MAY-1969.-

the Groundwave

EDITOR: J. DEAN

PUBLISHER: J. BASSIL

[redacted]

OTTAWA AMATEUR RADIO CLUB

OTTAWA MAY 1969

G R O U N D W A V E

May, 1969

OARC MAY MEETING

Place: National Research Council Auditorium, Sussex Drive

Time: 8:00 p.m. (2000 hrs)

Date: Wednesday, 7 May, 1969

Program: Business

Homebrew Night: Bring along your recent gadgets and share your ideas with your friends. The following have offered to show their gear: Russell Patterson, Andre Pilot, VE3BCO, VE3LX, VE3CUA, VE3FUA and VE3QQ. Thanks a lot fellows. Now, what about the rest of us?

Coffee and Ragchew

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GROUNDWAVE is the official bulletin of the Ottawa Amateur Radio Club, a noncommercial association of radio amateurs devoted to the promotion of interest in amateur radio communication and experimentation in the Ottawa regional area, and to the advancement of technical competence and achievement of club members.

Editor:	J.G. Dean	VE3DRV	1752 Laxton Crescent	722-0422
Publisher:	J.R. Bassil	VE3YT	2061 Lenester Avenue	722-8457

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OTTAWA AMATEUR RADIO CLUB EXECUTIVE, 1969-70

Pres:	Robert Knapp	VE3CDG	1314 Ferguson Street	722-8808
V.P.	George Roach	VE3BNO	104 Strathcona	234-0885
Sec:	Larry Emerson	VE3GGA	883 Dunlevie Avenue	728-7307
Treas:	Gord Grant	VE3DY	2050 Balharrie Avenue	733-4892
Directors:	Guy Eon	VE3LM	2262 Highway 16	825-1707
	Charles Grove	VE3CT	2607 Regina Avenue	828-8419
	Ray James	VE3CUA	43 Ashburn Avenue	224-7243

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FROM THE MINUTES OF THE APRIL MEETING

The President, Bob Knapp, VE3CDG, chaired the meeting which opened at 2000 hours.

The President spoke in some detail on the coming convention explaining that the Montreal Amateur Radio Club had already received tickets and that already some of the money had been received. Bob reminded the meeting that the number of Banquet tickets was limited, and members would be wise to buy early.

The President introduced eight visitors. Some were hams, and some were persons interested in getting their licences. Hopefully we will see these aspiring hams in our beginner's classes next year.

The President next spent some time explaining the conflict that had arisen between the OARC and the RSO over the convention. He indicated that there had been misunderstanding on both sides, and that he would attempt to bring the matter to a close. He also indicated that the OARC was at fault in the matter of the gift for the CNIB not having arrived in the hands of the RSO at the time the argument had started. The OARC was at fault because we had not mailed the cheque. Bob said he would personally offer his apologies to the RSO either publically or in writing.

Bob then announced that there were three members of the club who would be walking in the coming OXFAM drive and they were seeking sponsorship by the Club. The President started things going by offering five cents a mile, and thirteen other persons volunteered their support until each of the boys had been sponsored to a level of 25 cents a mile.

George Roach, VE3BNQ, spoke on the Repeater. He said that the intended meeting of the Repeater users had not taken place, but would be held in a very few days, and the Repeater Group would attempt to let all interested persons know in time. George stated the new transmitter with a power of 70 watts had been installed. He indicated that his part in the maintenance of the Repeater was to look after the transmitter site, and the receiver would be one of the projects for other members of the group.

Ray James, VE3CUA, then indicated that the new receiver also was in place. One of our visitors was from Potsdam, N.Y., and he had been talked into Ottawa all the way from Potsdam. The new installation had resulted in an improvement on the range that can be worked. Ray stated that a number of Repeater users had worked American stations since the receiver had been installed.

The President then spoke on the coming Field Day and indicated that preparations must be started pretty soon in order to be sure that all the operators and equipment would be lined up in time. He asked for a show of hands of those persons who were interested and who would probably attend. There were about 12 persons at the meeting who indicated they would participate.

Bob asked for a volunteer to act as Field Day Co-ordinator. Anyone who wishes to volunteer should get in touch with the President as soon as possible; this will relieve him of the necessity of having to appoint someone.

Bob said that the DOT had agreed to run a forum, but they would require about 12 questions in advance so they would be able to get rulings and look up the pertinent data in advance. Would the members please prepare these and send them to the Secretary well in advance.

