLENEED TO CARE FOR THEIR LOVED ONE AT HOME.

FRIENDS... A PROGRAM TO HELP THE ELDERY BY SHOPPING ANDVISITING PEOPLE IN THEIR HOMES.

TRANSPORTATION... DRIVING THE ELDERY TO MEDICAL AND REHABILITATIVE APPOINTMENTS.

THE RED CROSS IS FUNDED 85% BY THE UNITED WAY. THE REST IS RAISED THROUGH PRIVATE DONATIONS AND SOME GOVT AGENCIES.

THE HAMILTON AMATEUR RADIO CLUB IS IN A UNIQUE POSITION TO ASSIST THE RED CROSS. WE CAN HELP BY FIRST DONATING SOME OF OUR BLOOD AND SECOND BY DONATING SOME OF OUR TIME TO ASSIST IN EMERGENCY PREPAREDNESS PROGRAMS. THE FIRST WE ONLY HAVE TO CALL THE RED CROSS AND GO DOWN TO SEE THEM, THE SECOND WE CAN CALL PAUL HAZEN OUR EMERGENCY CO-ORDINATOR AND OFFER SOME OF OUR TIME FOR ANY PROGRAMS THAT HE HAS PRESENTLY UNDERWAY OR ANY PROGRAMS THAT HE MAY DEVELOP IN THE FUTURE TO TEST OUR AVAILABILITY TO BE OF SERVICE TO BOTH OURSELVES AND OUR COMMUNITY.

Polarized capacitors (Electrolytic and Tantalum)

These capacitors tend to be strictly in the uf range. Common values are from 1uf all the way to 50000uf.

The markings on electrolytic capacitors are fairly straight-forward and usually have the capacitance in uf (some manufacturers use 'mf' to denote micro-farad!), the voltage rating and a mark (usually a + or -) to denote polarity.

The markings for tantalum capacitors are similar but sometimes the manufacturer will use the 'u' for a decimal place. For example a tantulum capacitor marked '2u2' is a 2.2uf capacitor and not a 22uf! A 22uf will be marked 22u.

Some words of warning about using these capacitors. Do not exceed their recommended voltage rating and be careful to hook them up with the correct polarity or they will explode!!

Using a grid dip meter to determine capacitance

I purchased a grid dip meter a few years ago at a flea-market and I find it to be one of the most valuable tools in the ham shack.

With it I can determine the resonant frequency of antennas and other tuned circuits. I can determine the value of unknown inductors and I can determine the value of unknown capacitors!

To determine an unknown capacitance we need to place our unknown capacitor in parallel with an inductor of known value. Fortunately if you own a grid dip meter then you have a whole box full of these inductors! These are the coils that plug into the meter and if you look in the manual that came with the meter you should find their values.

When you have the capacitor and inductor in parallel then all there is to do is to inductively couple the meter to the circuit. You can do this by placing the grid dip coil close to and parallel with the coil in the circuit.

Next, you adjust the vfo on the dip meter until you find the deepest dip on the scale (this may require that you try several different frequency ranges).

When you have found the resonant frequency of the tuned circuit make a note of it and then use the formula:

$$C = \frac{10^6}{4 \cdot pi^2 \cdot f^2 \cdot L}$$

[again, the ^ means "to the power of" and pi is 3.14159]

Where C= capacitance in pf
f= frequency in MHZ
L= inductance in uH (of known inductor)

