

# FEED BACK

## GEORGIAN BAY AMATEUR RADIO CLUB NEWS

Editor Bill VE3EFX  
DECEMBER 1974

### Executive

President Jim Vamplew VE3CRV  
Vice Pres. Dick Shave VE3BIS  
Sec. Treas. Cy Weaver VE3DQA

The November meeting was attended by eighteen club members and five visitors, for a good turnout considering the weather conditions. The meeting opened at 8:07 pm and after the reading of the minutes , financial statement etc . there was some discussion on the question of repeater expenses.

As nobody bothered to write in with their comments it was assumed that they were not too concerned whether we use club funds or not. It was decided to use the club funds at the present time for all the normal operating costs incurred in maintaining the repeater.

There was an interesting talk by Dick, VE3BIS, on methods of matching an antenna to the transmitter, and all those present received a copy of his notes and this will be of some use to those who are getting into antenna experiments.

VE3EFX brought along one of the small portable radios used at the BHWP site and gave a brief talk on the capabilities of this gear. The equipment is able to operate on 2m but at \$800 per unit I guess sales would be slow.

Dave, VE3DXO, had the movie "FINE BUSINESS" and although some of those present had seen it before it was interesting as we know most of the people who took part in it.

Our illustrious president produced coffee and doughnuts and these were attacked with gusto while the movie was being shot up.

There was also a door prize donated by Cy, VE3DQA, and it was won by the XYL of VE3GFZ. She was nominated to draw the ticket from the hat and promptly drew her own number. We'll be watching you next time Carolyn. The door prize will be a feature of all meetings in future, the prizes being donated by club members , from their junk boxes.

As the club is collecting a considerable number of pictures it was decided to invest in a photograph album so that the club history can be traced in the year to come. We have a lot of the Field Day snapshots and those from the repeater antenna parties. Custodian of the album is Ian, VE3HIP.

On November 9th an antenna party went out to the repeater site and raised the receiver antenna to the top of the mast. The base of the antenna is now approx. 185' above ground and it appears that the coverage has improved, especially in Owen Sound which is right down in a hole and badly screened from the direction of the repeater. The two stalwarts who did climbing were Terry, VE3CAB, and Jorgen VE5HW who spent about six hours up the tower that day. We were very fortunate as far as the weather was concerned, it was like a sun er day and no wind .

The the club has been asked to help with providing communications Loran event in February that

could give us some excellent publicity in the national press. Local snowmobile clubs are putting on a 100 mile marathon run in this area in support of the Society for Crippled children and we should be able to make use of our 2m gear to assist them in reporting accidents, breakdowns etc. This will serve as a dummy run for the rally in May also. I hope to have details of the route by the time the meeting comes around.

The date of the DECEMBER meeting is the 16th of the month, this is the third Monday so that we don't get too close to Xmas period when our store keeper members make a killing at the expense of the rest of us, It will be held at 8pm in the C .I .A.G. Computer Bldg. as usual.

VE3EFX finally got an antenna tuner willing to load his W3DZZ inverted V on 160 metres. The first station heard was on CW and the first call raised him. He was in West Virginia and reports were 579 both ways. On SSB I talked to VE3AIU, Fred in Goderich so we are getting out and hope to have some contacts on this band during the winter. Details of the tuner will appear on the next page along with a write up on its operation. I'll bring the unit along to the meeting to show to those who may be interested in trying to get on this band. Dick, VE3BIS aptly named this - "Show and Tell".

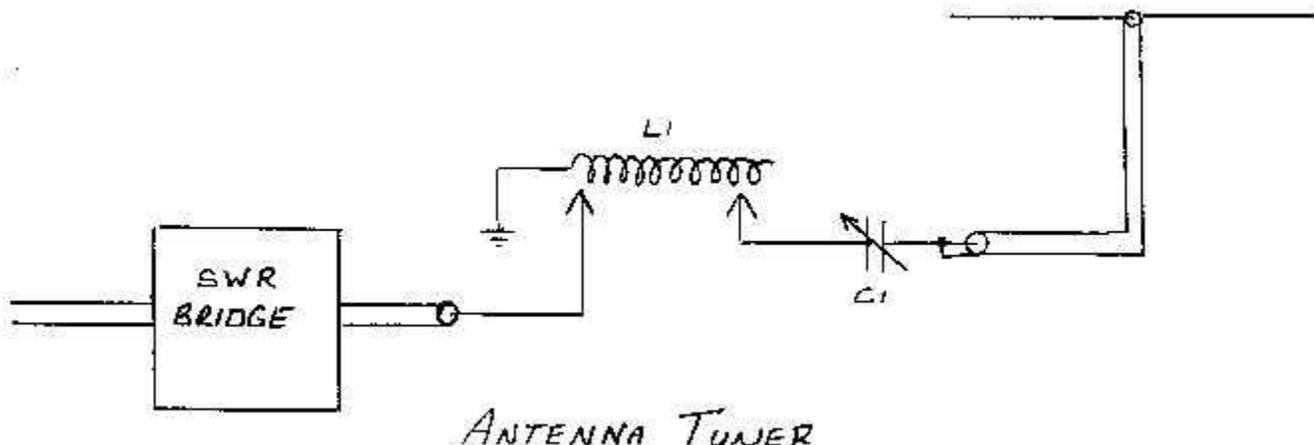
The GBARC net meets each Sunday on 3.783 mhz at 14.30 Z tune in and check in.