Guy Eon, VE3LM, spoke briefly on the coming Eastern Ontario Amateur Radio Convention. Tickets had gone on sale the day before the meeting and were selling well. He pointed out that registration forms had been widely distributed in the April GROUNDWAVE. He reminded the members of the limited number of banquet tickets and urged them to buy soon. Guy told the meeting that there had been about 900 copies of the Convention material sent out in GROUNDWAVE, and it was expected that returns would be coming in soon as there seemed to be a lot of interest in the convention from out-of-towners. Guy stated he would sell tickets after the meeting, and it was noted that business was brisk.

Ian MacIntyre, VE3CZ, introduced our guests of the evening. Our President, Bob Knapp, and Bob Zieman, VE3ATN, who were our guest speakers, had brought a large collection of Ham gear made by the Heath Company. Bob Knapp went over some of the equipment explaining the panel features, and Bob Zieman answered many technical questions posed by the members. The gear was very impressive and was very well demonstrated, and after the meeting was thoroughly examined and drooled over by all in attendance.

After the demonstration of the Heath equipment the meeting was adjourned for coffee and ragchew.

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LICENCE RENEWALS

Groan! It looks like the fee is again $10.00. It is understood we will receive renewal notices, but if you wish you can send in your fee now.

Please note the NEW ADDRESS for the local Radio Inspector's Office. It is:

Radio Inspection (Field) Office,
Room 204, Empire Building,
124 O'Connor Street,
Ottawa 4, Ontario.

Attention: Mr. Spanton.

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CHANGING YOUR ADDRESS?

If you change your call, address, or phone number, please contact a member of the membership committee:

J. McWatters	VE3MC	233-2929
V. McCourt	VE3PY	722-6326
H. Shepherd	VE3VV	733-0665

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CONVENTION PROGRAM NEWS

by

Eric Ilott, VE3XE

Convention Technical Sessions for Saturday, June 7th

1. DOT Forum. The programme will open with a DOT Forum which should prove particularly interesting at this time because of the number of new aspects to hamming which have arisen during the past year or two.

2. Guest Speaker - M.R.C. The Montreal Amateur Radio Club is sponsoring a speaker on a subject which we expect to be of particular interest to the newer hams. At the time of going to press the arrangements were not firm and so we shall have to wait for their confirmation before announcing them.

3. Slow-Scan TV. Sid Horne, VE3EGO, is going to bring us up to date on "Slow-Scan TV". A lot has happened in the last year; Sid has made some magnificent equipment and will have it on show. We expect it to be operational and Sid hopes to be able to demonstrate receipt of "real-time" on-the-air pictures.

4. ARRL Forum. The ARRL Forum will be run by Noel Eaton, VE3CJ.

5. HF Propagation Charts. Clare McKerrow, VE3DAM, is going to describe the way he produces the "HF Propagation Charts" which are a popular feature of the GROUNDWAVE, and will explain what you can do with them and what you cannot!

6. Workshop Techniques. Walter Lange, W1YDS, Assistant Technical Editor, ARRL, will speak on, and demonstrate, "Workshop Techniques". This is the Ham Workshop - i.e., the kitchen table top, and he will cover simple ways of producing a professional job with minimal effort.

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Questions Wanted for DOT Forum

The DOT has agreed to run a forum as part of the technical session which will be held Saturday morning during the convention.

The DOT would like about 12 questions in advance so they will be able to get rulings and look up the pertinent data in advance.

Here is your chance to clarify grey areas in the regulations. If you have questions you wish to have answered, please prepare them as soon as possible, and submit them to the Club Secretary, Larry Emerson, VE3GGA, 883 Dunlevie Avenue, Ottawa 13, Phone 728-7307.

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DEADLINE - - - GROUNDWAVE for JUNE, 1969

The June issue of GROUNDWAVE will be the last issue before summer. If you have material you want printed in that issue, please mail it to the editor by 7 May. Remember, this is the last chance to print news of interest to club members until the September issue.

