

2 VE3GGF, DAVE, (416)596-6692
 AMIGA COMPUTER SOFTWARE TO RUN
 MFJ-1278 TNC

3 VE3JJS, JACK (416)648-6443
 10 METRE ANTENNA OR ONE THAT CAN BE CONVERTED
 RG8 COAX - 100 FEET
 CB SIDEBAND RADIO

4 VE3OCQ, BOB, (416)549-6125
 TRS-80 COMPUTER ACCESSORIES

4 VE3JSI, GORDON, (416)575-3847
 CAVITY DUPLER FOR 70CM BAND
 STRIPLINE FILTER FOR 70CM BAND

WHICH AIRS YOU?

Are you an active member,
 The kind that would be missed,
 Or are you just contented
 That your name is on the list?
 Do you attend the meetings
 And mingle with the flock,
 Or do you stay at home
 And criticize and knock?
 Do you take an active part
 To help the work along,
 Or are you satisfied to be
 The kind that "just belongs"?
 Do you ever go to visit
 A member who is sick,
 Or leave the work to just a few
 And talk about the clique?
 There's quite a program scheduled
 That I'm sure you heard about,
 And we'll appreciate it if you too
 Will come and help us out.
 So come to meetings often
 And help with hand and heart;
 Don't just be a member
 But take an active part.
 You think this is over, member,
 You know right from wrong,
 Are you an active member,
OR DO YOU JUST BELONG?

(Anon, prob via L.A.R.C.)

RICK DANBY VE3OZY
 6 CLINTON ST, HAMILTON, ON
 L8L 3J8

The Hamilton Amateur

Upcoming Meeting
 November 18, 1992
 Nash Auditorium
 Chedoke Hospital
 Hamilton

Speaker for the Night
 Ferg Kyle
 The Flying Amateur

NOVEMBER 1992

60th Anniversary Fest. 1932

HARC EXECUTIVE FOR 1992/93

PRESIDENT:	VE3OQX	Ewert Englert	385-0879
PAST PRESIDENT:	VE3OQG	Fero Monga	578-1789
VICE PRESIDENT:	VE3JAI	Emley Mitchell	627-0333
VICE PRESIDENT:	VE3ITD	Paul Webb	574-0818
SECRETARY:	VE3DWJ	Dave Brunton	383-9808
TREASURER:	VE3OCD	Joe Ubonaki	388-8383
MEMBERSHIP:	VE3VH	Ave Verhoog	389-9259

HARC COMMITTEE CHAIRPERSONS FOR 1992/93

AWARDS & CONTESTS:	VE3DWJ	Dave Brunton	383-9808
HISTORIAN:	VE3BIG	George Olenick	383-7338
PROPERTY:	VE3DWJ	Dave Brunton	383-9808
BULLETIN EDITOR:	VE3SON	Jin Welsh	689-4839
EDUCATION:	VE3EY	Bernie Granby	527-7175
EMERGENCY COORD:	VE3SMF	Shurt Fedak	628-4131
FIELD DAY COORD:	VE3OQX	Ewert Englert	385-0879
FLEA MARKET:	OPEN		
HEALTH & WELFARE:	OPEN		
PROGRAMS:	VE3JAI	Emley Mitchell	627-0333
PUBLIC LIASON:	VE3GCP	Fred Robinson	575-5197
HOSPITAL COORD:	VE3OQG	Mary Urbanaki	388-8383
60th ANNIVERSARY PLAN:	VE3GCP	Fred Robinson	575-5197
SWAP NET CONTROL:	VE3JWJ	John Johnston	578-4275
CANWARN COORD:	VE3ITD	Paul Webb	574-0818
REPEATER:	VE3OCY	Don Graziano	560-1960
TECHNICAL:	VE3OCY	Don Graziano	560-1960
VE3DC LICENCEE	VE3FHQ	Glen Gibson	385-2785
VE3NCF LICENCEE	VE3OCY	Don Graziano	560-1960
VE3RCB LICENCEE	VE3GCP	Fred Robinson	575-5197
VE3WJH LICENCEE:	VE3ITD	Paul Webb	574-0818
DESIGNATED EXAMINERS:	VE3GCP	Fred Robinson	575-5197
	VE3EY	Bernie Granby	527-7175

HAMILTON AMATEUR RADIO CLUB SWAPSHOP LISTINGS
AS OF October 27/92
ITEMS FOR SALE LIST

To list items:

VE3NCF (146,760) Tuesday 8pm., OR call John (VE3JWJ)
578-4275. Or leave a message on the VE3DC Packet BBS
(145,590) or via modem on BBS at 575-4745.

