MAR/91

NORTH SHORE AMATEUR RADIO CLUB INC.

P.O. BOX#171, OSHAWA,ONT., L1H 7L1

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AUDITOR	HARRY WESTWOOD	VE3OG	683-5104
EDITOR	EDWIN H. TAYLOR	VE3FRM	985-3790

CLUB STATION..... VE3NSR
CLUB REPEATER..... VE3OSH .. 147.72mc IN ... 147.12mc OUT
HARRY'S REPEATER..... VE3NAA .. 448mc IN ... 443mc OUT

2-metor NET CONVENES EVERY THURSDAY AT 7:30 pm ON THE CLUB REPEATER, VE3OSH. AS PART OF THE NET, CODE PRACTICE IS PROVIDED BY BERNIE VE3ATI BEGINNING AT 8:30pm.

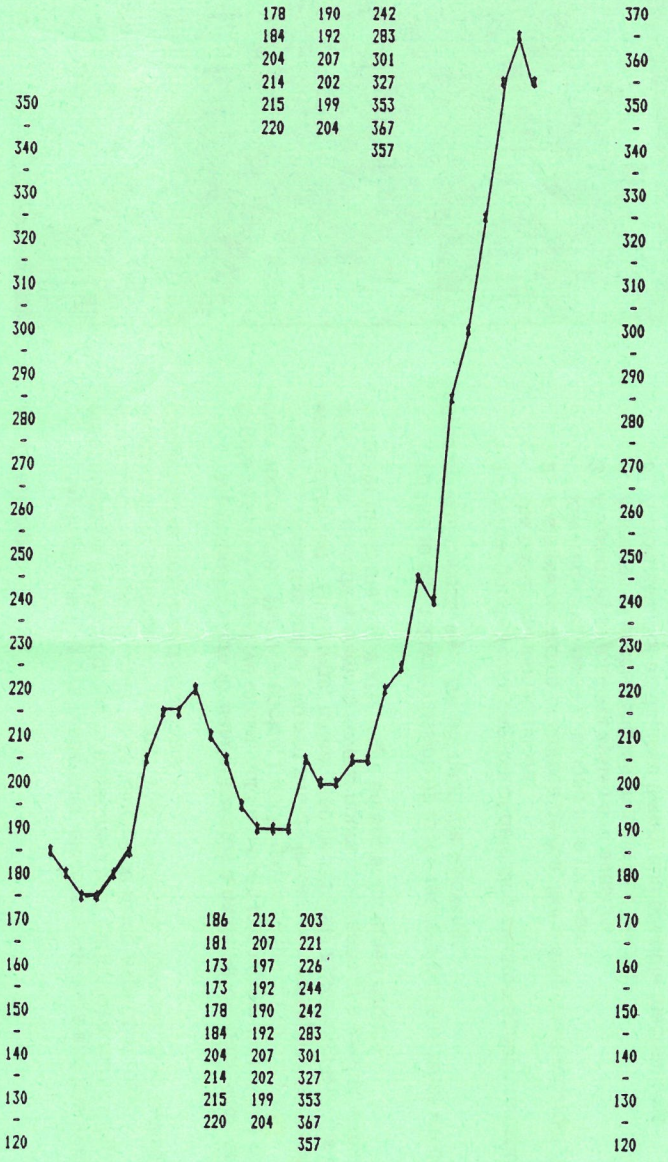
10-metor NET - A GROUP OF LOCAL HAMS MEET SUNDAY ON 28.200 mc USING CW FROM 9:00am TO 10:00am, THEN SWITCH TO SSB PHONE UNTIL EXHAUSTED OR HUNGRY.

CO-ORDINATORS

NONQUAN CANOE RACES	GLEN GOSLIN, VE3LIZ	725-1545
RIDE FOR THE HANDICAPPED	RAY ZAMBONELLI, VE3OUB	723-2467
	RALPH DAY, VE3CRK	576-8738
SANTA CLAUSE PARADE	RALPH DAY, VE3CRK	576-8738
FLEA MARKET	GORD McCUAIG, VE3NZS	683-4054
CLUB INVENTORY	DOUG BARNES, VE3WJR (705)	357-2342
VE3CNE & FIELD DAY	GREG SCHATZMANN, VE3GJS	576-4655

SOLAR FLUX NUMBERS FOR THE MONTH OF JANUARY 1991

186	212	203
181	207	221
173	197	226
173	192	244
178	190	242
184	192	283
204	207	301
214	202	327
215	199	353
220	204	367
		357



AVERAGE SOLAR FLUX NUMBER FOR THE MONTH OF JAN. IS 227.5

Thanks to Vic, 3LNX for the solar chart for January. Looks like the month went out with a flare! Vic sez the Doppler System project is slowly getting on. Next meeting, everyone should have their P.C. boards and things will get moving. There should be a transmitter hunt by April.