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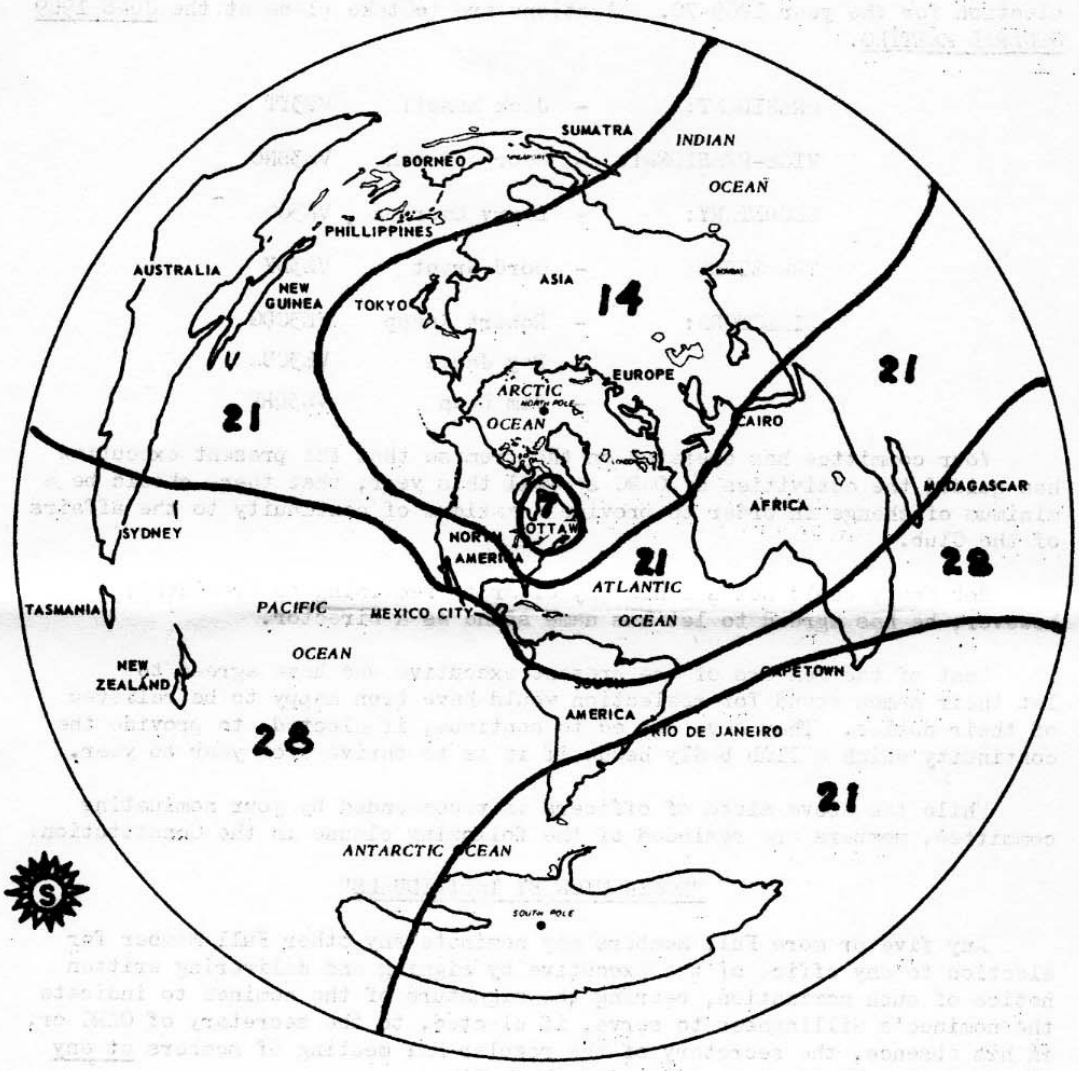
0000 GMT MAY 1969

AZIMUTHAL EQUIDISTANT PROJECTION OF THE WORLD

(POLE OF PROJECTION AT OTTAWA)



Scale of kilometers

1000 0 2000 4000 6000 8000 10000 12000 14000 16000 18000

1900 EST

Courtesy of VE3DAM/VE3DFM

NOMINATIONS FOR THE OARC EXECUTIVE 1969-70

Your nomination committee proposes the following slate of officers for election for the year 1969-70. Elections are to take place at the JUNE 1969 GENERAL MEETING.

PRESIDENT:	-	Jack Bassil	VE3YT
VICE-PRESIDENT:	-	George Roach	VE3BNO
SECRETARY:	-	Larry Emerson	VE3GGA
TREASURER:	-	Gord Grant	VE3DY
DIRECTORS:	-	Robert Knapp	VE3CDG
	-	Ray James	VE3CUA
	-	Jim Dean	VE3DRV

Your committee has operated on the premise that the present executive has guided the activities of OARC so well this year, that there should be a minimum of change in order to provide a maximum of continuity to the affairs of the Club.