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 other wise stated. Listings are read over the air for four weeks, published once in The Hamilton Amateur, and posted on the packet and computer BBS VE3DC (Symp 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, etc) to provide access to the net. Number in front of listing is the number of weeks already on.

1 VE3MND, SIAFANO (416)662-4526
KENWOOD PC-1 PHONE PATCH \$75.00

2 VE3ANW, ROBERT, (416)574-3554
VAESU 70770CM HANDHEID, 200M-1WATT
CHARGER, 2 BATTERIES, TOUCH TONE
MANUAL, SPEAKER MIKE, LIKE NEW \$250.00

2 VE3VMO, VIC, (416)525-3531 - 54443253
MEJ-1278 TNC ALL-MODE 1200 BAUD \$250.00

3 VE3TJB, TED, (416)578-9266
MOSLEY TA-33 JUNIOR \$150.00

3 VE3NXY, RENZO, (416)521-1064
PRO-38 PORTABLE SCANNER
10 MEMORY, CHARGER, MINT SHAPE \$80.00

3 VE3CCF, CHRIS, (416)847-0090
AST-286 COMPUTER, 4 MEG OF RAM,
40 MEG H.D., 2 SERIAL PORTS,
1 PARALLEL PORT 2 GAME PORTS
RGB COLOUR MONITOR, 101 KEYBOARD
1.44 FLOPPY DRV. \$550.00

4 VE3NKU, HAROLD, (416)388-3117
QST:CA-GSP 122 ISSUES 1986-1991 \$25.00

4 DON, (416)528-1878
RANGER 2950-10METER -25 WATTS
CW, FM, SSB \$250.00

4 VE3MES, MIKE (416)829-0264
35 AMP HOMEBREW POWER SUPPLY \$150.00
MOSLEY TA33 BEAM \$150.00

MEMBERSHIP

Our speaker this month is a ham known by many of us. Ferg Kyle VE3LVO, member of the Burlington A.R.C. Always helpful and active. Yep - one meets him everywhere. We worked with many others on the Canwarn project. After saying goodbye to the Avro Anson - the bird I flew cojo for a few years - I looked up and saw Ferg at the controls.

The man flew and still flies almost anything. Career in the Airforce as a Flying Officer. Followed by years at Air Canada. Now I see Fergie every week at the Can. Warplane Heritage. Restoring and flying the rare Yale.

Like I said: "you meet Ferg andwhere".
Arie VE3VEH

CANWARN

Well, our maiden season has come and gone, but it's memories will be in my mind forever. To say that the program was a success is an understatement, and was due largely to the expertise of the net controllers and the countless spotters who stayed with the program throughout the season. I am indebted to them all, and truly wish that I could thank them all personally. There are some people who willingly gave more then was required, and I would be amiss if they were not mentioned here. Gary VE3NYF for the generous use of his UHF repeater, Kent VE33OC for organizing the Brantford spotters, Don VE3OCY for building the required battery backup, and Al VE3KYZ for assisting in the antenna installation.

THANKS GUYS.

We plan to get an early start next year, with a more in depth training session for the spotters and net controllers, which should prove very interesting for all the weather buffs and arm chair meteorologists out there. I am especially interested in obtaining the names of hams that are interested in the position of Net Control for next season, and speaking from my own experience, it can be demanding, but most of all, it's fun. The night or nights of training will take place near the end of March, with a net start up at the beginning of April/. Why not become part of this worthwhile program, it's fun, and the best part is that it's free.

Thanks once again, see you in March.
Paul Webb VE3LTD Canwarn Coordinator

NEWS SERVICE CARF

Item 1. Morse Code Test Format Changed in U.K.

The Radiocommunications Agency, has announced changes to the format of the 12 wpm Amateur Morse test. It has been decided that 12 wpm test should also be in a QSO format. This is considered to be better at preparing candidates for the sort of operating conditions they can expect to encounter 'on-the-air'. (Their 5 wpm code test is already in a QSO format.)

The Agency believes the existing English text and numerals code test falls far short of preparing anyone to actually understand a live message on the air. The new style test will be available effective Jan. 1, 93. Also a new procedure for the identification of candidates will also be introduced. Instead of written proof of identity, applicants will be required to bring to the test centre two recent passport-size photographs of themselves.

Item 2. New Issue Communications Canada RIC 24,

Issue 5, September 1st, 1992.
Information on the amateur operator's certificate examination is now available free from any DOC office.