Oct 91

TFMCS LINK MAP
SEPT 1991

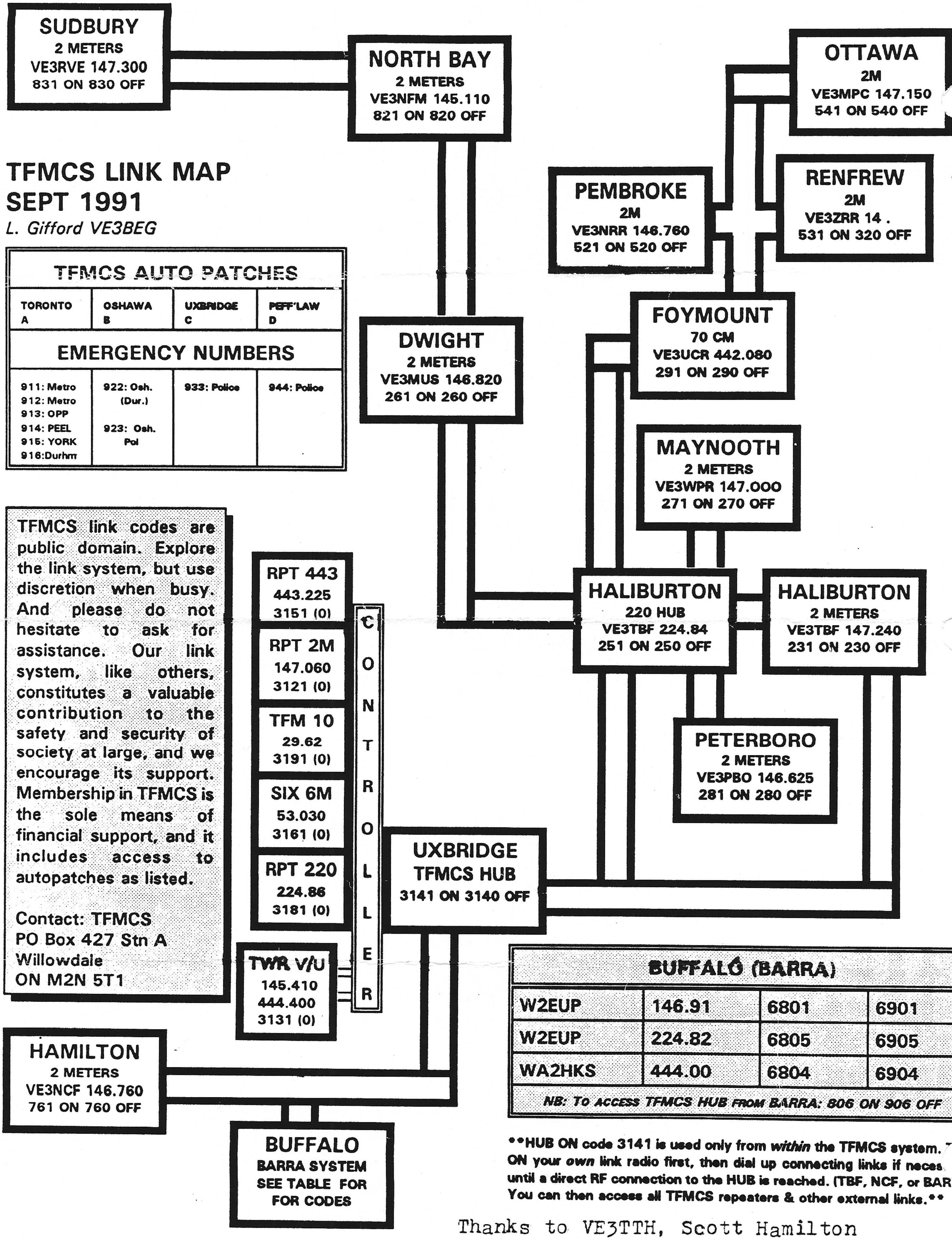
L. Gifford VE3BEG

TFMCS AUTO PATCHES			
TORONTO A	OSHAWA B	UXBRIDGE C	PEFF'LAW D

EMERGENCY NUMBERS			
911: Metro 912: Metro 913: OPP 914: PEEL 915: YORK 916:Durhm	922: Osh. (Dur.) 923: Osh. Pol	933: Police	944: Police

TFMCS link codes are public domain. Explore the link system, but use discretion when busy. And please do not hesitate to ask for assistance. Our link system, like others, constitutes a valuable contribution to the safety and security of society at large, and we encourage its support. Membership in TFMCS is the sole means of financial support, and it includes access to autopatches as listed.

Contact: TFMCS
PO Box 427 Stn A
Willowdale
ON M2N 5T1



BUFFALO (BARRA)			
W2EUP	146.91	6801	6901
W2EUP	224.82	6805	6905
WA2HKS	444.00	6804	6904
NB: To access TFMCS HUB from BARRA: 806 ON 906 OFF			

HUB ON code 3141 is used only from *within* the TFMCS system. ON your *own* link radio first, then dial up connecting links if neces until a direct RF connection to the HUB is reached. (TBF, NCF, or BARRA) You can then access all TFMCS repeaters & other external links.