Bob Knapp could not see his way clear to remaining as President; however, he has agreed to let his name stand as a Director.

Most of the members of the present executive who have agreed to let their names stand for reelection would have been happy to be relieved of their duties. They have agreed to continue, if elected, to provide the continuity which a Club badly needs if it is to thrive from year to year.

While the above slate of officers is recommended by your nominating committee, members are reminded of the following clause in the Constitution:

"NOMINATION BY INDIVIDUALS"

Any five or more Full Members may nominate any other Full Member for election to any office of the Executive by signing and delivering written notice of such nomination, bearing the signature of the nominee to indicate the nominee's willingness to serve, if elected, to the secretary of OARC or, in his absence, the secretary of the regular MAY meeting of members at any time prior to the commencement of such meeting.

NOMINATING COMMITTEE:

Guy Eon VE3LM, Charles Grove VE3CT, Cammie Howard VE3GMH, Vern McCourt VE3PY,

John McWatters VE3MC.

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0600 GMT MAY 1969

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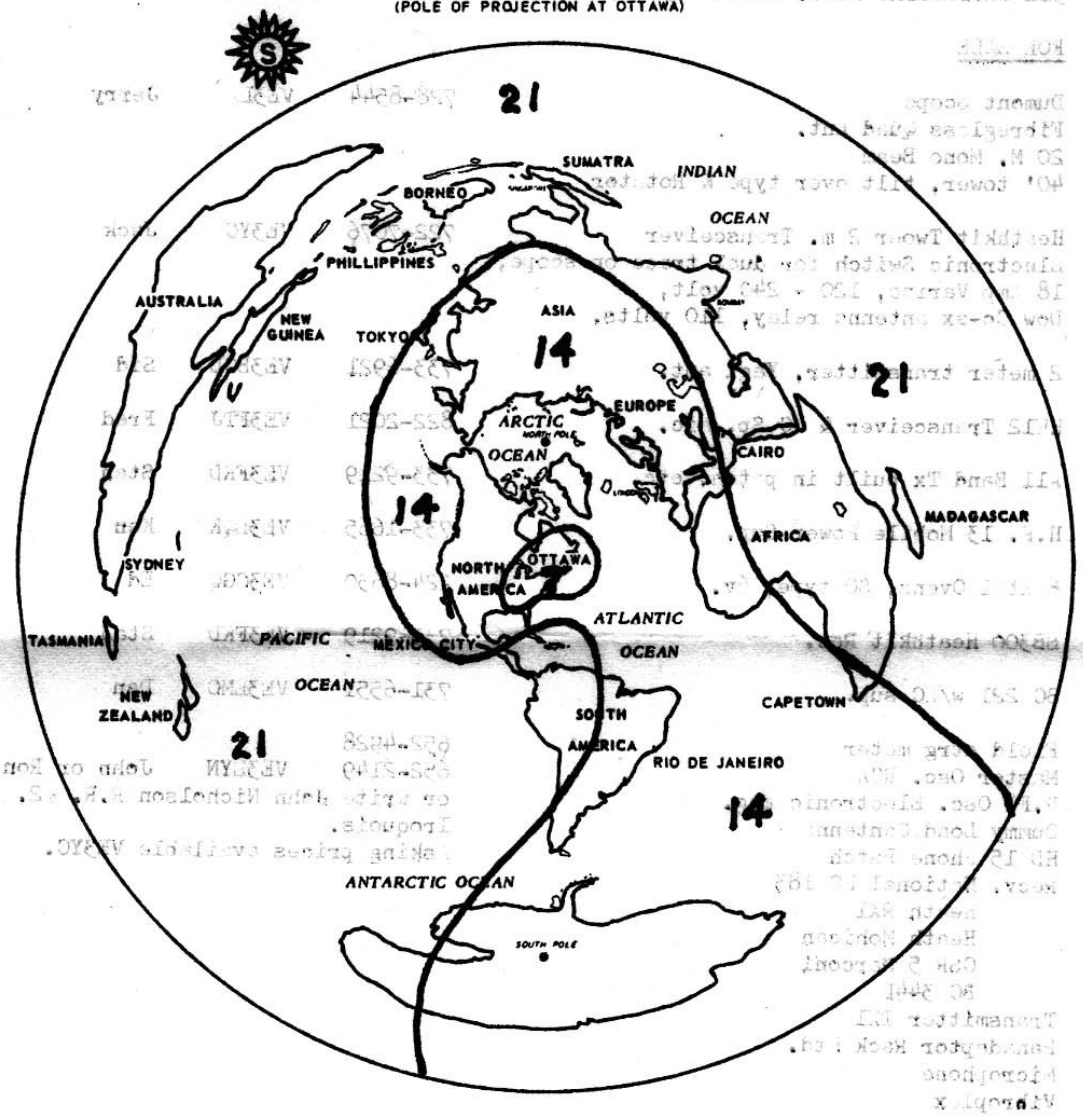