Item 3. Japan now has an Amateur Radio reciprocal operating

agreement with Korea.
There are now 1,203,226 amateur radio stations in Japan and 2,280,705 licensed ham operators.

Item 4. Ham Band Chaos in Germany?

We understand that the Deutsche Bundespost (German Telecommunications regulating body) has proposed new regulations for radio amateurs in Germany, new regulations totally deregulate amateur radio.

The new proposed rules will apparently abolish all specific mode subbands and licenses for special operations. The only guidelines there appears to be, is that amateurs may not interfere with other services.

FOOD FOR THOUGHT
TO BE AGREEABLE IN SOCIETY, YOU MUST CONSENT TO BE TAUGHT
MANY THINGS WHICH YOU ALREADY KNOW.

HAMILTON AMATEUR RADIO CLUB
GENERAL MEETING WEDNESDAY OCTOBER 21 1992

The regular monthly meeting of the Hamilton Amateur Radio Club (HARC) was held at the Nash Auditorium at Chedoke Hospital. The meeting began at 8:05 pm with Everett VE3OQX presiding. Our President Ev welcome all visitors.

Everett VE3OQX introduced Rick VE3OZY. Rick presented to The Hamilton Amateur Radio Club the following Achievement Awards from CARF

- 1990 CANADA DAY
1st Place for Ontario
Multi Op/Single TX scored 75594
Operators: VE3ITS Mike Poczynak VE3NXX Ranzo Conz
VE3OOCY Don Grazino VE3OZY Rick Danby
B. Danby SWL V. Spaffon SWL
- 1991 CANADA WINTER CONTEST
1st Place for Ontario
Multi Op/All Band - Single TX
Scored 261016
Operators: VE3LMS Grant Sewall VE3NXX Ranzo Conz
VE3OOCY Don Grazino VE3ANB Richard Leach
VE3OZY Rick Danby VE3VFR Norman Sanger
- 1991 CANADA SUMMER CONTEST
1ST Place for Ontario
Multi Op/Single TX All Band
Scored 271646
Operators: VE3ACA Jerry Hoblak VE3ANB Richard Leach
VE3NXX Ranzo Conz VE3OOCY Don Grazino
VE3OZY Rick Danby VE3TJB Theo Boekamp
Brad SWL Vic SWL
- World Wide 160 Meter DX Contest CQ
Winning Ontario Multi Op phone
Scored 39,640
Operators: VE3TJB Theo Boekamp VE3OOCY Don Grazino
VE3ANB Richard Leach VE3VFR Norman Sanger
VE3ACA Jerry Hoblak Vic Spafford SWL

Congratulations to all hams who helped rack up those points. A job well done.

Canadian Amateur Radio Hall Of Fame

The Canadian Amateur Hall of Fame is pleased to announce that Douglas McDonald Lockhart VE7APU is its premier choice for the position member, the highest category of membership.

Doug is being honoured for his outstanding contribution to the development of Amateur Packet Radio Communications. Without his vision, technical ability and perseverance, Amateur Packet Radio might never have been developed to its present form. His pioneering work has certainly earned him the title 'Father of Amateur Packet Radio'. As Canadians, we recognize this outstanding achievement.

Doug was first licensed as a radio Amateur in January 1957.

Living in Vancouver, he was interested in many aspects of Amateur Radio, and soon joined the Vancouver Amateur Radio Club. He shortly served not only on its Technical Committee, but as its Treasurer, Secretary and President as well.

Much of his time was spent on the BCEN CW net in those days, and, during the late 1970's, DX work and Radio Teletype. Because of his work with computers, Doug could see the possibilities inherent in high speed data communications by Amateur Radio especially with built in addressing and error correction.

By the fall of 1979, the VADCG had developed and produced what they called a 'Terminal Node Controller' board (TNC) using bit-oriented protocols (HDLC/SDLC) using AFSK modulation on 144Mhz for testing protocols. They had also developed a Station Node and Station Node Controller (SNC) using CSMA CD protocol and dynamic addressing established virtual connection through the station nodes (packet switch).

After the TNC was developed, some Amateurs in the Hamilton area wished to use it, but they did not have a station node (SNC) or the money to put one on the air. They asked Doug to write them a program to enable them to communicate directly from one of the TNC's to another instead of through a station node, so they could test the operation of TNC's before they built the station node. In early 1980, Doug wrote a simple but efficient link level protocol that would temporarily let them do this testing. This protocol became known as the 'Vancouver Protocol' and is now known as V1.

