SKYWIRE

MONTREAL AMATEUR RADIO CLUB

U. B. C. Amateur Radio Club VE7ACS

MARCH, 1949

SKYWIRE

VOL. 2 No. 3

Published monthly as the official organ of

THE MONTREAL AMATEUR RADIO CLUB

of Montreal, Canada.

Edited by Fenwick Job, VE2TH!

CONTENTS

==========

Skywire Mailing Address

Montreal Amateur Radio Club, Box 1, Station "D" - at Montreal, Canada.

* * * * * * * * * * * * * * * * * *

Editorial and Business Address

VE2TH, 284 Guilbault Ave., Longueuil, Quebec.

Contents of Skywire printed by VE2TH, in Longueuil, Quebec!

* * * * * * * * * * * * * * * * * *

SIDE BANDS

There are two items which seem to make natural material for the column this month - the first of them is good news for the amateur on the partial return of the old 160 meter band - and the other is the subject of Field Day, '49.

We, the amateur fraternity got a pretty nice Valentine this year, for it was on February 14th the news was released that we could expect in the near future the okay to actually start operating on 160 again, for the first time in many, many years. If you will read March QST, or Official Bulletin #178 on page 23 of this Skywire, you will get most of the details as released on that day. Note that only 50 kc. will be available and then only on a regional basis. The reason for this is that Loran is still in the band - and the frequency used for Loran on the West coast of America is different to that used here in the East.

A fast check was made with Alex Reid, VE2BE, our CGM and many of you heard the details at the club meeting for February. We are to get 1825 - 1850 kc and 1875 - 1900 kc, it is hoped, with a power limit of half a kilowatt in Canada (and U.S.). DOT has NOT yet said yes, definitely, VE hams will have 160, but in view of FCC action it IS expected.

A check of the band contemplated shows a dandy buzz saw (Loran) on the top end that must be located in this immediate neigborhood since it seems to be going there all the time. And it is this which could give us trouble.

The set-up is that amateurs are being permitted back on 160 on an experimental basis only. If we can operate without detriment to the essential service of Long Range Navigation, then we'll be on for a long time. But any interference to that service could mean that the okay would be rescinded and the band lost for all time. Thus, it is going to be vitally necessary for all hams to police the band carefully and make sure that one or two improperly adjusted or off-frequency rigs will not close the band for all of us. It's going to be a very real help in alleviating QRM - for 160 meters is fine for short haul and medium range work of a local nature. Since it is felt that the regulations in effect pre-war will probably apply, it

is expected that it will be open to holders of limited licenses - in other words those whose phone privileges do not now extend beyond 10 meters and up in VHF.

Although as mentioned previously, the actual date of opening of the band has not been announced as this is written, it is expected momentarily, and already a few over-anxious W's have been heard testing up in that neck of the woods. They were quite promptly told by others monitoring to get off the band and stay off, which is a good sign. When the frequencies there ARE open, don't shrug your shoulders at a violation - get on there and squawk to the ham concerned, or lose the band forever. If you think of it in those terms, a squawk is more than justified.

On the Field Day last year, the VE2's had the best outing in the club history, and incidentally, piled up more points on the venture than ever before. Although Field Day is a long period away, we can't help getting in the warning that rigs have yet to be designed and built and layouts that will work with other rigs for other bands have to be considered. Lyn Morris, VE2CO who so capably directed the main club activity last year, will be well-aided by Gordon Waugh, VE2SA now?, in order that we may thus benefit from their experience. Both made an excellent showing last summer, with the help of course of all the hardy souls who dragged equipment out, and needed batteries to the top and then stuck to operate. All of the boys out on Field Day say it was the best fun they've ever had in amateur radio, so there must be something really worthwhile to the contest.

This is just in the way of a reminder to get your rig or rigs ready to go. Field Day is a fine test of all Emergency equipment and can be of considerable value to you from that aspect alone. If you had figured on Field Day last year and missed the boat by not being ready, don't let it happen again now.

Contact Lyn, Gord and Field Day committee. Learn what is needed, then offer what you can in equipment or in your operating time to keep the rigs manned all the time. Many of you will be able to help out in operating, and without the need for supplying gear. Get out and pitch. This year, the Montreal Amateur Radio Club should be able to make the best showing in this country... but it requires co-operation of everyone concerned.

VE2TH

SELECTIVITY PLUS!

by
Arthur Ashton, VE2JK

One rainy Sunday afternoon - glad of a chance to stay home, I edged over to the receiver and with the odd sly glance at the XYL, turned on the switch!

Tuning 20 and 40 C.W. (phone men - wait a moment) and trying to unscramble some of the stuff, I decided something drastic was needed to remedy the situation. Either that or find a new home, since most XYL's frown on that type of noise! Homes are too hard to find to consider that aspect of it, so I went to work, and the result is the following unit.

In QST for September, 1948 there are two articles - one on page 16 - a peaked audio amplifier for Communications Receivers - and on page 53 - Triple Conversion For The Communication Receiver. Put these together and there you have it. We decided to combine the two with a few modifications. How the two articles got into QST, with some 37 pages between them I dont know, for they obviously belong together - and so they are now!

Ed's Note: The photos used with this article, on page 7 are by courtesy Jerry Barolet, VE2MG.!

Essentially the unit consists of a highly selective 85 kilocycle intermediate frequency amplifier made from parts salvaged from a BC-453A, followed by a peaked ONE kilocycle audio amplifier which has variable selectivity!

In the original article in QST, a diode detector was used. This has now been replaced by a Hi-Q detector which results in better selectivity. Also, here, the screen(or oscillator) anode of the 6BE6 miniature has been voltage regulated to give better stability when the selectivity control is varied to accomodate different input levels to this unit.

The operation of the unit, in spite of its' apparent complexity is quite simple. Like any highly selective device, it requires care in its use, but any operator will find this gadget a very real help on the crowded ham bands of today. The actual cost entailed in construction expense is slight in view of the results obtained. Since the exact I.F.'s used here are available surplus in some of the U.S. outlets, a duplicate can be built quite readily. If

the same 85 kc I.F.'s can't be located, almost the same results could be obtained by using a good 455kc I.F. padded down to about 100 kc. Note that it might take an extra stage of amplification in the secondary intermediate frequency amplifier (100 kc) to obtain the same skirt selectivity unless you alter the coils on the substitute I.F.'s

OPERATION OF THE UNIT:

1. C.W. It is possible to tune in a C.W. signal on a crowded band and then eliminate just about everything but the signal you are hoping to work. Key clicks or thumps on a heavy signal next to a DX station are greatly reduced. Similarly a rough note is cleaned up considerably because of the extreme selectivity of the audio channel, which becomes 30 cycles in the maximum position.

By the way, it might be well to note that one change from the original QST article is made in the audio filter in this adaptation. A cathode by-pass condenser reduced to 10 mfd from 25 results in less hum in the output of the super selective Q5'er.

The second phase of it's usefulness will appeal to the phone men.