Thanks to VE3TTH, Scott Hamilton

I have entered this formula in the computer in the form of a program so that it makes it quite easy to do several different calculations. But for the sake of experimenting, a calculator works just as well.

Well thats all for this month. Next month I will share with you my program that I use to calculate capacitance, inductance and resonant frequencies of a tuned circuit. And perhaps we can talk a bit about inductors.

73 for now.
de Grant VE3LMS

MINUTES - THE HAMILTON AMATUER RADIO CLUB GENERAL MEETING

SEPT 18 1991 8:00 PM

#1 MEETING CALLED TO ORDER BY FIORE MANGA VE3OQG.

#2 FRED VE3GCP INTRODUCED OUR GUEST SPEAKER MR. DON KNAPP EXECUTIVE DIRECTOR CANADIAN RED CROSS SOCIETY. MR KNAPP SPOKE ON HOW THE RED CROSS STARTED IN THE EARLY 1800's AND WHAT THEIR ROLE WAS BOTH IN NORTH AMERICA AND EUROPEAN COUNTRIES. HE SPOKE ON HIS OWN BACKGROUND IN THE ARMED SERVICES AND IN INTERNATIONAL PEACEKEEPING EMERGENCY PLANNING. MR KNAPP ASKED OUR PRESIDENT FIORE VE3OQG TO REQUEST THE CLUB MEMBERSHIP TO GIVE BLOOD AT THE RED CROSS CLINIC. HE WOUND UP HIS TALK WITH A QUESTION AND ANSWER PERIOD. FIORE VE3OQG THEN PRESENTED MR DON KNAPP WITH TWO OF OF OUR RADIO CLUB CRESTS.

#3 MEETING ADJOURNED FOR COFFEE AT 8:50 PM.

#4 MEETING RECONVENED AT 9:15 AND A VOTE OF THANKS TO MARY VE3OGQ FOR COFFEE AND DONUTS.

#5 FIORE VE3OQG BROUGHT TO THE CLUB ATTENTION THE ERROR IN THE PUBLISHED EXECUTIVE POSITIONS. PAUL VE3LTD HAS MEMBERSHIP AND NOT SECRETARY AND RON VE3DNB HAS SECRETARY AND NOT MEMBERSHIP.

#6 FRED VE3GCP HAS A RACE COMING UP ON SUNDAY SEP 29 91 AND ASKED FOR HELP WITH THIS RACE.

#7 FRED VE3GCP HAS RECEIVED A LETTER FROM THE HARVEST HOWL A BARBERSHOP QUARTET ASKING FOR HIS HELP. FRED VE3GCP WILL TAKE THIS MATTER UP AT THE EXECUTIVE MEETING.

#8 DOOR PRIZE WAS A CASSETTE HOLDER DONATED BY FRED VE3GCP, AND WON BY JOHN FABER VE3CNF.

#9 STUART VE3SMF GAVE A TALK ON THE ROMANIAN RADIO CLUB STATION AND HAD PICTURES TO SHOW THE CLUB MEMBERS. STUART ASKED IF ANY OF THE CLUB MEMBERS HAD ON HAND BOOKS OR RADIO EQUIPMENT THAT THEY COULD DONATE, HE IS ALSO LOOKING FOR SOME TUBES FOR THE FT101E.

#10 SCOTT VE3TTH WOULD LIKE SOME INPUT ON THE DATES OF DEC 20 & 21 FOR THE CHRISTMAS CLUB DINNER. SCOTT CAN BE REACHED AT 385-3014.

#11 SCOTT VE3TTH WOULD LIKE TO START A CONTEST CELEBRATING THE CLUB's 60TH ANNIVERSARY. SCOTT WILL GIVE MORE DETAILS AFTER THE NEW YEAR.

#12 ED VE3ZF REQUESTED THAT THE FLEA MARKET COMMITTEE SEND A LETTER THANKING STAN VE3GFE FOR HIS EFFORTS IN OBTAINING THE DOOR PRIZES AND TO HAVE THE FLEA MARKET COMMITTEE PUBLISH THE NAMES OF ALL STORES AND COMPANIES THAT DONATED PRIZES IN OUR BULLETIN.

#13 FRED VE3GCP MOVED THAT THE MEETING BE ADJOURNED, 2NDed BY MARY VE3OGQ PASSED AND CARRIED.