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THE TRADING POST

Send items for inclusion in this column directly to VE3YC, Jack Whittingham, 512 Sherbourne Road, Ottawa 13. 722-7076.

FOR SALE

Dumont Scope Fibreglass Quad Ant. 20 M. Mono Beam 40' tower, tilt over type & Rotator	728-8544	VE3LA	Jerry
Heathkit Twoer 2 m. Transceiver Electronic Switch for dual trace on scope, 18 Amp Variac, 120 - 240 volt, Dow Co-ax antenna relay, 110 volts.	722-7076	VE3YC	Jack
2 meter transmitter, Yagi ant.	733-6921	VE3BCL	Sid
HW12 Transceiver & AC Sp. mic.	822-2021	VE3FTJ	Fred
All Band Tx built in patch, etc.	733-9219	VE3FKD	Stan
H.P. 13 Mobile Power Sup.	733-1665	VE3LQK	Ken
6 Xtal Ovens, SO type, 6v.	224-8630	VE3CGQ	Ed
SB300 Heathkit Rec.	733-9219	VE3FKD	Stan
BC 221 w/AC sup.	731-6551	VE3EMO	Dan
Field strg meter Master Osc. RCA R.F. Osc. Electronic Eng. Dummy Load Cantenna HD 15 Phone Patch Recv. National NC 183 Heath RX1 Heath Mohican CSR 5 Marconi BC 344D Transmitter TX1 Panadaptor Rack Mtd. Microphone Vibroplex TA33 Beam Link Transceiver 6m	652-4928 652-2149	VE3EYN	John or Ron or write John Nicholson R.R. #2, Iroquois. Asking prices available VE3YC.
75S3 Collins Receiver serial no. 13015 Mint Cond. KWM-2A Collins Transceiver, Noise Blk. serial 16174 Mint Cond. 312 B 5 Control Unit Collins. Mint Cond. P.M. 2 Power Sup. Travel Case and Ribbon Ant.			722-7076 for appointment only, Jack.