For PHONE - AM and PM - a selective I.F. channel attenuates the higher audio frequencies and the signals tend to boominess. Just advance the 1 kc selectivity control a little - the lower frequencies are dropped, resulting in a more intelligible signal. Carrier hum, power leaks and ignition noise can be reduced in the same way.

3. For S.S.S.C. a sharp I.F. channel is a must, if full advantage of this new phase of our operations is to be taken. And SSSC is being heard more and more often!

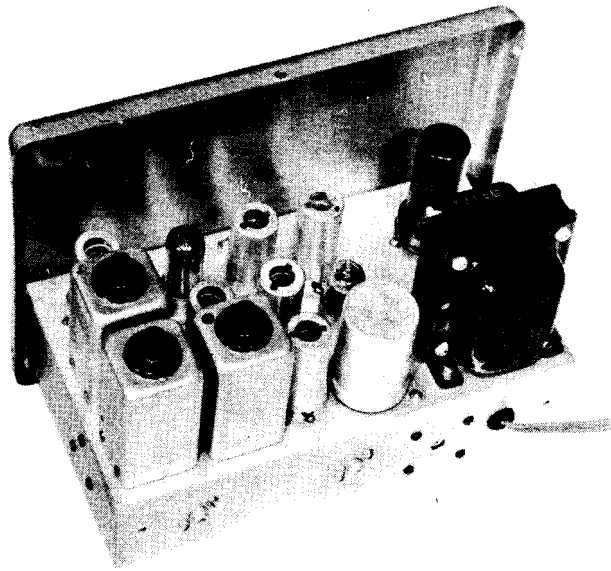
Yes - your receiver must be very stable and so must the incoming signal for best results. Further information may be obtained from the original articles in QST.

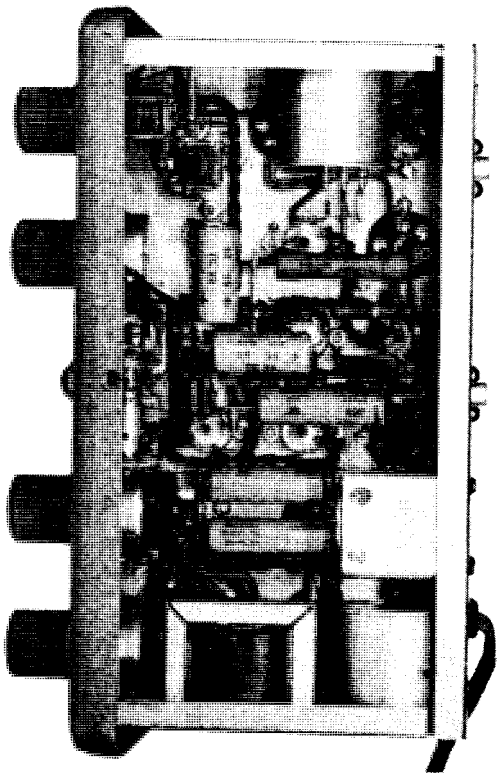
==========

IMPORTANT INFORMATION FOR MEMBERS OF OUR CLUB - MARC

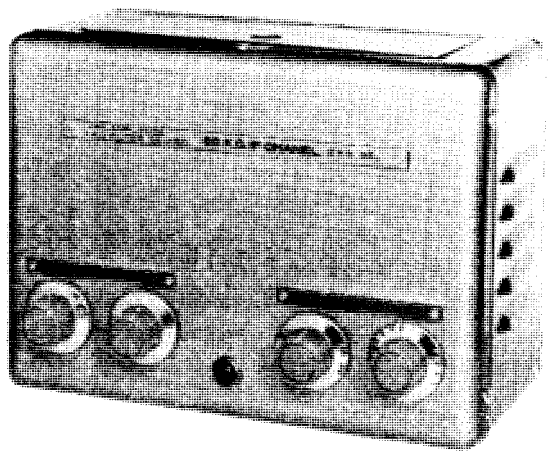
Skywire Magazine needs more technical articles from club members in order to give the best material to you in this section. If you have developed equipment you feel is of general interest, send sketches, photos and as much data as you can to the Editor, and payment of a moderate sum will be made to the author upon publication. The article will be re-written in text for you, if this is required!

A REAL Q5'R.



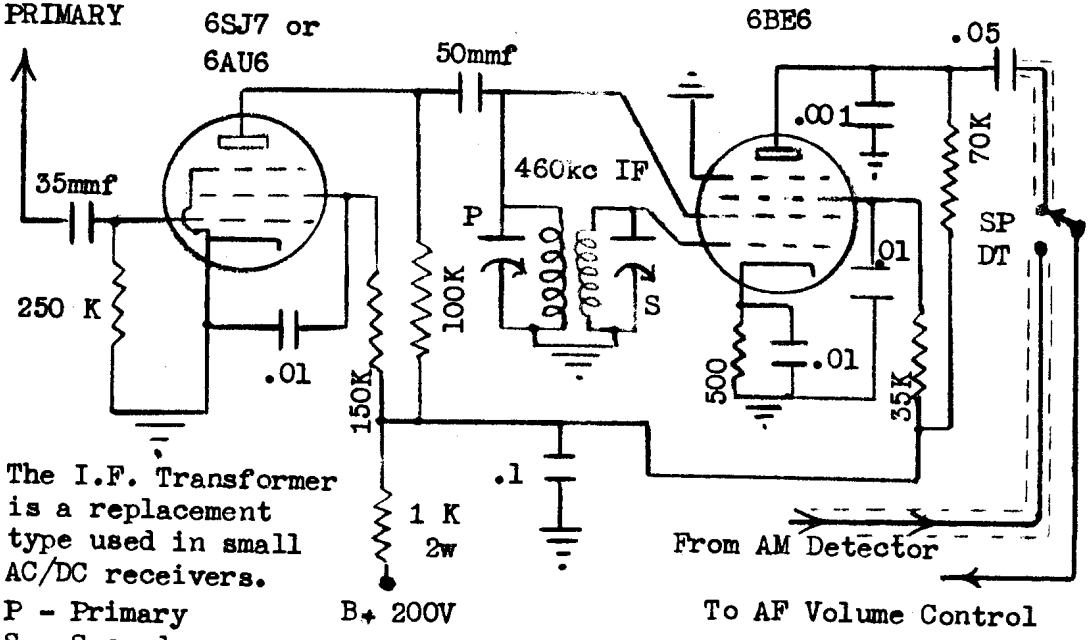


CIRCUIT DIAGRAM PAGE 26



BY 2JK

NBFM ADAPTER - VE2IG



The I.F. Transformer is a replacement type used in small AC/DC receivers.

P - Primary

S - Secondary

SPDT switch makes changeover simple AM/FM

NBFM ADAPTER!

by

Jean Louis Huard, VE2IG

AN NBFM DETECTOR WHICH COSTS LITTLE, GIVES HIGH OUTPUT !

Many hams today on the 75 meter band are turning to NBFM as a means of eliminating or reducing BCI. These NBFM signals can be received reasonably well on most AM receivers, but there is a very real difference in clarity and freedom from noise when the right type of detector is used.