9:55 PM. SEPT 18 91
PRESIDENT: FIORE MANGA VE3OQG
SECRETARY: RON HAWKES VE3DNB.

H.A.R.C. and the HAMILTON RED CROSS

Don Knapp is the new Executive Director of the Hamilton Red Cross, and was the guest speaker for our first General Meeting of the season. A short synopsis of his talk appears elsewhere in this bulletin.

Brian Henley who does the "Heritage" column for the Spectator recently did a column on the Red Cross for the paper. Interestingly enough, the building which houses the Red Cross at 400 King St E, up until it's conversion in 1959, used to be a macaroni factory and car repair shop.

The Hamilton Amateur Radio Club (referred to as "the Hamilton Amateur Radio League") has had a room in that building since its inception as the local Red Cross Headquarters.

Don's speech contained a compelling plea for blood, plasma and platelet donation. A service that isn't reported in the synopsis is that the Red Cross maintains a "Bone Marrow Registry", whereby the Society attempts to reduce the one in fifteen thousand odds of a bone marrow match.

SYNOPSIS OF SPEECH BY MR. DON KNAPP OF THE RED CROSS:

Given to the September General Meeting

THE RED CROSS IS A HUMANITARIAN ASSOCIATION DESIGNED TO ASSIST COUNTRIES IN TIMES OF DISASTER. THIS ORGANIZATION WAS FOUNDED IN SWITZERLAND IN 1859 TO ASSIST THE WOUNDED IN THE WARS. UNTIL 1945 THE MAIN FUNCTION OF THE RED CROSS WAS TO AID THE WOUNDED IN THE WORLD WARS. AFTER 1945 IT TURNED TO OTHER HUMANITARIAN ENDEAVORS BY ASSISTING COUNTRIES DURING NATURAL AND MAN MADE DISASTERS. THE RED CROSS WILL AID ANY COUNTRY THAT REQUESTS HELP DURING A DISASTER REGARDLESS OF RACE COUNTRY, RELIGIOUS BELIEFS OR POLITICAL OPINIONS. IT WILL TRY TO AID THE SUFFERING OF ALL AND TO PRIORITIZE THE DISTRESS

Example : I have a capacitor with a plate diameter of 11/16" or .687". The area of one side of one plate works out to be .185 square inches.

There are nine plates on one side and there is a separation between the plates of approximately 1/16" or .062". Using the formula I calculate a rough minimum capacitance of 6 pf for one half of the capacitor.

Times this figure by two and we have the minimum unmeshed capacitance of the capacitor!

To calculate the maximum meshed capacitance of the capacitor double the number for n (number of plates) and remeasure the plate separation (d) with the plates meshed. I've verified some of these calculations with my grid dip meter and they work out fairly close if you are careful to measure correctly.

Speaking of grid dip meters if you are not good with the ruler then you may want to try measuring capacitance using your grid dip oscillator.

More about this later but first;

Disc Ceramic Capicitors

Disc ceramic capacitors come in various values ranging from the lower pf range (eg. 3.3 pf) all the way up to the uf range (eg. .01 uf or 10000 pf).

The most common method manufacturers use to denote a value is a three digit code followed by a letter (eg. 103 M). Where digits one and two are the first and second digits of the value respectively and the third figure is the multiplier. In our example of 103 M the value of the capacitor would be 10*1000=10000 pf or .01 uf (micro-farad). The 'm' represents the capacitors tolerance and if we look in the handbook we find it to be +/- 20%.

Another common method of marking capacitance is to substitute the multiplying figure (eg. '3' in 103) for either a 'p' for pf or an 'n' for nf (nano-farad) . For example if we have a capacitor that reads 68p we can deduce that the capacitance is 68 pf. The location of the letter also acts as a decimal place so a capacitor marked p68 would have a value of .68 pf!

Occasionally you will find capacitors that do not use a secret code and have the actual value marked on them. For example a capacitor marked '.05Z 50V' is simply a .05uf capacitor rated at 50 volts.

Some manufacturers still use the colour coding method for identifying capacitors.

Especially so for those capacitors that are to small to place print on!

THEY RAN AND WE MANAGED

On Sunday September 20, 1991 the competitors in the Golden Horseshoe 50 Miler Race zig zagged their way across Stoney Creek mountain, under the watchful eye of some members of the H.A.R.C.