#### Antenna Tuner for the 160m Band

Below is the schematic of a tuner that will allow you to load an antenna designed to operate on 80 through 10 metres, on the 160m band. In my situation I wound 40 turns of #20 wire on a 2" diameter form 6" long, one end is not connected and the other end is grounded. The coax inner and outer conductors are short ed and coupled to the coil through a variable capacitor of at least 500 uuf. max. I had to use about 800uuf in mine . The TX is coupled to the other end through an swr bridge. . To tune the antenna, start with the connections at the outer extremities of the coil and use the minimum amount of drive necessary for an indication on the meter. At first you can expect a high SWR, move the connections in from the end of the coil one turn at a time and adjust the capacitor for minimum SWR. I used alligator clips to connect to the coil, later you can make permanent connections when you have sufficient inductance in the circuit.

Each installation will be slightly different as far as the values are concerned so you will need to experiment with it till you got the SWR down to reasonable proportions. I got mine down to 2.3:1 and it seems to be working out fine. When winding the coil try to get the turns spaced evenly and if you have heavier wire up to #14 it will be easier to connect to.

A good ground is important if you can get it. I just used the electrical ground at the plug for mine but I may try to improve it later. If you have 160m capability on your rig try this tuner and you will be surprised at the results



There are a number of amateurs in the club who do not have the experience or the technical background necessary to get themselves out of difficulty when they encounter problems with their equipment. This is no reflection on the individual and it is in the best interests of person concerned and the club if we can arrange to have a nucleus of competent people who are willing and able to assist in straightening out the problem. Due the fact that our membership is scattered over a large area it will be necessary to have people in various localities who can be relied upon to help an amateur who has trouble with his gear, TVI, or just needs help to work on his antenna. With a view to organizing this we should discuss it at the club and on the net. Some of us have the test equipment that others do not and if an amateur has a problem he should be able to call on someone who is reasonably close by and can provide advice and assistance.

To date the following amateurs have been involved in this type of "Big Brother program", VE3FFN VE3CRV, VE3BIS and no doubt there are others whose efforts I have not heard about.

The important thing is for the guy with the problem to know who to turn to for help, and also to be able to learn from the help he or she receives. By that I mean they should not just send the sick rig down to have it fixed and collect it when the job is done.

Most "ham" gear isn't all that tough to fix and the first thing to do is isolate the trouble to a specific section of the equipment. It is surprising how much can be accomplished using only a multimeter and common sense. Quite often an open circuit between the eardrums is the main trouble and none of us are immune to that problem. On two occasions I sweated over a receiver for two hours, after doing a minor repair, only to find that it wasn't picking up signals because of a solar disturbance that had wiped out all the bands that day. It was pure chance that it happened while I was working on the set but I let it happen twice in a three year period. These "blackouts" usually only happen when we are near a sunspot maximum and they can take out all bands from 80m to 10m.

The problem of TVI isn't nearly so bad as it was at one time, and if you are only bothering one set the trouble is often at the Tv set itself. For instance if you have 100 sets in your block and only one is being bothered you can be pretty sure the problem is in the Tv.

I'd like to hear from those in the club who feel that this type of assistance would be of value to them, so if you have any comments bring them along to the club or air them on the Net or repeater. The GBARC net meets on 3.783 mhz every Sunday at 9:30 A.M. EST, please call in on CW.

How I became interested in Ham Radio

By Cy Weaver VE3DQA

My first interest in radio came about during my early years in High school cadets when we were asked to join the local militia to become radio/telegraph operators even though we were only around 16 years of age. After attending evening classes and a summer at militia camp a number of us were granted an operators licence for the radio equipment then in use by the army, and believe me it was some equipment. Even though it was considered to be portable gear it took two men and a mule to carry it. My interest was thoroughly aroused so during the balance of my school years I scrounged as much gear as I could and experimented with all types of receivers, transmitters and antennae and believe me some strange results were obtained. Before leaving school I made up my mind that I would go into the radio field, however since we were still in the depression years money or further training was at a premium so I decided to join the army to attain this end, however in those days it was necessary to wait your turn on a waiting list and so I was able to obtain a part time apprenticeship in telegraphy with the CNR until my name came up for the army in the late fall of 1936 whereupon I was accepted in the Royal Can.