Some of you may have tried with success the Foster-Seely, Travis and ratio FM detectors, but in most of these, unfortunately, the output is quite low when compared to AM signals on an AM detector.

The unit which I am about to describe is an adaptation of a circuit developed by Mr. McRae of the CBC and is easy to build with standard parts easily available anyplace. The output level is great enough to feed a power pentode directly - and the adjustment of the unit is quite simple, requiring no complicated instruments.

The diagram at the top of the opposite page is self-explanatory and the following material will tell you how the balancing is to be done, once the gadget has been built. The exact physical layout is up to the individual, but can easily be made to fit inside the receiver if desired.

ADJUSTMENT OF UNIT:

1. Turn off the AVC on set.
2. Unscrew the SECONDARY trimmer on the I.F. almost entirely.
3. Tune the receiver in on an AM signal, preferably one with a steady tone like WWV, for example.
4. Tune the PRIMARY trimmer for Maximum A.F. output.
5. Tune the SECONDARY trimmer for a dip in A.F. output. If you can not get a dip, add a small (30mmf) capacity to the SECONDARY trimmer.
6. You now tune your receiver in on a good (if you can find one) NBFM signal, on the CENTER of the carrier, and slightly re-adjust the SECONDARY trimmer for the best quality you can get.

When adding this to your receiver, retune the primary of the last IF transformer to allow for the extra capacity due to connection of the NBFM limiter grid circuit. The higher the R.F. gain control setting, the more limiting on QRM-N.

DX PREDICTIONS

Prepared by - C.B. McKee, Engineering Division - CBC International Service.

Below are shown frequency predictions for amateur communications over various circuits to most parts of the world, from the Montreal and adjacent area.

Figures shown directly below any time, and opposite any destination indicate the maximum usable amateur frequency at that time.

It should be remembered that the figures shown indicate the maximum usable frequency at any time, via F. layer. These predictions do not therefore take cognizance of the effects of Sporadic E, or tropospheric conditions which may at some time enable unexpected and unpredicted distances to be covered on certain frequencies higher than those indicated by the chart.

Reports indicating the accuracy or otherwise of these predictions would be received by the author with sincere interest.

MONTREAL TO :	00	02	04	06	08	10	12	14	16	18	20	22	EST.
EUROPE	7	7	14	14	14	14	14	14	14	14	14	7	Mc/s
AFRICA	14	14	14	14	28	28	28	28	28	14	14	14	
CARIBBEAN	14	14	14	14	14	14	14	28	28	14	14	14	
S. AMERICA	14	14	14	14	28	28	28	28	28	14	14	14	
AUSTRALIA	14	14	14	14	14	14	7	14	28	28	28	14	
U.S.A. - West	14	14	14	14	14	14	14	28	14	14	14	14	
U.S.A. - Cent.	7	7	7	7	14	14	14	14	14	14	14	14	
U.S.A. - South	14	14	7	14	14	14	14	14	14	14	14	14	
VANCOUVER	14	7	7	7	14	14	14	14	14	14	14	14	
WATROUS	7	7	7	7	14	14	14	14	14	14	14	14	
TORONTO	3	3	3	3	7	7	7	7	7	7	7	7	
SACKVILLE	3	3	3	7	7	7	7	7	7	7	7	7	

These predictions are for month of April, 1949

14 MC DX NOTES!

by

Harold Elliott, VE2KS!

With the C.W. portion or the DX contest(ARRL) over and one week-end of the phone and BERU (CW) test completed, the boys are now counting countries and scores. VE leaders in the ARRL tests are VE7HC,3QD and 4RO. Among the locals in the tests were 2XX,2GE, 2CA and 2UJ,in the phone section, and VE2WW,2AFV,2BK,2IJ,2TA and 2KS in the C.W. end.
Earl (2CA) had 88 phone contacts in 28 countries and Jim (2XX) did you get ZS6DW ?

In the CW end,VE2WW got VR2BJ and a KH6/VR4 for two new countries, then left for Switzerland and a dinner date with HB9AW and HB9BX. Dons' business is to deliver airplanes anywhere in the world ! In the BERU, Don chalked up 1918 points in the first week end and hoped to be back for the second. Al (2IJ) wasn't going in the BERU,but got on the air and the DX started to call HIM! He wound up with VQ1,2,3,4, ZE1,2, in the BERU and TA3AA,UB5FB, VA3DM and OQ5LL in ARRL contest.
Ed's Note: On page 15 of this issue, Monty,2KG reports on DX on the 28 megacycle band. Send DX reports to VE2KS and VE2KG!

VE2BK,Colin, got JA3AA on 10,11 & 20,EL7A,EL3A,ZB1Q,ZD4AB,VK4AP in Papua on 10 and 20 and KP6AP in the ARRL test and ZE2JV and VR2BJ in the BERU.

John,2TA found he had worked 26 G's in one hour of BERU. Yours truly,2KS, got ZK2AA,CR6AW,IS1AHK, EL7A,OE1CD,JA3AA and VK4AP,Papua, VS9AL,ZD4AB and VP4TR in the BERU all on 20 CW.

Impressions of the contests vary. Twenty is dear from 10.30 until 1.30 p.m. and any DX had to be plowed from under W1,W2,W3. Europe and North Africa were good, but few South Americans and Australians were heard. I got two of the 4 ZS heard and the two and only Asians heard. During the month SV5UN and several French Colonies were heard with FD8RG the most interesting. He works F8EO about 4p.m. on Sat. afternoons.
VQ4CUR must have gotten his dates badly mixed up, because on Friday, March 4th (BERU) he was working long strings of W's and passing up the multitudes of Empire stations which were calling him. Boy, it was amusing, but a little exasperating too!-Maybe next time.

DX QTH's

QTH Reprinted from Short Wave Magazine!

AR8XA - Francis Semeraro Orsini, Hotel Normandy, Beyrouth.

EA8CO - Crescencio Olias, Box 346, Las Palmas, Teneriffe, Canary Islands.

EQ2L - c/o U.S. Embassy, Teheran, Persia.

MI3NC - APO 843,c/o PM, New York City, New York.

MI3ZZ - Box 379, Asmara, Eritrea.

OQ5DE - c/o Symetain Compagnie, Kalima, Nr. Kindu, Belgian Congo.

VK9NR - N. Roberts, c/o Dept. of Civil Aviation, Norfolk Island, via Sydney, N.S.W.

VS2CQ - G.F. Bloomfield, Box 150, Kuala Lampur, Malaya.

VU7AF - ARC of India, Box 6666, Bombay 20. Station at Khatmandu, Nepal.

YK1AF - QSL via W3KXS - Station in Damascus.

==========

IMPORTANT TO ALL MEMBERS OF THE M.A.R.C. GROUP!

Skywire Magazine needs technical articles for publication each month! Accepted material is paid for by the publisher and any equipment design of general interest will be well considered. We need data, diagrams, sketches and photos if you have them. If material needs rewriting, this will be done for you and full payment will be made upon publication in Skywire. Get busy on the paper work about your favorite gadget and send details to the Editor now!