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1200 GMT MAY 1969

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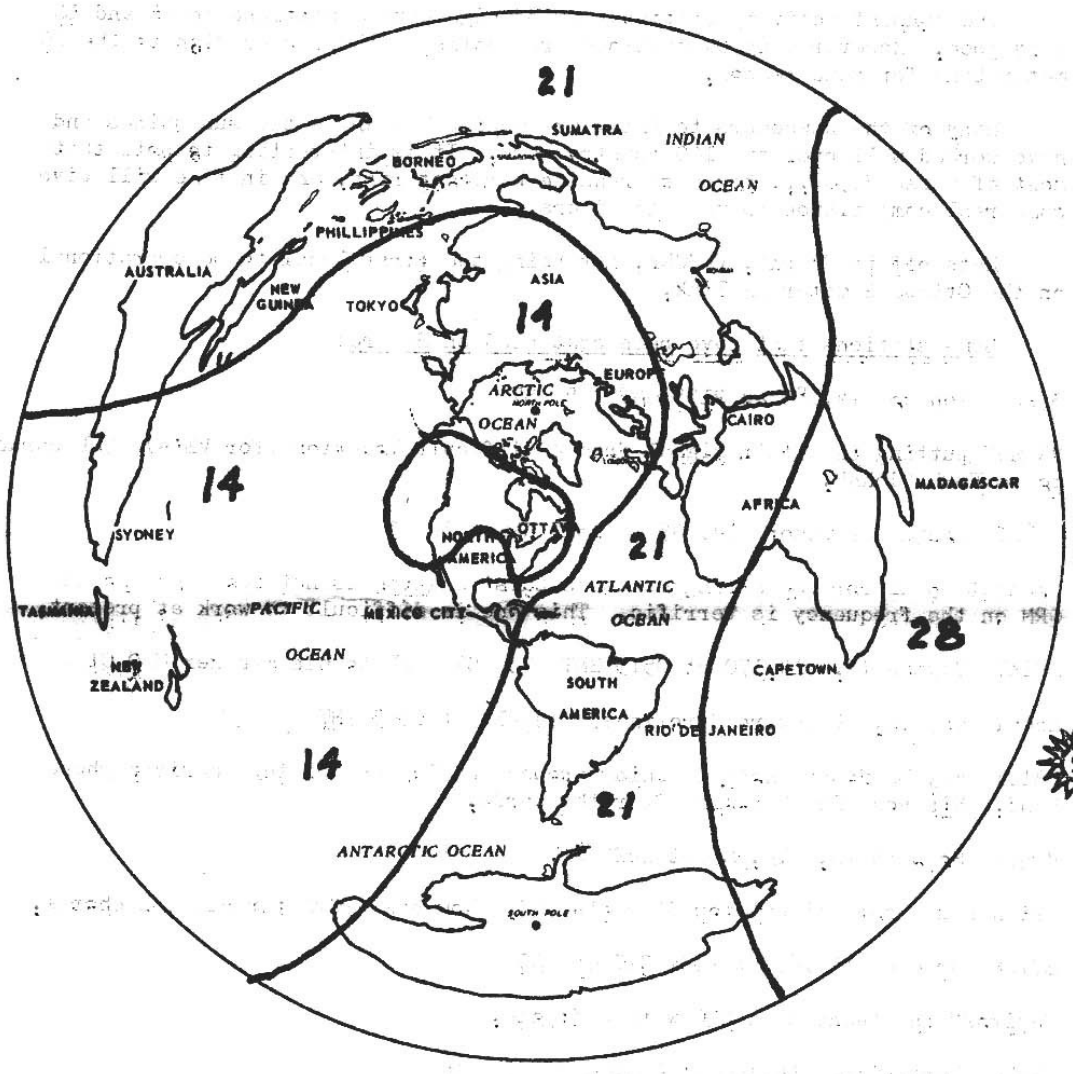

Scale of kilometers

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0700 EST

DX TOPICS

by

R. John Athey, VE3CTX

The sunspot activity continues to be high with conditions on 15 and 10 very good. However many DX stations are confining their operation to the 20 meter band for some reason.

Many of the newcomers to DXing are making hay while the sun shines and have worked well over the 100 country mark. It is interesting to note that most of these VE3G..., boys are running barefoot rigs, and in time will give some real competition to the old timers.

Hats off to "Fern", VE3GNF, for being the first local to be operational on the Ottawa 2 meter DX link.

Some stations that have been contacted on 20 are:

3A2EE Monaco 14.180 at 2155 GMT Q5 S7

"Gene" putting in a fair signal from a difficult location (for VE's) QSL cards go to F9RM "John".

CR8AI Portugese Timor 14.245 at 1327 GMT Q5 S9

Contact W9EXE for QSO arrangements as Luis' English is not too good and the QRM on the frequency is terrific. This one is difficult to work at present.

ZF1KV Cayman Is. 14.170 at 0515 GMT Q5 S7 QSL to his manager WA0QOI

Kc6BY Yap Is. (Western Carolines) 14.214 at 1303 GMT Q5 S9

"Bill" may be found phone patching around the low end of the American phone band. His son WB9ALM looks after the cards.

VR4EZ Solomon Is. 14.205 at 1228 GMT Q5 S9

Brian has a good signal for 30 watts SSB. Now has W2CTN for his QSL chores.

SV1CS Greece 14.185 at 2331 GMT Q5 S9

"Spiros" in Athens uses 200 w to a dipole.

FM7WO Martinique 14.170 at 0330 GMT Q5 S9

"Maurice". Good Signal. QSL via WB2SSK.

Recent DXpeditions included:

VKØWR Heard Is. 14.124 at 1310 GMT Q5 S5

Very rare location. If you worked him (12 to 17 March) QSL to U.S.C.G.C. South Wind, FPO, New York City, N.Y. 09501.

Continued on Page 12 ...