This annual running race starts and finishes at the intersection of Hwy. 20 and Mud Street. The route winds its way across the escarpment from Stoney Creek to Grimsby and back. The starting gun is fired at 7 am and the last of the runners return by 7 pm. A "Marathon" is 26.2 miles and this is almost twice that distance. The winner this year completed the course in just under 6.5 hours, and yes, there were lady competitors.

There were 4 members of H.A.R.C. charged with the duty of creating a safe passage for the runners. This included the dispatching of two St. John mobile units, a supply truck and overseeing of 8 Aid Stations. The day's work included the distribution of water, cookies and bananas to the aid stations which totalled 15 sites on the route, since the first 7 stations also served on the return leg. There were blisters, and cramped muscles, and farmer's dogs to be attended to, and carpet to be layed over railway tracks to allow easier passage for the wheelchair racers. The situation with the dog, who chased one of the wheelchairs was handled by an employee of the SPCA in a van they supplied.

The radio crew tied all the aspects of managing the race together and many racers offered heartfelt thanks for the work of the radio team. In this type of athletic endeavour, the peace of mind that is generated by a good crew can really make a big difference to the competitors.

In addition to the appreciation expressed by the race committee and competitors I would like to add my personal thanks to the following members for their effort in making a great public relations accomplishment work:

Jim VE3PH
Stuart VE3SMF
Ron VE3RMA

Fred Robinson VE3GCP
Public Relations Chairman/ V.P.

WHAT COULD PUBLIC SERVICE HAVE TO DO WITH BARBERSHOP QUARTET SINGING?

On the weekend of Oct. 18, 19, 20 the SPEBSQSA will hold a convention and competition at Hamilton Place, and they have asked us to assist in one aspect of that event.

Apparently, about 200 performers will compete on Friday evening and Saturday afternoon and this will require a high level of management. We have been asked and agreed to assist the "STAGE MANAGER" in correlating the movement of performers from the Sheraton Hotel to Hamilton Place dressing rooms and warm-up rooms, and the green room and the stage.

4) CRAWFORD TROPHY ---- MAY
To encourage club members to build their own equipment. Project must be usable in Amateur Radio Operating and built in the previous calendar year.

5) ART FERGUSON TROPHY ---- OCTOBER
Awarded H.A.R.C. members for meritorious service to the Public through Amateur Radio.

The above is only a brief description of H.A.R.C. awards. For further information contact the present Awards and Contests Chairman, VE3TTH Scott 385 3014.

As you can see, October is the month that the ART FERGUSON AWARD is given. Look around and pick a nominee, subject to the following guidelines:

THE ART FERGUSON AWARD - RULES AND NOMINATION

The Art Ferguson Trophy is awarded annually by the Hamilton Amateur Radio Club in recognition of meritorious service to the public through amateur radio communication. To be eligible for this award the person shall be a member, or past member of the Hamilton Amateur Radio Club. Nominations for this award shall be submitted to the club executive not later than November 13, 1991. The club executive committee will make a decision for this award based on the information received.

ART FERGUSON TROPHY

Presented annually to a member of the Hamilton Amateur Radio Club for meritorious service to the public through Amateur Radio communications.

I nominate ______________________________(name+call) as my candidate for the Art Ferguson Trophy for the following reasons:

____

____

____

____

Dated this _____ day of ________________

Signed ______________________________(name+call)

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 Boerkamp.

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. Listings are read over the air for four weeks, published once in The Hamilton Amateur, and posted on the packet and computer BBS VE3DC (sysop VE3JSJ Gord) 145.590 and 575-4745. The Swap Shop meets every Tuesday evening, except the summer months at 8:00 p.m. on VE3NCF 146.760. 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.