Our next meeting will be March 11th, 8:00pm at the Arts Resource Center in the Green Room. We will have a talk by a representative of COMRA. COMRA is made up of 7 or 8 crews who form a Harbour Watch for the city of Oshawa. Come on out and find what its all about!

Thanks to Len Nixon, pages three and four have a listing of Ontario Repeaters. Most VHFers should find this handy. Len hopes to have soon, a listing of some of the more interesting frequencies to plug into your scanners, WX, Roads, Public Service, etc.

Don't forget the flea market is coming up soon. We need all the help we can get. Please contact Gord McCuaig, VE3NZS at 683-4054 if you can help.

Just around the corner from that is the Nonquan Canoe races, if your interested in helping out with communications, contact Glen Goslin, VE3LIZ at 725-1545.

FOR SALE

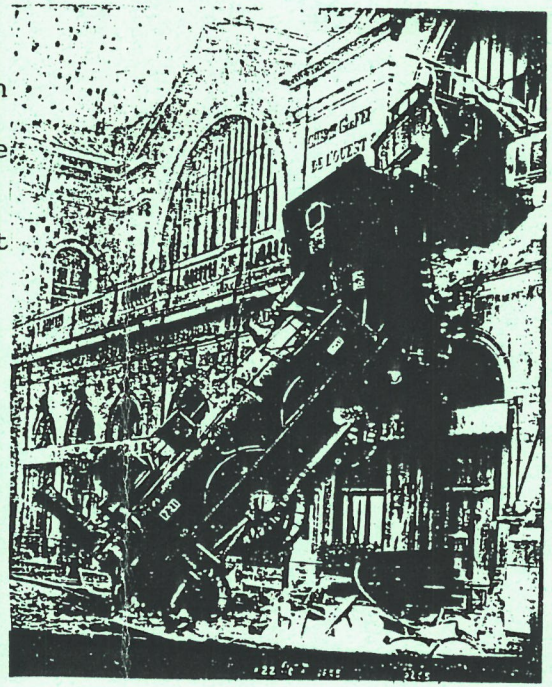
Yaesu FT209RH, 5 watts, complete with charger, two antennas and manual.
BEST OFFER!!!
Call Charlie Phillips, VE3EII, (416) 852-3506

ALSO

Ed. Taylor, VE3FRM has up 4 grabs, one Honeywell chart recorder. 10 inputs 7 days. Only $20.00

Howze 'bout a 110 vac line regulator for only 20 bucks?

The following article on Radio Waves that precede Earthquakes has been stolen from the Lowdown which is the monthly bulletin of the Longwave Club of America. It gives food for thought, I hope you find it interesting.
I recall, during the mid 50's when research was being done to improve communication in the ULF range for submarine work, ULF "Earth Waves" were detected before, during and after earth quakes. I see no mention of this in the article. Perhaps it is in the references.



Earthquakes and Radio Waves

Just after the 1989 Loma Prieta earthquake a momentous event occurred. In a study headed by Stanford's Anthony Fraser-Smith, a team of scientists discovered some electromagnetic anomolies just prior to the quake(1,2). The team found measurable changes in the ultra-low frequency (ULF) range of the radio spectrum, that is 0.01 to to 10 Hertz (ten cycles in one second to one cycle every 100 seconds). Specifically, there was:

- an increase in the background noise across this band on October 5th
- a decrease in the background noise on October 16 in the 0.2 to 5 Hertz range, and
- a very large increase in the 0.1 to 0.5 Hertz range three hours prior to the quake.

In addition, Japanese scientists have recorded anomolies in the 1 to 9 kHz range (4,5). They used sensors deep inside boreholes, which conveniently reduces man-made noise. Scientists from the US Geological Survey remain cautious, since the anomolies may have been simply coincidental. They are however setting up the Fraser-Smith apparatus at Parkfield, California, a site where seismologists expect a quake in the near future.