CARF NEWS SERVICE Are You Happy With The DOC

The federal government wants to know if you are satisfied with the DOC's spectrum management services. During October, they will launch a national client satisfaction survey. This is part of a program to make government more responsive to their client's needs. CARF members, who may be included in the survey, are asked to co-operate in answering any questions. The information gained from these interviews will assist the Department in setting policy and operational objectives in the future and in developing standards of service. There are apparent problems!

While CARF applauds the DOC's recent amateur service restructuring, we are concerned over the Department's apparent inability to respond to other needs of the amateur service in recent years. The demand for spectrum management services has grown steadily, while the DOC resource levels available to manage the spectrum has remained relatively unchanged, perhaps even reduced. Commissioning a survey seems problematic and costly.

CARF is aware of incidents where the DOC cannot assist amateurs because of other priorities and lack of staff. Some of these incidents concern serious questions whereby local governments institute restrictive bylaws which appear to ignore and override the federal government's jurisdiction over the installation of antennas and antenna structures. The DOC's apparent inability to effectively resolve such issues tend to undermine their credibility with governments and amateurs alike.

In addition, there are problems concerning electromagnetic compatibility matters (house hold electronic apparatus susceptible to R.F.) which DOC seem powerless to resolve. There is a serious need for effective industry standards to eliminate trouble created by R.F. susceptible consumer products. DOC is apparently waiting to see what the FCC is going to do first! In the meantime, to keep peace with their neighbours, amateurs are forced to voluntarily keep off the air even though their station is licensed by DOC and their equipment is functioning properly.

CARF doubts the effectiveness of this survey if it does not contact the people who are experiencing and dealing with these serious spectrum management problems. We doubt its usefulness if DOC are not funded and staffed to address and resolve these existing critical issues. We do not know the credentials of the surveying firms nor the details of the mandate provided them by the DOC. Under the circumstances,

COAX TIPS

Paul Anderson, KG7FC

What kind of Coax should you buy for your new 20 meter four element beam? How long will it last? How does it deteriorate and how do you know when to replace it? Here are some points to consider when buying coax:

Be careful of RG-8/U, RG8A/U or RG-8U type cable. It has no controlling military specification. RG-8A/U made by a reputable manufacturer - with its name and type number on it, in addition to the RG nomenclature is probably OK - but it is almost as expensive to buy as the premium stuff.

Look up the specifications for the cable you intend to buy and, if possible, examine the cable before you buy it. Does it have the proper number of center strands? Is the inner dielectric uniform with no blemishes or spots? Does it have a complete or nearly complete braid coverage? Does it have a non-contaminating jacket? And, most of all, is it made by a reputable manufacturer? Be suspicious of underpriced cable because "there ain't no free lunch"!

If you are starting out fresh, buy RG-213/U cable (50 ohms) which also has the manufacturer's name and type number on it instead of RG-8/U type cable (52 ohms). It may be nippingking but today's RG-213/U cable standard is 52 ohms. It is a military approved, properly manufactured cable. Again, make sure it is a reputable manufacturer. You can be certain that the cable is what it is claimed to be and know that it has been tested.

After you have bought good cable, how do you get the maximum life from it?

Keep the cable off the ground and make sure that it can dry off after rain. Because modern jackets are slightly hygroscopic, moisture can penetrate the jacket material, reach the outer braid and cause corrosion.

Try to keep the cable out of direct sunlight - ultraviolet rays are damaging over time. For prolonged exposure to sunlight, the cable's outer jacket should be high molecular weight with embedded carbon black (expensive!).

Support the cable every ten feet or so. Don't let it sag on a long run.

Don't let the coax whip around in the wind. Repeated flexing is not conducive to long cable life.

HF ANTENNA SYSTEMS FOR APARTMENT DWELLERS

(This article is from the Scarborough Amateur Radio Club "Technical Forum" conducted in their Newsletter by Tony Regan VE3QP/G3TTF. It follows a talk given by Bill Whitelock VE3CBW on apartment antenna systems, and its general applicability is why we've decided to reproduce it here.)

Operating in an apartment presents several unique problems compared with operating from a house. Most apartments have a "no outside antenna" covenant. How can you provide a good RF ground?

As with any antenna location the same basic rules apply. In any antenna the main radiation is from the current carrying portion of the element. Therefore it is important to have this part of the antenna as high and in the clear as possible. The high voltage part of the antenna does little radiating but should be well insulated. This portion may be folded and does not have to be in the clear.

The next problem is providing a good ground. A large reinforced concrete building can be considered as a mass of ground at amateur frequencies. Connection to this mass can be via the heating pipes, water pipes or other large metallic objects such as large window frames and balcony railings. These, having a large capacity to the mass of the building, provide a fair RF ground but may not be a very good DC ground.