Horse Artillery in Kingston and after the regular "BOOT" training was sent to Barriefield signal Corp training school for a nine months course on radio and it was here that I first came in contact with Ham radio thru the medium of the ham station which was operated from that base (VE3RCS) and from

which I made some first contacts. At that time it was considered to be one of the best available but I shudder to think what it would be like in our present age of TV.

After completing this course I was returned to my own unit to set up a radio system for the entire regiment, and by this time the shadows of war were spreading and new equipment was being adapted rapidly which required further courses. By the time I found myself ready to return to a normal life I found myself on draft for overseas and arrived in Liverpool on Dec. 26 1939 and from there on in was kept very busy with radio and other communications. Having operated various types of equipment throughout the war I came to the conclusion that when the war was over I would become a Ham. On returning home I found myself busy re-establishing myself in civilian life until 1950 when I applied for my Ham licence and put my first Home brew transmitter on the air., a one tube job using a 6L6 with a coil I wound from #18 bell wire with a wood chassis with an ancient SX28 receiver. With this rig I made many, many excellent CW contacts on both 40 & 80 My next rig was built from circuit supplied by the Hammond CO. and was capable of 35W CW however after a few months I caught the urge to go higher power, and with all the surplus gear available picked up enough parts to build a 750w all band xmitter and also acquired a surplus R1155 receiver which I converted to 110V and this gear was operated until 1959 when TVI became a serious problem so the whole rig was retired. For the next 7-8 yrs was inactive until my interest turned to the VHF bands and I acquired some 2M gear, however contacts were very scarce until the advent of repeaters . My interest still lies with VHF and UHF and I hope that in the future to see 220 & 450 come into use.

#### SUNSPOTS AND DEADSPOTS

All Radio Amateurs are aware of Solar disturbances. During periods of extreme Solar activity the Sun is blamed for all kinds of band "DEADSPOTS". That such should occur is to be expected when one understands the origin and propagation of the electromagnetic waves which cause this condition. Our Sun is a very hot spot. We are inclined to think of it as a solid sphere radiating a bright light and blistering temperatures. The Sun, however, is not a solid sphere but a very dense accumulation of gasses which, because of the pressure exerted on them by gravity, (the Sun's, that is, not terrestrial gravity), are so highly compressed, the atoms making up these gasses are forced into extremely intimate contact with one another. Reactions at the atomic level must be expected to occur under these conditions and it is these reactions that produce heat and visible light.

Light , however, or more correctly visible light, is part of the electromagnetic spectrum. Radio wave radiation commences at about a wavelength of 20 kilo metres and extends up to a wavelength of approximately 1 millimetre, As we travel upward toward the shorter wavelengths (or increased frequencies) we pass through the infrared range from about 220 microns into the visible light range from about 7800 angstroms then successively through X- rays, gamma rays, into the cosmic ray photons. Light rays and radio waves are therefore one and the same thing, the difference lying solely in the wave length and hence the frequency of the particles making up the wave .With so much activity of electrons in the sun radiation at all wavelengths in the electromagnetic spectrum occurs.

Most of this radiation (from the Sun) , at the longer wavelengths, is used up or absorbed in its travel through space or through our atmosphere , and during periods of normal solar activity has little effect on our electronic equipment.

#### ENTER THEN THE VILLAIN . .THE SUNSPOTS CAUSING DEADSPOTS

No one has yet come up with a perfect theory to explain this cause, but there are several facts known about them. They come in a wide range of sizes, and spots (or groups of spots) can reach up to 6,000,000,000 square miles. They oftener than not, appear as pairs or larger groups. They occur mostly between latitudes 5 and 30 deg. North and South of the equator. Only rarely are they seen in latitudes greater than 40 deg. and, perhaps what is most interesting, they follow a well defined periodicity of about 11.5 years.

We have left the goodies to the last. As we said earlier, no one has given a fully satisfactory explanation of the cause of sunspots or what they consist of. We do know that if these spots possess very strong magnetic fields and investigation has shown that the magnetic field changes polarity: and since those magnetic fields speed up charged particles (that is electrons, protons and neutrons) from the chromosphere (or outer layer) of the Sun much the same as a manmade cyclotron, the particles are moving at a tremendous energy level which is sufficient to carry them into our atmosphere .

A rather interesting fact stands out. The Sun's surface temp. is about 6000 deg.k (0 deg k = -273 deg c) but the sunspots themselves are in the vicinity of 2000deg lower. Since this is so, their cause could not be increased atomic activity, or a higher temperature would be found. The most probable cause , then, would be the magnetic turbulence imparting additional energy to the charged particles in the sun's s chromosphere .