Jim Berkland predicts earthquakes. He puts out a newsletter that lists, by pecentage, the probability of an earthquake occuring within a tidal "window". These windows are generally 7 days wide. He also tracks the number of runaway dogs and cats, believing they are somehow sensitive to impending quakes. Other factors he looks at are geyser activity, whale beaching, and reports form people who claim physical symptoms prior to earthquakes. He successfully predicted the quake of October 17th, 1989, and claims an approximate 80% success rate over the last decade.

Could these ULF radio waves be the Rosetta Stone that translates odd animal behavior into earthquake prediction? I sure would like to find out!

A Challenge

My feeling is that this readership, electronic tinkerers and low-frequency nuts, might be the ideal group to experiment with earthquake monitoring. I know such monitoring could be accomplished using expensive digital processing or spectrum analyzers. The challenge, however, is to devise a circuit that is simple and affordable.

My thoughts seem to wander towards a modified low-pass filter, or a simple resistive-capacitive circuit, but I am open to anything that would cost less than about $200. The first choice, I would guess, is the 0.1 to 0.5 Hertz category, since this range showed a large increase in noise, and is therefore easily detected. This range, further, seemed closely associated with the quake, and might provide a warning several hours in advance of a seismic event. On the other hand, the 1 to 9 kHz might be easier for tuned circuits.

I'd like to open this discussion up to the readers and see what we can come up with collectively. We will need the following:

1. A few good circuits capable of detecting electromagnetic radiation in the bands mentioned above.
2. A simple recording or storage device, like a strip-chart recorder, to plot low frequency noise over long time intervals.
3. A summary of antenna systems or sensors.
4. A means of exchanging information and results.
5. A discussion of earthquake theory and possible mechanisms for generating ULF waves.

Please feel free to contribute. All information I receive will be freely shared with others unless specifically requested not to do so. And, of course I will report my findings through this publication, with the editor's permission. Write to Vince Migliore, P.O. Box 750415, Petaluma, CA 94975.

REFERENCES

1. *Radio Loma Prieta*, "Up Front", Discover, May 1990.
2. *Broadcast Warning, Did radio waves portend the Loma Prieta quake?* Scientific American, March 1990.
3. *Radio Earth, the Radio-seismic Connection*, Joseph Tate, Whole Earth Review, Fall 1990.
4. *Earthquakes Emit Radio Signals*, "Earth News" section of Earth magazine, Vol.1, No. 1, January 1991.
5. *Pre-quake quirks: Searching for predictors*, I. Chen, Science News, October 13, 1990
6. *Short-Term Earthquake Forcasting*, by Henry Johnson, The California Fire Service, December 1990.
7. *Earthquakes: the Solar Connection*, Patrick Huyghe, Science Digest, October 1982.
8. *Radio Waves Signal Earthquakes*, Stefi Weisburd, Science News, December 20 & 27, 1986.
9. *Did Earth give clues prior to Bay quake?* R. Monastersky, Science News, December 15, 1990.
10. QuakeLine (Earthquake prediction telephone service) 1-900-844-JOLT. $2.00 first minute, $1.00 each additional minute.
11. SYZYGY An Earthquake Newsletter, edited by Jim Berkland, 14927 East Hills Road, San Jose, CA 95127, $35 year.
12. *Low frequency magnetic field measurements near the epicenter of the Ms 7.1 Loma Prieta Earthquake*, A. Fraser-Smith, A. Bernardi, P. P. McGill, M. Ladd, R. Helliwell, O. Villard, (STAR Labs, Stanford) Paper presented to the Geophysical Research Letters, 1990.

Repeaters for Ontario

144.5 - 148 MHZ

NIAGARA

DUNNVILLE	147.075	+	VE3IDNR
FONTHILL	147.3	+	VE3WCR
RIDGEWAY	147.165	+	VE3NKH
ST CATHARINES	147.24	+	VE3NRS
THOROLD	145.19	-	VE3RAF

NORTHWEST

GERALDTON	147.9	-	VE3GLD
KENORA	146.91	-	VE3YQK
KENORA	147.03	-	VE3LWR
LONGLAC	147.06	-	VE3LLT

OTTAWA VALLEY

PEMBROKE	146.76	-	VE3NRR
PETAWAWA	146.61	-	VE3PTR
RENFREW	147.06	-	VE3STP

SEAWAY VALLEY

BELLEVILLE	146.985	-	VE3KBR
BRIGHTON	147.165	+	VE3LGX
BROCKVILLE	146.82	-	VE3BAT
CORNWALL	147.18	+	VE3SVC
KINGSTON	146.79	-	VE3KNR
KINGSTON	146.94	-	VE3KER
MORRISBURG	146.76	-	VE3SVR
PICTON	146.73	-	VE3RAA
TRENTON	147.015	+	VE3TRN