If the antenna is an unbalanced or quarter wave type then a good low loss ground is vital to the operation of the antenna. With a balanced antenna such as a half-wave dipole the ground is not part of the antenna system and is not so important.

Now we will consider the types of antennae that are most suited to the confines of an apartment. Most apartments are constructed of reinforced concrete. This forms an RF shield which is an advantage in that interference to neighbouring apartments is less of a problem. The disadvantage is that any totally inside antenna will be so shielded from the outside world that its effectiveness will be severely reduced. Many buildings have brick outside walls which are less of a shield to HF signals. If a balcony is available it makes things a little easier.

The simplest antenna to consider for the HF bands would be the dipole. This may be suspended above a balcony rail and should include a balun. A big improvement can be obtained if the antenna can be supported at a short distance outside the balcony. An antenna cut to length from the formula will usually resonate lower in frequency because the proximity of the building adds capacity to the antenna. It will be necessary to adjust the length and check the resonant frequency with a dip meter or RX noise bridge.

due to the close proximity of surrounding objects the impedance will be considerably lower than normal. Such an antenna trimmed for minimum SWR with a SWR bridge may be resonant a long way from the operating frequency and thus an inefficient radiator. An SWR bridge should only be used for resonating an antenna when the impedance at resonance is known to be close to that of the ridge.

The space available is not sufficient to fit a full size dipole than the antenna may be folded at the ends or loading coils may be used.

A popular antenna for apartments is the mobile whip or other variations of the added quarter wave. Here the balcony rail or a window frame may be used as the ground. The ground plane may be improved by adding one or two wires of one quarter wavelength to the grounding point at the antenna and laying them on the floor as straight as space allows.

Another antenna system to consider is the random length of wire tuned with an antenna tuner in conjunction with a good ground.

Finally there is the small loop antenna such as the AEA IsoLoop which covers all bands between 10 and 30 meters. This antenna consists of tubing bent into a square with less than 3 feet sides. This short radiator is tuned to resonance by a capacitor which is motor tuned by a control at the operating position. The loop is fed by coaxial cable into a matching unit at the center of the loop. Low loss components are the secret to this antenna as the circulating current with such a high Q is very large. As this is a balanced antenna the grounding will have little effect on the efficiency of it. I would be very interested to hear from anyone who has compared the antenna with a full sized dipole.

Tony Fegan VE3QF/G3TTF, SARC Technical Forum)

TEN WAYS TO DESTROY YOUR CLUB

The following are a few ways to ensure the early demise of your club:

1. Don't come to meetings.
2. If you do come, come late.
3. If you attend a meeting, find fault with the work of the officers and other members.
4. Never accept an office, as it is easier to criticize than to do things.
5. Feel hurt if you are not appointed to a committee, but if you are, do not attend committee meetings.
6. If asked by the chair to give your opinion on some matter, reply that you have nothing to say. After the meeting tell everyone how things ought to have been done.
7. Do nothing more than is absolutely necessary, but when other members roll up their sleeves and work unselfishly, say that the executive is run by a clique.
8. Hold back your dues as long as possible, or don't pay them at all.
9. Don't bother about getting new members. Let someone else do it.
10. Don't bother to seek the opinion of other members since they don't have any wisdom or experience. Better still- drive the scoffer out and the fights will cease. Drive the quarrelsome out and the abuse will cease.

(From an "Old Harms Almanac" via L.A.R.C. via T.C.A.)

while we welcome constructive analysis, we doubt the survey will result in substantive improvement unless major changes take place at DOC.

J. Farrell Hopwood, VE3RD President, CARF

RE: SPECIAL PREFIXES FOR CARF'S 25TH ANNIVERSARY

DOC has authorized all Canadian Amateurs to use special prefixes to mark the 25th Anniversary of CARF. The following prefixes are authorized for two 48 hour periods:

VO1 Newfoundland	may use	VO9
VO2 Labrador	" "	VO0
VE1 New Brunswick	" "	VD1
VE1 Nova Scotia	" "	VD1
VE2 Quebec	" "	VD2
VE3 Ontario	" "	VD3
VE4 Manitoba	" "	VD4
VE5 Saskatchewan	" "	VD5
VE6 Alberta	" "	VD6
VE7 British	" "	VD7
VE8 Northwest Territories	" "	VD8
WY1 Yukon	" "	WY3
WY2 P E I	" "	WY4

The two 48 hour periods authorized are: 0000 UTC 24 October to 2359 UTC 25 October; 0000 UTC 28 November to 2359 UTC 29 November.