One other point is of interest . Since the magnetic lines of force on Earth converge at the poles (else why would a compass needle point North and South) the ions streaming into our atmosphere are caught up and carried to the terrestrial poles, so, during periods of Solar activity our "Nothern Lights" are at their most spectacular .

One last thing . . What can we do about them? Answer . . . Nothing, just learn to live with it. Since they embrace all wavelengths of the radio spectrum, no one has come up with a filtering system yet. Maybe we could work on it! and if we find it we shall become very popular.

HARVEY . . . . . VE3FOT

In the January issue of the newsletter I plan to have a complete membership list.

NOVICE QUESTION OF THE MONTH ---- HOW DO I WORK DX?

This is a question FREQUENTLY asked by the novice operator, and volumes can and have been written on the subject.

DX is a relative term to begin with. It used to mean distance but now means any rare station or callsign, and the distance is of secondary importance. Usually a station

calling OQ DX wants a contact outside of his own continent.

The first thing to be aware of , is when to use the various bands, i .e. 80m DX comes in during winter evenings through the night and. often till sunrise . The 20m DX comes in during the day with openings to ASia in the evening and early in th morning. The 15 and 10 m bands are daylight bands.

CW DXing i sa bit different from phone Dxing as you will have to compete wit Stateside stations in the same part of the band. It is advisable to listen well be fore calling DX to see if he is listening for your area. If a pileup developes he may call selectively and you must wait your turn. DXpeditions will work split freq., so you must know where to call in order to be heard.

Fast breakin is an advantage for this type of operation and you must keep calls short.

Working DX is only half the battle, getting a QSL card is often harder , and it is just about impossible if you don't follow the instructions given by the DX.

If you work run of the mill DX, they will usually ask for QSL via their bureau Your problem is how to get it there. If you belong to the "Canadian DX Assoc", they ship cards to foreign bureau if you send them into their Toronto address.

For faster returns send your QSL direct and enclose an International Reply Coupon with a SAE, If the station has a QSL manager your card must go to him so it is important to listen for QSL information

given by the DX station,

DXpeditions will almost certainly have a QSL manager, and often in the States or Canada. If the QSL manager is in Canada send a SASE with your card and if he is in the States send an IRC and SAE.

Briefly , then , that is the technique . Hopefully this will give you some answers to the first Novice Question of the Month. This feature was suggested by Mike, VE3HIN and I expect to be kept busy as the boys come up with questions each month,

As I do not have all the contest results in yet, and I want to get this in the mail on the 5th, I will announce the winner at the meeting and I'd like to take a few minutes to go over the results as there are a number of points that I want to make clear .

VE3EFX worked the Navassa Island Dxpediton, KC4NI, just one hour before they QRT and left the island. QSL via K2FT.

VE3HIR has worked 23 states now and has 15 are confirmed. How are the others doin? She picked up six new ones in the contest,

Twenty metres has been good lately with DX coming in from all over. The following were heard at various times over the past week, XU, VU, ZD7, KC, JA, 5T5, EP and lots of the usual Europeans.

For those interested in the Worked Ont. Counties Award, Patricia is available if you look for VE3EEV in Sioux Lookout on the North West Ont. net. At 00.15z, 3.750

The Field Day results in QST showed that our entry placed tenth in Canada in the 2A class. Our neighbouring club at Goderich only made 329 contacts using six stations so I am very pleased with the effort put in by all who took part.

The Simulated Emergency Test takes place on the weekend of January 25th-26th. I'd like to see as much activity by the club members as we can generate, the idea being to put traffic on the nets and be available to handle traffic into your area. Be sure to familiarize yourself with the message form ahead of time.

Oscar 7 is in orbit and apparently functioning satisfactorily. Listen to the WIAW broadcasts for orbital data and pass times, Oscar 6 is still operating after two years in space .

The class for the Advanced license starts in January and hopefully all those who were licenced this year will sign up and get their phone tickets.

Don't forget to pay your club dues this month. Only those who are paid up members will receive the next issue of "FEEDBACK" .

Ian, VE3HIP has his trap dipole up now and it seems to be an improvement over the G5RV. That was a good signal on the net Ian.

Jim, VE3HKV, tangled with a signpost the other night, modified the front end of his car, cleaned off the roofrack, ejected the 2m whip and collected a QSL from the OPP, all in a very short time.

A good publication on LIGHTNING PROTECTION is available FREE from  
GOSLYN ELECTRONICS SYSTEMS  
SANTA BARBARA RESEARCH PARK .  
BOX 317 GOLETA, CA 93017

The above item was SENT in by VE3GLR. Tnx John. .

As we come to the end of another year I'd like to wish you all a very MERRY CHRISTMAS and the best of luck and DX in the NEW YEAR.

73 ve3efx