SOUTHERN ONTARIO

BRANTFORD	147.15	+	VE3TCR
DELHI	147.045	+	VE3WAT
SIMCOE	146.925	-	VE3SME
WATERFORD	145.33	-	VE3SWL

SOUTH-WESTERN ONTARIO

CHATHAM	147.12	+	VE3KCR
#KINGSVILLE	145.25	-	VE3ZZZ
LEAMINGTON	147.3	+	VE3TOM
SARNIA	145.37	-	VE3SAR
WALLACEBURG	146.985	-	VE3WAL

TORONTO

ACTON	147.03	+	VE3RSS
AURORA	145.47	-	VE3ULR
AURORA	147.225	+	VE3YRC
BRAMPTON	146.655	-	VE3MHZ
BRAMPTON	146.88	-	VE3PRC
GEORGETOWN	147.135	+	VE3OD
MILTON	147.255	+	VE3ERX
MISSISSAUGA	145.43	-	VE3RCX
MYRTLE STA.	147.375	+	VE3SPA
OSHAWA	147.12	+	VE3OSH
STOUFFVILLE	147.27	+	VE3TWC
STOUFFVILLE	147.33	+	VE3TDX
TORONTO	145.11	-	VE3WOO
TORONTO	145.13	-	VE3TRO
TORONTO	145.23	-	VE3XUU
#TORONTO	145.25	-	VE3AYC
TORONTO	145.35	-	VE3WIK
TORONTO	145.37	-	VE3GER
TORONTO	145.41	-	VE3TWR
#TORONTO	145.45	-	VE3PSR
TORONTO	146.7	-	VE3ITY
TORONTO	146.94	-	VE3TOR
TORONTO	146.985	-	VE3SKY
TORONTO	147.18	+	VE3WOT
UXBRIDGE	146.67	-	VE3PIC
UXBRIDGE	147.06	+	VE3RPT

WESTERN ONTARIO

GODERICH	147.03	+	VE3GOD
GRAND BEND	146.76	-	VE3RGB
HENSALL	146.91	-	VE3OBC
PORT ELGIN	146.82	-	VE3PER
STRATFORD	145.35	-	VE3RFC

WINDSOR

MCGREGGOR	145.39	-	VE3SOT
WINDSOR	145.47	-	VE3RRR
WINDSOR	147.	+	VE3WIN
WINDSOR	147.06	+	VE3III

BARRIE

BARRIE	147.	+	VE3RAG
EDGAR	145.19	-	VE3TTB
EDGER	146.85	-	VE3LSR
#EDGER	147.39	+	VE3LSR
ORILLA	147.21	+	VE3ORR

CENTRAL EAST

APSLEY	146.97	-	VE3OCC
CAMPBELLFORD	145.39	-	VE3KFR
ESSONVILLE	147.24	+	VE3TBF
PETERBOURGH	146.625	-	VE3PBO
RICE LAKE	145.15	-	VE3RTR

CENTRAL NORTH

BRACEBRIDGE	146.88	-	VE3MRT
DWIGHT	146.82	-	VE3MUS

CENTRAL ONTARIO

COLLINGWOOD	146.79	-	VE3MTR
MIDLAND	146.76	-	VE3SGB
MIDLAND	146.91	-	VE3UGB
OWEN SOUND	146.73	-	VE3RBT
OWEN SOUND	146.94	-	VE3OSR
PENETANG	147.15	+	VE3PEN
PENETANG	147.18	+	VE3MGB
PROTON	146.64	-	VE3RAM
SHELBOURNE	146.685	-	VE3ZAP