RUPE REPORTS

by
Rupert Grant, VE2QQ -
President - MARC.

During the past few years we have heard of and learned a great deal about BCI. We amateurs have been resourceful always, and the development of NBFM has somewhat relieved our problem in this field.

Last month I felt that amateur radio would be challenged in the near future - and it's now no longer a case of thinking it - it has become a proven fact. And TVI seems to be the cause!

I have received a letter from a very good VE3 friend of mine now located in Toronto and he passed along to me in it some of the troubles that the amateurs are already encountering in his area. TVI is going to be a headache!

Television in Canada is just starting, but our problems in the near future could be very considerably lessened if we were to start right now to educate the public that interference is not always caused by the amateur. And in fact that the amateur is to blame in only a very small percentage of the cases - a fact which came to light in a recent survey by people who know!

We have now formed a new committee to handle club publicity and public relations and we hope considerable information can be presented to the public which should put us in a better light. Then, we'll be in a much better position to deal with complaining neighbours.

I'd like everyone to read " Zero Bias " in the March issue of CQ Magazine. The thoughts presented there will be echoed by every ham who feels his hobby is worthwhile fighting for, if necessary.

Let's start house-cleaning our shacks right now. Let's clean up those spurious radiations and suppress our harmonics as much as possible and we'll be able to continue operating - not go into hiding as some of the W amateurs seem to have done.

DON'T LET BCI OR TVI PUT YOU OFF THE AIR
CO-OPERATE BUT CONTINUE OPERATING!

Rupe - 2QQ

TOWN AND COUNTRY

"Monty" Montgomery, 2KG

My thanks to those of you who have commented on the column in the past months, and who have provided data for inclusion in it. Only by your suggestions can we determine the things you want to see in this space!! Now, for the months news including the VHF section.....

PU got QSL from J2HYS to confirm WAC after 1½ years on 10 phone.

AEL uses 6AQ5 driving 807 to 18 watts, with 6AQ5 modulators.

HG rebuilt NFM as per Nov. QST - planning to jump power to 350w.

DI making himself heard on 75 with 12w to Marconi FR12 rig.

MG using 6L6 with 15 w on 75 to a long wire. Also planning NFM soon.

AEI now ready to hang his new sky-hook to nearest cloud - it's a center fed multi band affair.

ZF has a Jr op ready for the RI. The OM uses a BEEBEE reactance modulator that works well.

GM appointed Emergency Co-ordinator from Montreal to Gaspe.

XB an ORS and member of Section Net now has certificate for SN.

AJ erected 10m Quad. Revamped S meter on 2-40D and claims he can now give good reports .....(??)

BR on 11m recently says it's a fine place to be.

IE with 30 watts on 10 and a K-mod 807 is having a lot of fun.

RD has 5 new countries and 5 new ZL's since putting up new ant.

AFB hoping to get on 2 is working on some VHF stuff.

UN completed new station set-up, and may be changing rig soon!

EX lost 6 and 10 stacked beams during Feb windstorm. Is putting them back and adding a 20 Quad.

MX rebuilt to 813's and finds DX much easier to hit.

AFT has a new headache in his audio set up - real trouble.

BK off 10 due to BCI for some time, finds 20 trouble free! Hm.

LU still on 20 but peeks at 10 occasionally too for the DX.

UJ always experimenting has a new 20 watter going now, on 10.

QV - 60 watts to 815 - new rig!

OG has a 4-125A and is designing a super deluxe all bander 600w.

GQ last we heard was in Dominican Republic on a car tour through Central America. Contacts with UJ keep him in touch with city.

QP new Montreal ham, formerly Ottawa. He's a glider and sail-plane fan as well as a ham.

GK late evenings can be heard on 20 with 810's and a Vee beam.

NB heard regularly on 20 phone.

WS and WP - two priests who operate from College St. Laurent can be heard often on 10 and 75.

GD has no time for hamming now, because of home building work.
JN now on 10 with 813. Has a new converter but now needs a beam.
RF went to 75 because of 10m BCI.
WF has a new S-40 and should be back on the bands again soon.
FR Fred Hughes on March 6 hit the air for the first time on 10 fone.
SG laying bathroom tile finds no time to get on the bands now.
HR rebuilt to 812's at 200 w with 809 mod. Revamped SX-25 also.
QS in spite of meeting all needs of ARRL for RCC hasn't yet got his certificate.
JV has added ECO to get around on the bands a little faster.
ZD 807's at 80 watts to 3 el and 1155 receiver with 6J6 converter.
AGF skiing down hill piled up and hasn't been able to work on the rig as result of injuries.
St. John Radio Club has new president in 2RF. Meetings are very interesting and well mobbed.

THE V.H.F. SECTION

50 meg openings frequent recently with locals QSO'ing W's 100%.Not worked, but heard, were stations even from South America. If you want more on the reason, check OBS # 180 later in Skywire. The gang on 6 increases daily and heard were AED,AGT,AQ,AG,SV,CT, PH,ADT,ZV,SN,AI,AGC,KH,LP. AQ is using 522, NC-57 and dipole.AG also converted 522 for 6 and 10, and uses coaxial beam,vertical. 144 activity also steadily increasing. Rumors are that W1PYO was worked. W1CON has 5 el beam and is looking for Montreal QSO's. 2AH uses HY-75 and folded dipole. AEL says AEJ will be on 2 soon. EM works W1's regularly with 522. AX also uses 522 driving 829B.AFV worked W1QQ with MCW on 19 set. FF started recently with E1148.

28 Megacycle DX Reports!

This is the first of this new series and we need your reports! We needn't say more, need we ?????? QS snagged OH6NZ on 28000 one morning recently at 11.20 a.m. Then on later date got CM7AEB on 28350. NJ, ole DX sleuth hooked OK3ID on 28210.MX hit jackpot and worked UA1BE(28305)DL4JC on 28260, ON4DM(28VFO) and finished with MB9BN(28199). PK snared rare one in SVØWD(28340)before breakfast one morning. KG seems to get out to VE8's fine having worked 15 now.Farthest north was VE8RA at Kittigazuit NWT, 300 miles above Arctic circle.For QSL's,his QTH is via MPO 1315, Edmonton, Alta..RD hooked VQ2DH(28360) in midafternoon,plus mid-evening QSO with KH6BI(28560).

That's the column for the month, boys. Let us know of station activities and 10 meter DX so we may expand the column a little. I have a new phone number - Zone 6-401 and a nickel will buy you a long rag chew now. Get the reports in to me before the 7th of any month ---- VE2KG - Monty.

LADIES PRESENT

Again this month we present some of the new wonders in the world of electronics which may be of interest to the distaff side of the household, as well as to the head of the family group. For instance :

Development of an X-Ray telescope which will provide a doctor with up to 500 times clearer view of a patients organs in living action, has been described as perhaps one of the greatest advances in X-Ray diagnosis since these rays were first used by medical circles. A physicist of the Westinghouse Research Labs announced that a laboratory version of the "scope" an entirely unique electronic tube has given for the first time a considerable increase in the brightness of the image seen on the screen of an X-Ray fluoro - scope.