VE3GFE STAN, (416) 528-4002 ESTATE SALE
3 LINE VOLTAGE ADJUSTER $20
o REALISTIC DESK MIC FOR 2M OR HF USE $10
o 2 WAY ANTENNA SWITCH HOMEBREW $10

VE3PKY CHRIS, (416) 547-3169 HOME, (416) 848-7582 WORK
2 THOUSANDS OF FEET OF RG59 75 OHM COAX IN 10 TO 100 FT LENGTHS, ALUMINUM JACKET, ASKING 7 CENTS/FT
o ~~200-300 FT OF RG174 50 OHM MINI COAX ASKING 15 CENTS/FT~~ 12 8¢
o GELSEL CHARGERS FOR CHARGING 12V GELSELS, ASKING ~~$15~~ APPROX. ~~25~~ 2/-20 AVAILABLE

VE3RXB RANDY, (416) 945-3002
2 BENCHER PADDLE WITH MFJ ECONO KEYER $165
o 2M FM AMP 1 TO 2W IN GIVES 50W OUT $170

VE3JIS JACK, (416) 648-6443
1 KENWOOD TS120 HF RIG 10-80M IN GOOD SHAPE ~~$545~~ 495
o DISCONE 2M ANTENNA ~~$40~~ 35
o PRESIDENT MARINE RADIO 4 WEATHER CH. 25 OTHER CH. 35-40W OUT $75
o 3 ELE 10 OR 11M WILSON BEAM ~~$150~~ 140
o BELL AND HOWELL SCOPE ~~$40~~ 30
WILL CONSIDER TRADING ITEMS FOR CB RADIOS WHICH CAN BE MODIFIED FOR 10M.
o MFJ 943 TUNER 300 WATTS $75
o VIEWSTAR 300A TUNER 300 WATTS $85 MC 50 $60

VE3PTJ PAUL, (416) 574-3055
1 10 CHANNEL HAND SCANNER, REALISTIC PRO-38 COVERS 10M,UHF,VHF $100

VE3GVG CAM, (416) 523-5408
3 YAESU FT727R DUALBAND HANDHELD WITH 2 BATTERY PACKS,
o HI SPEED CHARGER,ENC/DEC BOARD $500

NOTICE TO UNRENEWED MEMBERS:

In keeping with previous years' policy, members who haven't renewed within two months of the new club year's start will be dropped from the Bulletin mailing list and lose their autodial\mailbox number. 31 October 91 is the cut-off date.

It would be a shame to lose any of our members. This year promises to be one of our best yet in terms of membership numbers and club activities.

SK - VE3IUD JACK

We have lost a long-time member and fellow amateur. Dr. Jack Shekter passed on Thursday 12 September 1991 at the McMaster University Medical Centre. We knew him through his interest in radio, but while reading through the Spectator's article in his memory, we were probably all struck by how diverse and self-less his interests and past experiences were. To quote: "He worked as a salesman, factory worker, musician and real estate agent, becoming a physician only late in life. He dropped out of school in grade 12 during the Depression to help out with family finances. He sold shoes, sporting goods and clothing before joining the Royal Canadian Air Force as a navigator in 1943." His standing in the medical community is reflected in his achievements: past-president of the Hamilton Academy of Medicine, former chief of staff at St Josephs Hospital, chief of family medicine at McMaster, executive member of Ontario Medical Association representing Hamilton, and many other achievements.

His friend and colleague, Dr Frank Shapiro, has kindly provided us with his words of goodbye to Jack:

Dear Friends:

I have been asked to say a few words about my friend Jack Shekter. Most of you are aware that Jack touched my life as he touched so many of yours in a very special way.

When it was my privilege to introduce him as Negev honoree, Hamilton's Man of the Year for his many leadership endeavours, I dwelt at length upon the early years of growing up in Hamilton - of growing up Jewish in Hamilton - and Jack Shekter did indeed grow up Jewish in Hamilton.

I recall today, as if it were yesterday, the delight he had in telling me, after his first visit to Isreal, of seeing a street sign that gave as its name - Am Yesrael Chai - the Jewish people lives.

I want to share with you the pleasures that many decades of friendship with Jack Shekter brought. I take pride that I was, in part, responsible for his deserting the world of business for the world of medicine.