EAST

KEMPTVILLE	145.45	-	VE3RIX
MOOSE CREEK	145.37	-	VE3OJE
SMITHS FALLS	146.64	-	VE3RED
SMITHS FALLS	147.21	+	VE3RLR

EASTERN

MAYNOOTH	147.	+	VE3MPR

HAMILTON

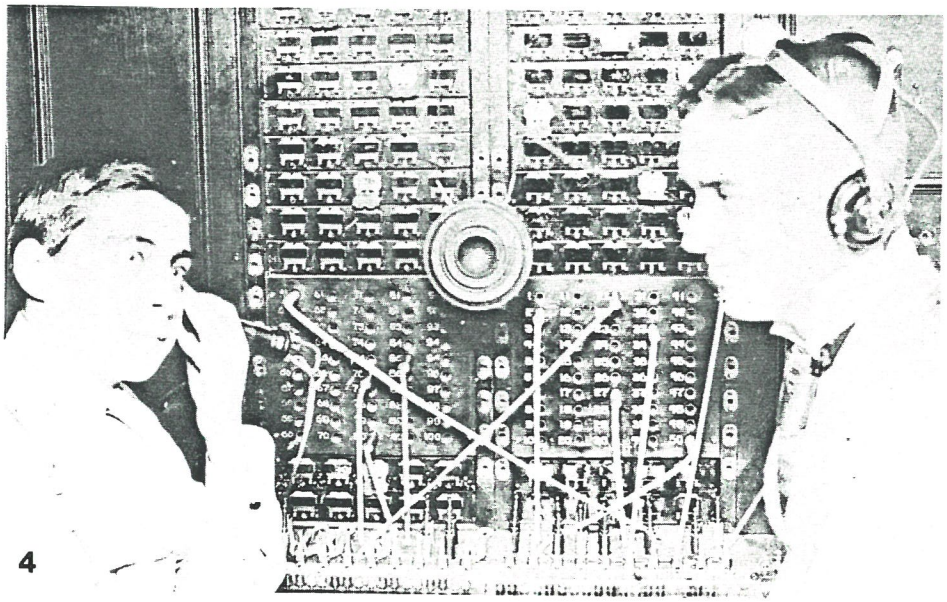
BURLINGTON	146.895	-	VE3RAE
BURLINGTON	147.21	+	VE3RSB
GRIMSBY	146.805	-	VE3TVI
HAMILTON	145.49	-	VE3DHM
HAMILTON	146.76	-	VE3MCF
HAMILTON	147.105	+	VE3MBR
OAKVILLE	147.015	+	VE3OAK
STONEY CREEK	147.345	+	VE3PDX2

KITCHENER

BADEN	146.97	-	VE3KSR
CAMBRIDGE	146.79	-	VE3SWR
GUELPH	145.21	-	VE3ZMG
KITCHENER	146.865	-	VE3RCK
#WATERLOO	146.835	-	VE3WWW
WATERLOO	147.09	+	VE3WFM

LONDON

DORCHESTER	147.24	+	VE3MDT
INGERSOLL	147.27	+	VE3OHR
LONDON	145.39	-	VE3MGI
LONDON	147.06	+	VE3LON
LONDON	147.18	+	VE3TTT
LUCAN	147.	+	VE3MCR
ST THOMAS	147.33	+	VE3STR



When 3OSH was first installed, Burnie and Harry would often listen in to the mobiles from the repeater site.

THE DEATH AND SALVATION OF A LIBERATOR

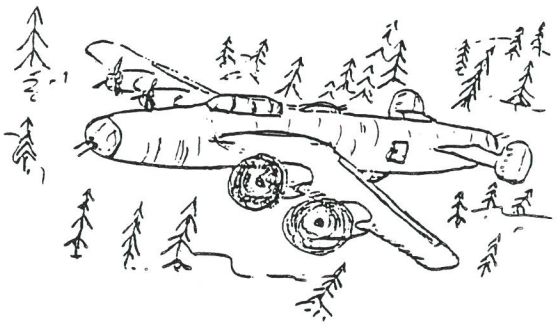
by VE3FRM

On February 18th 1944 in the dusky light of Arctic winter, Liberator #586 lifted its wheels off the tarmac at Reykjavik Iceland. She was American built but proudly wore the colours of the Royal Canadian Air Force. Her four husky engines roared in unison, the staccato sound was sent reverberating off the silent glaciers and lone snow covered mountain causing polar bear and native alike, to peer skyward in awe. Pink tinted vapour trails appeared sporadically from her wing tips as she climbed higher and higher into the deep green aether. How gallant she looked, a Canadian warbird returning home after many months of patrol duty and having sent two of Hitler's killer U boats to a watery grave along with their motley crews.