Already a lab model has been made which intensifies the living image by at least five times. And a larger version of the tube in use here will produce a 500 times brighter image when completed.

It is expected that this will greatly expand the field of X-ray examination.... and at the same time permit the doctor to see much which has not been visible up to now.

The whole work of brightening the image is done in the tube after the X-rays have passed through the body of the patient. The X-rays first strike a fluorescent screen and produce light rays. These light rays in turn knock electrons from a coated surface inside the tube. Then with the aid of powerful electrical forces, the electrons are hurled across the tube at about 5,000 miles per second and then strike another fluorescent screen to produce the image in actual view of the physician. The electronic speed boost is responsible for the brightening of the final image.

Actually the tube makes up for some of the deficiencies of the human eye and its' inability to see well dim plates of the anatomy. The image on even a good modern fluorscope is very dim - about thirty thousand times dimmer than a piece of white paper viewed under a reading lamp. The new system, while not able to increase the intensity to such a point as this, is a long step forward in the right direction, and there's no telling.....!

Another electrical device in the news is a battery vitalizer to keep auto batteries at summer operating conditions during cold winter months. Connected to an ordinary 110 volt outlet, and plugged into a cigar lighter type of receptacle on the dashboard the device supplies a slight current to the battery through the ignition system. The current maintains chemical activity in the battery so that its starting power is at summertime operating levels.

During the war, manufacturers of electrical and electronic gear were required to produce equipment that would operate properly at 40,000 feet. Now, with guided missiles and other weapons, need has developed for functional efficiency at three or four times that height. There was one difficulty here though!

Rotating electrical equipment will not ordinarily operate at such high levels efficiently, and the answer to the problem has been found in sealing the dynamotors and other pieces of equipment in ordinary tin cans along with sea level air pressure. Since the machine always operates at sea-level conditions, it also operates at sea level efficiency. The type of can used is the ordinary number two tin used for canned goods!

A silica substance, which acts as a nearly perfect light diffuser shows promise of making the ordinary inside frosted light bulb of today pretty well obsolete. The results claimed indicate no loss of lighting efficiency and better diffusion. The man who dreamed this new development up should know - since he also played an important part in the development of the present day frosted bulbs about a quarter of a century ago! The bulbs with the silicone in them are being produced in three sizes now - one of which will fit your tri-lamp and give you better light without extra cost!

If you're scared of air travel at the present time, here's something for you. An invisible blanket of criss-crossing but distinct radio beams for guidance of aircraft will soon cover the entire country and will provide an exact position for the pilot at any time. Called omni-range the air navigation system made possible by these new radio stations (409 of them) requires a new type of radio receiver in all planes. All types of commercial aircraft and most of the private planes are expected to be equipped with them by about 1952.

The new installation replaces the older radio guidance system which provided radio beams for pilots to follow but gave them only four

courses to follow. Each new station sends out beams in all directions or at least in 360 directions one degree apart. Operating on the static-free very high frequency band, the system permits a pilot to fly by watching a vertical needle on his instrument board instead of listening to the wearying tone of the beam. Omnirange also permits travelling across country instead of following the beam, if it is desirable to do so.

Healthy men working under mercury vapor lamps need no longer look pale and sickly, and womens lips may appear their natural (or the applied) color. A fluorescent material developed by a scientist at Westinghouse makes the light from the mercury vapor tube eight times richer in red than from the tubes of clear glass - and people look natural under it.

The material is a high temperature phosphor used to powder the inside glass wall of mercury vapor lamps. This fluorescent coating changes the invisible ultra-violet rays into pure red light which added to the bluish white light from the mercury vapor gives illumination under which people and objects appear more nearly their true color. One possible application is in 866A's which might make fine emergency reading lamps if you can't find a spare bulb for your favorite reading lamp and corner.

One of the best stories of the month concerns a bachelor ham who for years had kept a kit of tools - spinners, pliers, screwdrivers and the like, rolled up in an unattractive canvas roll in a prominent place in his living quarters. Visitors to the shack had never seen the kit in use, and in fact the dust seemed to be deeper on it at every visit. Even if a specific tool was needed for a job, this ham never turned to the kit for it, and a brother amateur one night, curious, asked why!

Well, said our hero - that tool kit saved my life one night and I feel I owe it a lot. You see, in my younger days I was dating a number whose husband was out of town a lot. She had been to my place while we were working the rig, and it wasn't until we were nearly back to her apartment that I noticed this kit was stuffed in an overcoat pocket. She lived in one of these plush places with a doorman, and this night we had no sooner gotup to her floor than the doorman foned to say her husband was on his way up too. Wellsir, by the time he got there, I had the radio apart on the floor, looking as innocent as a service man. The OM bounced in - looked at me - then spent an hour chewing the fat about repairs. He paid $4 for those " repairs " that night!

TRAFFIC COP PT. III

by

Bert Altherr, VE2GM, RM!

This is the concluding article in this present series of traffic notes, and since the theory of operation has already been propounded thoroughly, in order to help you understand the operation of the net, we'll finish with an example of what happens!

Let us suppose that the net stations have reported in the net, and the NCS has the following list of traffic before him :

(Stn)	(QTC)	(Destination)
VE2LO	2	Montreal
VE2XB	2	Quebec
VE2VT	1	Drummondville
VE2VA	1	Vancouver
	1	Net Control Stn.

VE2XR, VE2XO and VE2AEH have also reported into net, but have no traffic of their own . They stand by to take traffic when required.

Most nets operate on the basis of first come first served. So NCS will dispose of traffic in the order in which reported to him by the stations listed above. The NCS now directs the stations as follows :

VE2LO de VE2GM QNK VE2XR 1 MTL K

This means : I direct you, VE2LO to transmit one Montreal message to VE2XR. So VE2LO gets on the frequency and calls VE2XR:

VE2XR de VE2LO QRV? BK (That is: are you ready, VE2XR ?)

VE2LO de VE2XR - (Yes I'm ready)

VE2XR de VE2LO r tu hr nr 5 VE2L) CK 5 Drummondville, Quebec, 7.30 p.m. Mar 1 to Mr. Joe Bloke, 21 Laurier Ave Montreal BT thanks ur letter writing soon BT(sig) Jim AR BK

VE2LO de VE2XR nr 5 r AR

As can be seen, VE2LO has sent his message to VE2XR and the latter has acknowledged receipt (ie: QSL) of message number five. Here the NCS takes over again and before letting more messages thro', he will call CQ net between each message in case there is another station who wants to report in.

CQ PQN de VE2GM QNI QTC? BK

Suppose nobody else has reported in, then the NCS continues to direct the flow of traffic.

VE2LO de VE2GM QNK VE2XR MTL K or VE2LO go ahead with your next Montreal message to VE2XR.

VE2LO de VE2XR QRV K

VE2XR de VE2LO r tu hr nr 6 etc...