VE3FJC WALTER, (416) 263-2338

1 YAESU FT101E MINT CONDX. WITH YAESU DESK MIC $425
o KENWOOD TS120V WITH HAND MIC $500
o ICOM AT500 AUTOTUNER 500W ANTENNA TUNER $525
o DRAKE L4B LINEAR AMP 2KW OUTPUT $850

VE3UNI JOHN, (416) 575-0784

1 MIRAGE 2M FM/SSB AMP .5 TO 8W IN, 30W OUT HAS RECEIVE PREAMP $75 OR WILL TRADE

VE3ANB RICH, AUTODIAL 10

1 KENWOOD BC8 DROP-IN CHARGER, BRAND NEW IN BOX $40

VE3WCH MIKE, (519) 743-6443

1 HF STATION YAESU FT757GX2, FP757GX POWER SUPPLY, MD1 MICROPHONE, MANUAL $1100 ~~O.B.O.~~ FIRM

Nutech Electronics- 12 Victoria North, Hamilton L8L 5E1 528-6660	computer disk
Pick and Print T-Shirts- 5111 New St, Burlington L7L 1V2 333-3570	gift certificate for T-Shirt
Ratek- Box 846, 54 Shepherd Rd, Oakville L6J 5C5 844-4505	propane torch
Lordly Jones Office Furniture- 51 John St South, Hamilton L8N 2B5 528-8537	telephone address book
Hammond Manufacturing-	quantity of power bars
Ed Charlesworth VE3ZF-	CJ Directory
Guardian Drugs-	nailclipper set
Pro Video (Dave VE3JUR)-	two video tapes
CKOC- 883 Upper Wentworth St, Hamilton 574-1150	frisbee, audio tapes, certificates for ice cream from Stoney Creek Dairy
CHAM- 151 York Boulevard, Hamilton 528-1981	compact disc, mug, audio tapes
Bill Nichols VE3HOD-	soldering iron
Ernie Communications (VE3JUL)-	quarter wave two meter whip
MacFarlane Communications-	four jars of homemade honey from his own bees
Sinclair (Bob VE3BFM)-	Diamond dual band mag mount
Hillcrest Restaurant- 510 Concession St, Hamilton 387-3211	gift certificate
Anonymous-	air blower for Bar-B-Q basket of pears and apples door

The last anonymous donor may have taken the request for a "door prize" a bit literally. Fiore VE3OQG won the door door prize. Let's hope this "opens up" new horizons for him.

The GRAND PRIZE, a Bearcat BC560XLT Scanner, was won by Renzo VE3NYX. The day of the Fleamarket, Renzo was talked into re-joining the club at the H.A.R.C. Membership Table by a friend. While there, VE3LTD Paul, our Membership man, pursuaded Renzo to buy three grand prize tickets. The sun was shining on Renzo that day- not only is he back in the club, but he won a valuable V/UHF receiver. He is quoted as saying that this year's Fleamarket was "excellent" and "the best, whether you were buying or selling". He also mentioned the variety of items available.

A special thanks should be extended to Stan VE3GFE who has outdone himself once again in his efforts to pursuade businesses to volunteer prizes. Ed VE3ZF and Jim VE3JIO are to be commended for their contribution in assisting Stan and driving to his victims' (I mean donors') businesses to pick up the prizes.

CARF NEWS BULLETIN 13-91 16 September 1991 Issued at CARF Headquarters
P.O. Box 356 Kingston, ON, K7L 4W2
Editor: Bernard H. Burdsall VE3NB

ITEM 1. CALL FOR NOMINATIONS FOR REGIONAL DIRECTORS: CARF Pacific, Ontario, Quebec and Atlantic Regions each will be electing a Director to commence a term of office at the AGM 1992. Deadline for Nominations: 15 January 1992. See details in the October 91 issue of The Canadian Amateur. Eric Ilott VE3XE, Secretary CARF.

SPECIAL EVENT STATIONS

ITEM 2. VE3OSC - 13 September 1991 to 5 January 1992 - The Ontario Science Centre will be hosting an exhibition from the Soviet Union called SIBERIA: NORTHERN DISCOVERY AND SURVIVAL. VE3OSC will be trying to contact Northern Siberia, Northern Canada, floating ice stations and other Arctic regions during this exhibition period. The station will operate daily Monday to Friday 1100 - 1500 hrs and on Saturday and Sunday 1100 - 1700 hrs. Volunteer licensed Amateur operators are needed to help run the station. If you can help, please contact: Diane Young at 416-429-4100, ext 533 or write to her at: Ontario Science Centre, 770 Don Mills Road, DON MILLS, ON, M3C 1T3. Thank you.

ITEM 4. ON4CLM - 27 October to 3 November 1991. This is the 9th Annual celebration of the Liberation of the Belgian town of Knokke by Canadian troops 1 November 1944. Operation will be on all bands, phone and CW. Complete information will appear in the October issue of The Canadian Amateur magazine,or write to radio station ON4CLM P.O. Box 110, B-8300 Knokke Heist, Belgium.