A young passenger by the observation window took in the scene far below. The dark navy blue waters were dotted with phosphorous white foaming caps, disappearing then to reappear as in a boiling cauldron. The sight stirred memories of mothers bubbling porridge cooking on the kitchen wood stove, brown sugar, maple syrup, country cream served unsparingly. The young man clutched his grumbling stomach, he would never complain of mom's porridge again. After months of Air Force grub and tinned rations, that lumpy porridge would sure go down good right now. Christmas had been spent dutifully in the North Atlantic helping to increase the odds of a safe return for the brave Allied merchant marines who plied these sub infested waters to deliver goods into the hands of our fighting men in Europe. Now it was his turn to come home for a short respite. Mothers last letter said that a portion of her Christmas pudding had been carefully stored for his return. Leave had been a long time in coming. The steady drone of the engines and the easy rocking from air turbulence soon put the lad to sleep. They were in friendly skies and the long trip home was a monotonous one for both the pilot and navigator who fought to remain alert.

This should have been a "milk run" for Liberator #586. She had one brand new engine, no load, good weather reports, a crew of 5 plus one passenger and she was going home. As was regulation, radio silence was maintained, it was not until Gander was within an hours reach when the happy home comers learned that the field was closed in. The pilot banked right and corrected his course for Goose Bay. From here on in things got progressively worse and its of such stuff that nightmares are made. Engine trouble became prevalent and the altimeter showed a steady decline. As land came into sight icing was apparent on the wings, #4 engine was feathered, #3 was windmilling, #2 and #1 were giving full power but #1 was vibrating badly. They made land just above the tree tops and for a few brief minutes hope ran high, however as a wing dipped to bring them in line with Goose Bay, Liberator #586 met her end.

What happened next cannot be described even by the survivors of that terrible crash. She came down in bushland about 15 miles North of Goose Bay. Wreckage was strewn far and wide. Not one square foot of her was spared of dents and rents from pine limb and bough. The observers compartment was ripped off and that is where the lifeless young passenger was found. Outside, from the protection of the derelict fuselage, the cold winter wind ravaged quickly shifting loose snow back into the 150 foot scar cut by #586. Those who could walk reverently placed



the young passengers body inside the protecting fuselage safe from foraging animals. Trained in survival and with the trusty RCAF Survivor Manual they soon had things ship shape. Attention was given to the injured and a fire was struck at the severed end of the fuselage. Rations were accounted for and sparingly meted out. The wireless was beyond repair, signal fires were kept burning 24 hours per day but no search craft came to rescue them from peril. The days slowly dragged by and the nights stood still. There was little comfort to be had. Some nights from a nearby rise a lonesome wolf would pour out his mournful tale of woe to the homeless snow and those heart sick boys would agree with his lament. Had Canada forgotten her native sons who risked life and limb daily for the Dominion? Had they come this far only to perrish amid the pine and cedar?

On the seventh day a lonely trapper stumbled upon the crash site and soon Base personnel and town folk were alerted to the tragedy. Horses were hitched to sleighs and even dog sleds were pressed into service. These were useful in negotiating the worrisome back woods trails. Medical supplies and foodstuffs along with many helping hands were on their way to release deaths tight grip that held our young aviators.

The bones of Liberator #586 had lain in Labrador's wasteland for 45 winters until an American collector learned of its where-abouts from Nova Scotian, Phillip Mosher. Mosher had purchased the wreckage from Canada's Department of Supply and Services. He in turn sold it to collector Tom Reilly who owns Flying Tigers Warbird Air Museum in Kissimee Florida. A condition of sale was the plane be restored and not used for parts. Reilly had most of the wreckage airlifted to dock side in Goosebay where it was to be packaged and shipped to Florida. Here the RCMP impounded the wreck and would not let Reilly package it. For seven weeks this piece of Canada's history lay open for scavengers and souvenir hunters. It now lays wrapped in bureaucratic red tape but I am sure Reilly will get his airplane either by diplomatic or legal means. Reilly estimates that by the time Liberator #586 reaches Florida, he will have invested $100,000. Hopefully in another three or four years we will be able to see a fully restored Liberator #586 sitting on the tarmac in Kissimee, telling its story of Canadian adventure. There are only eleven Liberators in existence today. By the way, a Liberator is a B-24 and looks a little like the Lancaster.

If you have not as yet paid your dues, please do so now or this will be the last snooze letter you will receive. We don't want that to happen! Please send your $15.00 to: Keith Wyard-Scott, 298 Dover Street, Oshawa, Ontario. L1H 7L1. Make cheques payable to the North Shore Radio Club.

Club member Mike Sherba has been busy on the long waves. He copies KRY from Shardon Ohio, east of Cleveland, on 176.4 kc. KRY is a lowfer beacon running less than one watt! Mike uses the coax on his twenty meter beam for reception. He also copies OHH, Herb Balfor from Richmond Hill. Herb runs about twenty watts, I think. This is allowed in Canada.