CLUB MEETING!

is

WEDNESDAY EVENING - MARCH 30th, 1949 at 8.00 p.m.!!!

in

O'SULLIVAN BUSINESS COLLEGE - GUY AT ST. CATHERINE.

Speakers : Tony Lawruk, VE2VV and Gordon Waugh, VE2SA : Speakers.

SUBJECT: SSSC or Single Sideband Suppressed Carrier, with actual demonstrations to convince you of its merits. Material is easy to understand and highly interesting. Knowing SSSC is a must for the future!

VISITORS ARE WELCOME!

PRIZES Come early and be sure of a seat. PRIZES

MEETING WILL START AT 8.00 P.M. SHARP.

OFFICIAL BULLETIN #179 - Feb 21 Since this deals only with proper identification of amateur stations as per FCC regs, we won't reprint!

OFFICIAL BULLETIN #180 - Mar 2. First 50 mc contacts between South America and northeast U.S. were made Feb 22nd between 10 and 11 AM EST when HC2OT, Ecuador worked W2BYM, W1AF, W1CLS. Like similar openings in Jan. when HC2OT worked seven U.S. call areas on 50 mcs, this break came during ionospheric storm. Similar openings can be expected around the 3rd and 21st of March. Reports received from Australia indicate that contact with that country may be possible, several VK's having reported reception of U.S. stations recently. Canal Zone now represented by KZ5NB on 50 mc who made South American contacts and is watching closely for openings to U.S. Ionosphere storms have also produced 144 DX up to 600 miles, as result of auroral reflection. VHF workers are asked to watch 50 and 144 mc bands closely in March and report observations to ARRL at Hartford.

RIGHT ON TOP OF A GOLDMINE

GET IN ON THE PAYDIRT

BARGAIN OF THE MONTH

SURPRISE PACKAGE

1154 **TRANSMITTER**

AND

1155 **RECEIVER**

BOTH FOR **$74.50** SPECIAL

with a

COMPLETE SET OF TRANSMITTING AND RECEIVER TUBES

OUTSTANDING EQUIPMENT AT FAIR PRICES

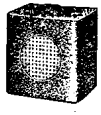
PM Speakers

ENGLANDS FINEST!!!
MADE BY ROLA

8" -----$5.95

10" -----$8.75

Steel **SPEAKER CABINET**



BLACK CRACKLE FINISHED

FITS 8" SPEAKER ABOVE.

ONLY $2.49 EACH

MORE FOR YOUR MONEY

BARGAINS

FROM OUR FREE CATALOG

ALUMINUM FOIL FOR BEAM AS PER MARCH 1949 CQ!
1½" wide - 5¢ per roll

4/600 dc	95¢
2/1000dc	95¢
.5/2500dc	$1.95

Gang Condensers

1, 2, 3, 5 GANG UNITS
YOUR CHOICE 99¢ each

Midget Condensers

15mmf, 25mmf, 50mmf, 75mmf
STEATITE INSULATED.

only 25¢ each!

LAMAR CO.

Fl. 2771 **1497 WELLINGTON ST.** *CORNER CENTRE* Fl. 2771

The line forms on the right

COMPLETE WITH TUBES

SCOOP PRICE **$9.95**

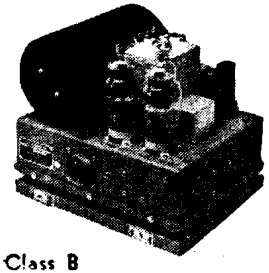
Quantities are limited—*Order Now.*

Perfect for a beginner - or an Old Timer. Takes dynamic or carbon mikes without any changes. All complete unit to modulate your rig, which requires easy modifications only for use on AC supplies.

- SPEECH AMPLIFIER
- **POWER SUPPLY**
- MODULATOR

PORTABLE/MOBILE

Modulated Maximum Signal Carrier Output 75 Watts. Value determination — 200 Watts off generator — Fed into 10,000 or 12,000 Ohm load.



Class B

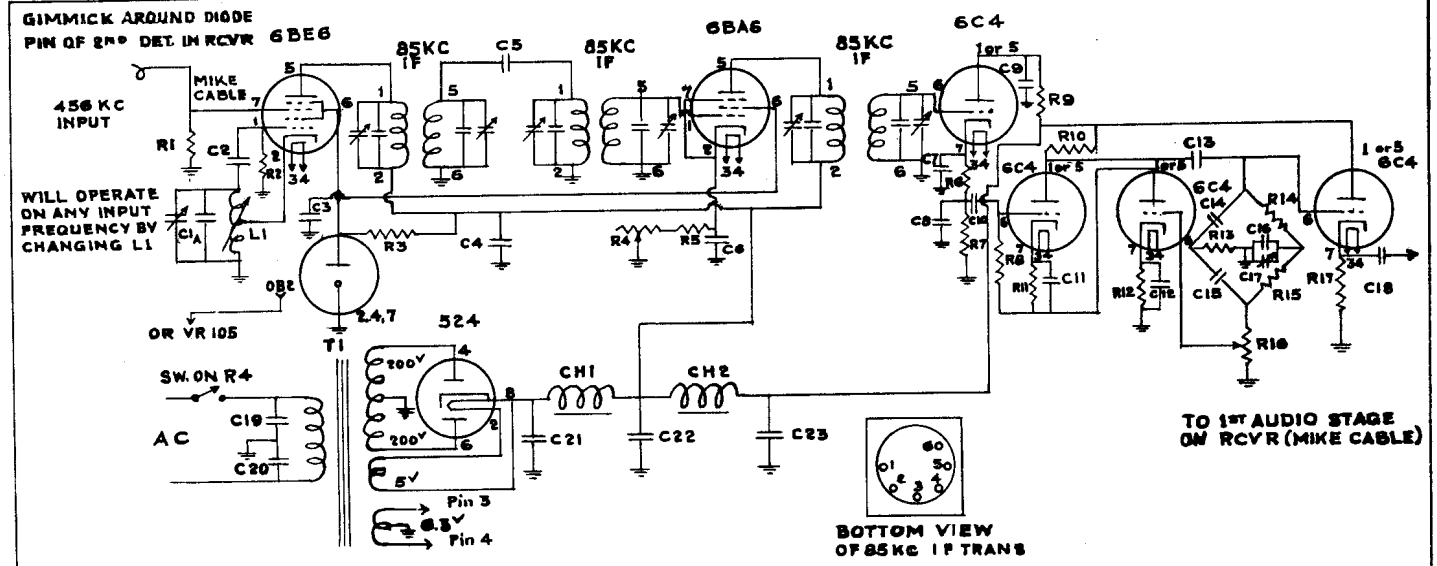
$9.95 EACH

Designed for nationally known transmitter:
2-807, 1-6F6, 1-6N7—

WESTMOUNT ELECTRONICS REG'D.

RADIO AND ELECTRONICS

WE 4851 — 4204 ST. CATHERINE STREET WEST, WESTMOUNT, QUE. — WE 4851



R1, R7, R13 - 100M

R2 - 22M

R3 - 6M - 10WATT

R4 - 10M BIAS CONT. WITH SW.