These periods coincide with the CQ, WW, DX, SSB and CQ WW DX CW contests.

From Dave Goodwin VE2ZP

Seal the ends of the cable. Type N (waterproof) fittings are better than the cheap and plentiful PL-259 plugs. Coat the terminations with non-acid type silicone rubber sealant. If it smells vinegary, that indicates acetic acid in the sealant. Don't use it!

Don't step on the cable or otherwise flatten it and don't bend it around a sharp radius. The minimum recommended bend radius is equal to 10 times the outer diameter of the coax. That's about a 5 inch radius for RG-8A/U or RG-213/U.

All cables deteriorate at greater or lesser rates depending upon use and abuse. Cable failure occurs when the cable no longer meets the needs of the user. Sometimes the impedance of the cable changes; sometimes the cable loss becomes intolerable; sometimes the velocity of the propagation changes to a degree. Cable doesn't fall apart all at once - the deterioration is gradual. If you don't mind the increased loss, why spend the money to replace the old cable? If you require every watt to go out to the antenna or every microwatt to go to the receiver, you had better get rid of it.

If it is used on an 80 meter dipole, don't worry about the type of cable used. Losses are relatively low at that frequency, even for old junky cable. At 20 meters however, start to pay attention to cable loss. At 2 meters, examine the coax very carefully.

Refer to the ARRL handbook chapter on transmission lines and check the tables on coax cable characteristics to determine the loss of your cable at your operating frequency. The effects of line loss is a discussion for another day.

(reprinted from Peel Signal June/92, from Halton Amateur March/92 originally from DAVIS COUNTY AMATEUR RADIO CLUB bulletin)

Fred Ro on VE3GCP 60th Anniversary Coordinator gave another update on the event. Tickets are going quickly. Please look at last month's bulletin for details. There are many door prizes to be given away.

John VE3DWW has asked those who are interested in Packet to sign the following sheet being passed around the audience.

Fred VE3GCP has been phoned about amateur classes for basic course. No instructor has been found as yet. A few names were mentioned. The executive will call suggest names and let the membership know who will be teaching.

SILENT KEY - VE3HOE Karen Nichols wife of Bill Nichols VE3HOD passed away recently. Our Sympathy to Bill and his children on the loss of a loved one.

VE3FDM Peter Toma a former club member wife Peggy passed away. Our sympathy to Peter from older members of the club.

Tonight's program is a video titled How to use Technology About Space THE STARS. This video explain about using modern expensive tools to find distant stars and learn there composition using spectrum analysis. A very interesting and informative presentation.

Meeting was adjourned for coffee at 8:52 pm.

The business part of the meeting started at 9:24 pm. The minutes of the last meeting read by VE3DWW David. A motion to accept the minutes was made by VE3OQX Everett and seconded by VE3GCP Fred.

NEW Business

Rick VE3OZY announced QC World Wide contest on Saturday all band mode.

The Treasurer report was read by the President. As of this meeting a balance of \$6,184.93. A motion to accept this report was made by VE3DWW David and seconded by Dave VE3BNF. Carried.

Due to the Toronto Blue Jays World Series game Fred VE3GCP quickly made a motion to adjourn, seconded by Jim VE3SON. Carried and the hall emptied hurriedly. At 9:30 pm. Attendance 43.

EXTRA EXTRA GOOD NEWS We now have a teacher for the Basic Course. Our very own member has come home. A very long journey has ended and VE3EKY Bernie volunteered again. What a guy. Let's give Bernie all the support your membership can give.

During this time, Doug became a packet 'missionary' and spent a great deal of time and money visiting and talking, demonstrating and writing letters to groups and individuals all over the United States and Canada. The encouragement and example Doug and other Canadians gave to some U.S. Amateurs regulations to permit packet experimentation here. The Canadian work served as a catalyst which won U.S. Amateurs the right to use the ASCII code and packet radio in their country and now in many other countries as well.

It is, in fact, very likely there would be no U.S. packet radio without the efforts of pioneering Canadians like Doug Lockhart. It is basically a copy of 'temporary' system the VADGC was using in early 1980 which is now being mass marketed. The original concept and development of a dedicated board for Amateur packet radio (TNC), the use of bit-oriented protocols as opposed to start-stop protocols, the use of 1200 baud Bell-202 AFSK on 14.4Mhz were all originally developed for packet by the VADCC under Doug's leadership.