ITEM 6. VG3W - Saturday 9 November to Monday 11 November 1991. The Guelph Amateur Radio Club (GARC) is using the callsign VG3W to commemorate Remembrance Day. Operation is planned for 1500 to 2200 UTC on 10, 15, 20 and 40 metres using SSB and CW, from McCrae House Museum at 108 Water Street. To receive a QSL card send SASE or IRC to Guelph Amateur Radio Club VE3ZM, P.O. Box 1305, Guelph, ON, N1H 6H9

MARK YOUR CALENDARS

ITEM 12. Why not invite some Boy Scouts to your station? Boy Scout Jamboree- on-the-Air (JOTA) is Saturday 19 October 1991 0001 hrs UTC to Sunday 20 October 2359 hrs UTC. Some special callsigns for this event DI1BSP, F6JAM, GB3BPH, HB9S, JA1YSS, K2BSA, LA1JAM, LX1JAM, VE3SHQ, VP9BS, XE1ASM, ZS6JAM. Frequencies SSB: 3840, 3940, 7090, 14135, 14290, 21360, 28990. CW: 3590, 7030, 14070, 21140, 28190. National Organizer: Scouts Canada, P.O. Box 5151, Station F, OTTAWA, ON, K2C 3G7. It would be appreciated if all Amateurs would help promote interest in Amateur Radio by contacting the local Scout Master. Thank you.

73 de VE3VCA Steve VE3GRS at the keyboard

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 Bernie (VE3EKY) or Stan (VE3GFE) for information about Amateur Radio training classes. Phone numbers are on the front cover. Licence testing on the 2nd Wednesday of the month (with appointment).

REPEATER:
VE3NCF, 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 Englert, VE3OQX, for information. His number can be found on the front page.

SWAP-NET:
Every Tuesday at 8.00 pm on VE3NCF (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 packet bulletin board station VE3DC operated by VE3JSJ on 145.590 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).

From the Windsor Amateur Radio Club Bulletin

A CW CODE OSCILLATOR

- with thanks to Frank Roberts, VE3FAO for allowing the article to be used and to Bud Roberts (definitely related) for getting hold of it for us. This is a nice project for the course students, coming at about the time when their knowledge base should be at just the right level to start getting involved in projects relating to the hobby.

The basic concept of this design was to create a simple inexpensive code practice oscillator built from readily available parts. It is adaptable to a wide variety of component values and physical configurations, lending itself to experimentation on the part of the builder.

CIRCUIT DESCRIPTION

The code oscillator uses a 555 timer chip to provide a square wave oscillation at the output of pin 3. The output can drive a speaker to room filling volume, or be monitored by an inexpensive pair of headphones. The output circuit is made up of a capacitor C3 and a volume control R3.

The frequency (pitch) is controlled by R1,R2 and C2 with R2 providing the adjustment. In the prototype it was possible to vary frequency from 0 to beyond my hearing range. My daughter could still hear it, so I knew it was working.

C1 is a decoupling capacitor for the chip, and there is no power switch, as the key provides this function. It is inserted on the negative side so the jack can be mounted in a metal case with one side grounded.

CONSTRUCTION

The prototype was built into a small plastic case having only the volume control and jacks accessible for normal operation, the frequency being adjusted by a trim pot (R2) under the cover. This was a personal preference, and the pitch control can be mounted on the case next to the volume control if desired. Any style of construction can be used from perfboard to PC board to bread board. I encourage the builder to use available parts and experiment with the values. None of the values are critical. For example, if a 100k variable resistor is unavailable, try a 50k and put a 47k fixed resistor in series. Any value volume control can be used from 2k to 20k. Try different values and pick the ones that give the most pleasant operation - don't be afraid to experiment!

The 555 chip is not as fragile as you might expect, in fact I put mine in backwards by mistake. The oscillator didn't work, but the chip survived, and everything was fine after I turned it around. I strongly recommend using a socket for the 555, as this will lend itself to further experimentation and learning. For example, I was able to measure the current drawn by the circuit by inserting my meter in the key jack and check the the current drawn by various chips. Interestingly, the TLC555 draws less than half the current used by a NE555 which in turn used a little less than the MC1455.