R5 - 100 Ω

R6, R10, R17 - 56M

R8 - 1MEG.

R9 - 39M

R11, R12 - 1500 Ω

Note FIL. CENTER TAP MUST BE GROUNDED

CHASSIS - 5"x 9"

R14, R15 - 220M

R16 - 2MEG. POT. AUDIO TAPER SEL CONT.

C1 - 20MMFD MIDGET VAR.

C1A - 50MMMD CERAMIC OR SILVER MICA

C2 - 47MMFD MICA

C3, C4, C6 - .05MF FROM BC453A (ON ROUND CAN)

C5 - 10MMFD. CERAMIC OR SILVER MICA

C7, C8 - 300 MMFD.

RES. ½ WATT UNLESS SPECIFIED

C9 - .01 MICA

C10, C13 - .01 HV CAP.

C11, C12 - 10MF 25V ELEC

C14, C15 - 680 MMFD MICA

C16 - 500 MMFD. MICA

C17 - 600 To 1800 MMFD. ADJ. TRIMMER

C18, C19, C20 - .05 600V PAPER

C21, C22, C23 - 20MF 450V F.P. TYPE ELEC.

CH1 - 9H - 40 MA

CH2 3H FROM BC 453A

T-1 - 30 To 40 WATTS

L1 - MILLER X-321-M or MODIFIED B.F.O. COIL

MAINE WOODS FIRE

by Eddie Abel, SWL!

This story is reprinted by permission of the Monthly Record, a State of Connecticut publication. Written by an SWL shut-in whose interest lies in listening to the Montreal gang as often as possible, this is the continuation of the story started last month in Skywire.....Ed.

By 4.15 p.m. about 2500 persons were assembled on the Athletic Field on the southeast rim of the town.... mothers, old folk, and children hugging cats and dogs : invalids and every resident not then needed at emergency stations to fight the fire.

But something else had also taken possession of the field. "Ca'm" is the island word for it. As wind rose to gusts of nearly 70 m.p.h. driving the fire fighters back along the coast road, the crowd became, if anything, calmer. Not a child whimpered, no woman fainted. Nobody complained or panicked.

Now the first embers flew down and loudspeakers sounded an order to fall back on the town pier, a distance of nearly half a mile. The town pier - that would be the last ditch. After that, there was nothing left to fall back onto. Quietly, people began to walk down to the sea.

The town pier was a pile structure overhanging the water that rose and fell 15 feet in the heavy tides of Maine. Now there were 2500 people on it. The tide was low, but spray tore across the Frenchman's Bay from seas the like of which none could remember. Moored nearby lay five small fishing smacks and a pleasure boat - total capacity perhaps 150. Lives had been risked to bring this little rescue fleet around, but the captains hearts sank as they thought of transporting women, children, babies, old folk on the overloaded little boats in such weather. Now men, braced like steeplejacks against the slippery pier ladder, began to lower children into the boats below.

Radios crackling from base to base along the new England seaboard had long since flashed out orders : Emergency Speed to Bar Harbor.... Six Coast Guard cutters from points as far away as Boston, and Navy Destroyers were racing for the scene, but the nearest was still more than 70 miles away. The fire was less than a mile!

From the town pier, Main Street made a long, ruddy shaft, the stem of a T that led back to the blazing crosspiece nearly three miles wide. In the reflecting store windows, fire seemed already to be marching down the street. A new danger now assumed overriding urgency. Alongside the pier was a 40,000 gallon oil tank. If left there, the oil sooner or later would explode; if dumped just as surely would spread across the harbor and be fired by the first stray spark. Recalling oil explosions from the past, some authorities believed dumping the lesser evil. Nearly all the men and women on the pier, however, were figuring on jumping. Not that the icy Maine water held more hope than fire, but many had placed wills, insurance policies, savings books, family trinkets in their inside pockets - things that might be retrieved if a body washed ashore. The decision went against dumping.

Thursday slipped into evening, tho it was hard to tell when. The immense curtain of smoke which had closed out daylight back on the Athletic Field became a little darker, the glare of the flames a little redder. The crowded boats had left with merely a brief Good Luck exchange lifted above the wind. The terrifying wall of destruction had leaped forward half a mile, devouring the huge Hotel Melvern like a box of matches.

Now it licked across a line barely 800 yards from the pier.

Here, then was a scene to excite compassion and pride - an entire American community facing cruel and primitive death, and showing iron courage to the end. Before them, a great wall of flame ; behind them a gale-torn sea crimsoned by fire. The people of Bar Harbor stood without flinching. There was little talk now. Even among the bravest, talk is not free when men and women wait for a certain end. On the endangered pier, people were simply doing what countless others have done when hope has died - they were praying.

Then came the unbelievable. Without warning, sound and fury died. Where roaring flames had been, all at once there was no flame. Where wind had been, all at once there was no wind. The smoke hung motionless. The stillness was unearthly. Almost as one, the seawise people, feeling that first faint breath on their necks, had turned their faces to the sea. Almost as one voice came the exclamation, born of generations of weather sense : A nor'easterly! Thank God, a nor'easterly! The first spray flicked over the end of the pier, wetting scorched faces. The wind freshened, halted the flaming wall, pushed it back and back, and back, to the hills.

(To be continued in April)

TV NEWS

Television in the Dominion of Canada seems about to break at last after lagging behind the U.S. developments for some two years. It may well be that by the time you read this months' column you'll have heard that the Government has made available to the CBC, the necessary funds with which to construct and operate video units in both Toronto and Montreal.

The latest news available on the highly controversial subject is that the CBC will get "several million" (quotations NOT ours) in the form of a loan with which to get into the new broadcasting field. It is expected that this money would be repaid at a later date from revenues derived from the sale of time and programs to the advertiser. But TV is not only costly to start up, it's also very costly to maintain and the best opinions on the subject are that TV in this country will not be a really paying proposition for some considerable time.

The new development in a raging battle between the CBC and the private would-be video operators leaves private radio out on a limb again, with no immediate prospects for licensing unless something unexpected turns up.

At Quebec City, The Canadian Association of Broadcasters, as their price for co-operating with the CBC in the costly development of video in Canada, asked for freedom of action, without government interference in programming. CAB gave as the conditions required by them....
1. Powers of regulation in the hands of an independent body.
2. The term for which TV licenses are granted must be long enough for the operator to recoup his original investment.
3. Private operators must be free from unfair or subsidized competition.

In addition, the policy statement noted that no system of TV can give adequate service to the Canadian public unless permitted free access to all possible sources of program material. Of course, the CAB was also opposed to the development of TV being retarded by the imposition of further taxes through the proposed increase in receiving set license fees - proposed at $10.00 initially in the plans of

the CBC. Similarly, they objected to the edict mentioned some months ago that there would be no permission forthcoming to bring in programs from U.S. networks, in spite of the feasibility of such an idea.