All during the 1980's Doug has contributed towards further improvements in packet radio. This has included improved TNC's which provide more flexibility for development and a more efficient modem (the VADCC TNC+) as well as software development: multiple link capability for the TNC, new level 2 (Datalink), level 3 (Network) and level 6 (Presentation) protocols.

Doug continues to work actively in the Packet Radio field. A member of the ARRL Ad Hack Digital Committee, he is currently working on software to increase the baud rate sent on packet from a PC (Using a HAPN board, up to 84 Kilo baud on an AT).

Doug's contribution was recognized by the CRRL, who named him Amateur of the Year in 1984.

Carl salutes VE&APU.

The above from Canadian Amateur Magazine, March 1989, Vol. 17, No. 3 Page 6

Lecturer To Speak About "FORGOTTEN" Scientist

Canadian-born radio pioneer, Reginald Aubrey Fessenden, working in the United States, invented the radio as we know it today. A scientist, engineer and inventor, Fessenden was a brilliant intellectual who made numerous contributions to science, but today remains virtually unknown and forgotten.

Dr. John S. (Jack) Belrose, an expert on radio communications technology, will speak on "Fessenden and the Early History of Radio Science" when he presents the 15th Annual Alexander Graham Bell Lecture at McMaster next month. The public lecture, presented by the Communications Research Laboratory, will be held on Nov. 12 at 3 p.m. in HSC_1A1.

Dr. Belrose, director of the radio propagation laboratory, federal Department of Communications (DOC), received his B.A.Sc. and M.A.Sc. degrees in electrical engineering from the University of British Columbia in 1950 and 1952, and his PhD in radio physics from the University of Cambridge in 1958. He has been with DOC's communications research Centre in Ottawa since 1957.

A space pioneer, Dr. Belrose was the scientist responsible for the inclusion of a VLF receiver aboard the Alouette 1 satellite that was launched in September 1962. This experiment was so successful that similar receivers were included in the payloads of the Alouette 2 and the ISIS 1 and 2 satellites.

Dr. Belrose has authored numerous research papers on his early studies of the lower ionosphere. He was principal experimenter for two successful NRC rocket campaigns conducted from East Quoddy, Nova Scotia, to study the effect of solar eclipses on the ionospheric D and E regions, the ionosphere below 150km. He was a contributing author of the book on *Physics of the Earth's Upper Atmosphere (1965)* and an *IEE Antenna Design Handbook (1983)*. His keen interest in the Arctic led him to the high-latitude region where, over a period of two decades, he carried out extensive propagation research programs. For more than a decade, he fostered the development of trail and remote area radio communications technologies and conducted field trials of prototype systems in collaboration with Native groups in Northern Quebec and Labrador.

Dr. Belrose is Canadian panel coordinator for the Advisory Group for Aerospace Research and Development Electromagnetic Propagation Panel. A licensed radio amateur since 1947, he is technical adviser to the ARRL.

On Nov. 12, Dr. Belrose will discuss the achievements of Reginald Aubrey Fessenden. The inventor of the continuous wave theory for radio transmission, Fessenden devised a means to generate continuous waves, was the first to broadcast voice (in 1900), and later voice and music (in 1906) over the radio, invented methods of receiving continuous waves and was the first to communicate by radio telegraphy both ways across the Atlantic. He has over 500 patents to his name.

For info call Head Science Center McMaster Medical Center.

WWV Solar Flux, 'A' and 'K' Index Interpreted

With the winter season speedily creeping up on us, and it's inherent decrease in solar radiation to the northern hemisphere, many Hams flock south to the lower HF frequencies in search of good propagation paths. (You thought I was going to say Florida didn't you). Already

10 meters is all but gone.

As you probably know, at 18 minutes past every hour on WWV, three indices are transmitted with regard to HF propagation. They are, the Solar Flux, the 'A,' and the 'K' indices.

The Solar Flux values are measured daily at around 2800 Mhz (10.7cm) from various locations around the world and relayed to WWV. These flux values have been found to be a more accurate way of measuring sunspot activity than the smoothed sunspot average.

The 'A' index is a daily figure taken to indicate the status of the Earth's magnetic field. I have been told 'A' stands for Absorption. Since it is a record of yesterday's reading, what you really want to watch for is a trend. It is also interesting that this index fluctuates in cycles roughly every four weeks.

The 'K' index, (measured every three hours) indicates geomagnetic field intensity, and is your most up to date and reliable indicating factor. Here again, watch for trends. It is also a timely clue to aurora possibilities.

What To Look For:

High flux values (150 and over) and low 'A' & 'K' are your best conditions. Look for 'A' indexes below 10 and 'K' indexes below 2.