As it now stands, expect shortly something official from Ottawa that video will be coming to Canada as soon as stations can be put into operation. Already there are several Canadian firms who are actually building TV sets for use in 25 cycle areas (near the city of Buffalo,and Detroit too) and there are two or three firms who have announced that they will be producing kits for the experimenters and amateurs who wish to save a very considerable portion of the cost. A complete TV set with a ten inch screen, here in this country is about twice as costly as its' counterpart in the U.S., but radio men expect the prices of the completed sets to drop when new models are put into production on a large market scale. The sale of TV receivers is still not high in the areas now being served by American stations, but it is estimated that about one tenth of the whole population of Canada is within range of the several TV transmitters just across the border, which are beginning to draw good audiences in Canada too. And sales are going up daily on TV sets!

As to what is actually going on in Canada in video, perhaps you read of a brother ham in Cedar Springs, Ontario = Fred Pardo, who has devised something new in receivers and is obtaining excellent reception of TV from a point 190 miles from the transmitter. Since this is much farther than is considered the normal range for video work, and since Pardo claims new circuits which he has patented, it's quite possible, that even if a station were not put into operation here in Montreaal, we would be able to see the GE pix from Schenectady with such a receiver.

Pardo,by the way,claims he is capitilizing on a new theory of weak secondary wave fronts which have nothing to do with the normal VHF line of sight waves. He claims this secondary wave follows the curvature of the earth and calls them the cart-wheeling wave-front because the waves roll along like a wheel on land or water. Perhaps he has something here which will make the reception range of TV signals practically unlimited, if the transmitters can force power into the secondary wave front, instead of into the line of sight type of transmission which is now the vogue.

By the way, the feminine reader

be pleased to learn that the networks across the line have voluntarily banned the showing of reptiles and snakes. They were thus accused of discrimination against snakes by Carl Kauffeld, curator of reptiles at New York's Staten Island Zoo. Station WNBI had, he said, refused to let him give a demonstration with live snakes on a television program.

The station management quickly disavowed any bias or prejudice against snakes on television. But Jim Gaines, director of NBC stations of which WNBI is a part, said it was felt some viewers might find a program on snakes disagreeable during the dinner hour. He said he had found that Kauffeld had been engaged on the Ivan T. Sanderson Nature Show at 6.30 p.m. - a rather distressing hour for snake showings.

On the other side of this argument is the news that whenever a TV director finds himself scraping the bottom of the barrel for money for video, he usually sends a couple of portable camera outfits out to the nearest zoo where the four footed artists have a real drawing power for the public in TV. There are no wages, no agents to fight off, and no unions to argue with. Hmmmmmm!!

More booby trap radios have been found in a second war surplus store in Detroit, Michigan. The discovery of the highly explosive bombs touched off a national alarm and authorities are attempting to trace down all sales and supplies of the Navy BC966A transmitter receiver units containing detonators which if exploded could cause serious harm. The equipment, designed to work at about 100 megacycles, when equipped with the small bomb, which resembles a miniature tube by the way, was one of the top secrets of the war. You are advised not to attempt removal of the detonator until properly advised by ARRL as to how it may be done safely. If you have a BC966A, monitor W1AW.

Locked out of her home in freezing weather, Mrs. Rita Beane had to radio a message the long way round to her father-in-law, W9MO. Rita stepped outside the door for a paper, the door slammed shut and the OM, with earphones on his bean, couldn't hear her frantic poundings, or the telephone ringing when Rita called from a neighbours. He was in QSO with W9ONT and ZS6KD, and Rita finally got W9ONT on the land line. Breaking in on W9MO's transmission, ONT gave the story to the ZS and blissful Beane was startled to hear the South African comment - Say Rita's locked out and freezing to death - let her in, will you ?

WAR SURPLUS BARGAINS

CRYSTALS - HAM BANDS!!!
New, with holders 1.98
Crystal Sockets—
2-pin bakelite Amphenol .06
2-pin ceramic National .12

8¢ PER FOOT

RG 8/U FLEXIBLE
COAXIAL CABLE
NO. 225. Standard television lead in 52 ohm. Any length up to 1,000 ft. Add for postage.

1619 1619 1619
TYPICAL OPERATION CHARACTERISTICS
Filament..... 2.5 v. @ 2 Amps. Octal Base

	CLASS C RF AMP (TELEG.)	CLASS AB2 AUDIO (2 TUBES PP)
PLATE VOLTS	400	400
SCREEN VOLTAGE	300	300
PLATE CURRENT	75 ma	75/150 ma
SCREEN CURRENT	10.5 ma	6.5/11.5 ma
GRID VOLTAGE	-55	-16.5
GRID CURRENT	5 ma	
GRID DRIVE	.36 W	.4 W
POWER OUTPUT	10.5 W	.36 W

65¢
While they last.....

P.M. SPEAKERS 8 inch..... #2 75/xx

TUBES

807	65c
816	$5c
2X2	40c
5AP1,	3.00
5Y4G	80c
12A6	27c
832	2.85
6H6	91c
1619	65c
1148	30c
9003	30c
6N7	1.40
0Z4	70c
5BP1	3.00
6J5	80c

T30 THROAT MICROPHONE
Makes excellent contact microphone for musical instrument or vibration pick-up. Shipping Wgt. 1 lb..... each 50¢
Extension cord with switch for above ..... each 15¢

PE94C SCR 522 POWER SUPPLY
Complete dynamotor power supply for the SCR 522, operates from 28 Volts. Complete with controls, filters, etc. Original carton. Shipping Wgt. 34 lbs. Each..... $8.75

RADAR RECEIVER
A "hot" receiver covering the 174 to 210 MC Television band. Has individually slug tuned antenna R.F., Detector and oscillator circuits resulting in maximum sensitivity; contains 2 F.F. and 5 I.F. stages detector and video amplifier. Complete with 110 volt AC power supply and 14 tubes..... $34 50/xx

TRANSMITTER
Range 180-200 Mc
$29 50/xx

Very Few Left—
ZB3
(R-1/ARR-1)
A 220-mc. Converter featured in "RADIO NEWS" January issue.
Price complete
$10.00

MA. 2640
The RADIO CENTRE
62 Craig St. W. MONTREAL

Signal Corps Jack-Box
79¢
BC-1366 or 366 Jack Box. Contains Mic. Jack, volume control, 5 position 2 gang rotary switch, 11 contact bayonet plug and receptacle. All nicely assembled in a neatly finished metal box 3 3/16" W x 4 3/8" H x 2 3/16" D. Lots of uses in the Ham shack, lab., or on mobile installations. A sensational buy at only 79c each, postpaid, or 10 for $6.95 postpaid.

RESISTORS
Kit of 100
Hand-Picked
Popular Types
⅛, ½, 1 watt
SPECIAL $1.99

CO-AXIAL CONNECTORS 25c.

ELECTRIC HEATERS
Effective 1000 watt portable type, giving "Radiated Heat" priced to clear.
$5.95

TUBES

6C4	.40
6AK6	.51
6x5	2.00

TRANSMITTER AT-7
20-40-80 metres CW or phones
Xtal controlled or V.F.O.
$35.00

DIRECTION INDICATOR Ideal for Rotatable Beam $3.00