Good DXing, VE3CNU Rick Blythe

THE HAMILTON AMATEUR RADIO CLUB
 P.O. BOX 91215, Effort Square Postal Outlet, Hamilton, Ontario L8N 4G4

CLUB MEETINGS:
 Meetings are held on the third Wednesday of each month except July and August at the Nash Auditorium, Chedoke Hospital. Start time is 8:00pm. Non-members and friends are welcome, coffee and donuts are on the house!

EXECUTIVE MEETINGS:
 The Board of Directors meets at 8:30pm on the fourth Wednesday of each month in the Radio Room, Red Cross Building, 400 King St East, Hamilton. Members are encouraged to attend.

CLUB STATION:
 The HARC maintains an emergency radio station in the Red Cross Building, 400 King St East, Hamilton.

MEMBERSHIP:
 Membership in the Club costs \$25.00 per club year, 1 September to 31 August. Additional family members (no bulletin) are \$1.00 per year.

EDUCATION and LICENSE TESTING
 Amateur radio license courses are regularly scheduled. License testing through the Club is performed on the second Wednesday of each month (by Appointment). Contact the appropriate person responsible listed on the front cover.

REPEATER:
 VE3NCF 146.760 MHz (input-600), located on the Hamilton escarpment, is available for use by all amateurs. Special features (mailbox, link info) are privileges of membership. Part of the VE3RPT link system. Contact the executive for codes.

FIELD DAY:
 The HARC operates a multi-station site during Field-Day. Contact the Field-Day Coordinator on the front page for more information.

SWAP NET:
 A swap net is held on VE3NCF every Tuesday night at 8:00pm except during the summer. The buy and sell listings are also available on the club packet BBS VE3DC operated by VE3JSJ on 145.590 or via modem 575-4745.

FLAAMARKET:
 A flea market is held during September each year at the Ancaster Fairground. The 1993 flea market has yet to be set. The time will be 9:00am.

BULLETIN:
 The Hamilton Amateur, the official news bulletin of the Club is published ten times a year and sent to all members (families share a bulletin).

1 VE3IXF, MIKE, (416)679-6837
 -MH12A2B SPEAKER MIKE \$40.00
 -CSC46SOFT CASE FOR
 FT-470 4 1/2" BATTERY \$25.00

3 VE3VEH, ART, (416)389-9259
 DIAMOND X500A DUAL 2/770 METER \$250.00
 -DIAWA 2 METER LINEAR AMP.
 -2 IN-20 OUT LIKE NEW \$60.00
 -2 CB SIDEBAND RADIOS
 UNIDEN GRANT, & TSR 453 \$150.00 EACH
 -CBJ40 ANTENNA MAGMOUNT \$60.00

2 VE3NCK, BILL
 YAESU 101E SPEAKER AND CABINET \$50.00
 -MFJ 941-C ANTENNA TUNNER \$75.00
 -SHURE DESK MIKE \$75.00
 -PYENET HOMERREW ANTENNA TUNER \$50.00
 ALL THE ABOVE IN EXCELLENT CONDITION

1 VE3JIS, JACK, (416)648-6443
 SUPERIOR ROTER \$65.00
 -ARCHER ANTENNA ROTOR \$45.00
 -HA-500 LAFAYETTE RECEIVER
 80-6 METRE GOOD SHAPE \$55.00
 -TURNER +3 MIKE \$45.00
 -RINGO RANGER \$40.00
 WILL CONSIDER TRADE OF ABOVE ITEMS
 FOR CB SIDEBAND RADIOS
 -REALISTIC PRO SCANNER \$80.00
 -SSX 190 RECEIVER \$115.00
 TX-100 10 METER RIG, POWER SUPPLY,
 ANTENNA MATCHER 10 METER ANTENNA, MIKE,
 TS-120 KENWOOD 10-80 METRE DC CORD
 MIKE, MANUAL EXT SPEAKER \$495.00
 -AZDEN 2 METRE MOBILE AND BRAKET \$250.00
 -MANUAL SPEAKER \$185.00
 -TURNER SIDEKICK MIKE \$55.00
 -ALLIANCE U-100 ROTOR AND CONTROL \$55.00

AS OF OCT 27/92
 ITEMS WANTED LIST

1 VE3HTD, HENRY, (416)627-9931
 MANUAL FOR COMMODORE MPS-801 PRINTER
 1 VE3TFE, TOM, (416)559-6192 TOLL FREE
 GE MASTER EXEC 2 UHF PA.
 2 VE3HUF, TOM, (416)884-5596
 YAESU FDX400 MANUAL