1800 GMT MAY 1969

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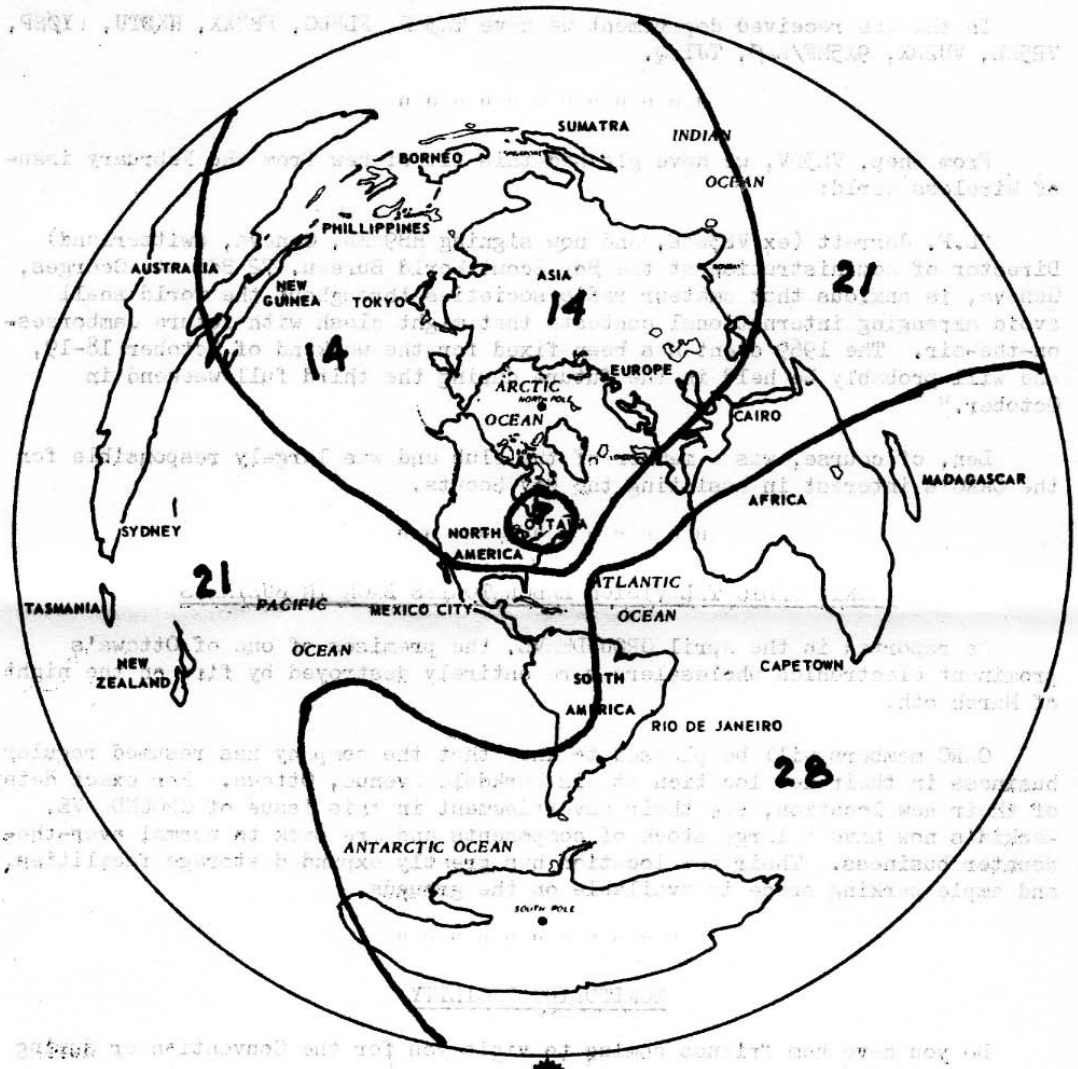

1300 EST

VK2BRJ/9 Norfolk Is. 14.025 at 0451 GMT 579

Leaving for Nauru and Cocos Keeling Islands. QSL W4WS. (Listed as W4CHA in older call books).

In the QSL received department we have TA3AB, FL8DG, FB8XX, HKØTU, HYØSP, VR5AE, VU2BX, 9X5MF/EA6, TJIAQ.

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From Shep, VE3DV, we have gleaned this bit of new from the February issue of Wireless World:

"L.F. Jarrett (ex VE3EWE, and now signing HB9AMS, Geneva, Switzerland) Director of Administration at the Boy Scout World Bureau, 72 Bd. St. Georges, Geneva, is anxious that amateur radio societies throughout the world shall avoid arranging international contests that might clash with future Jamborees-on-the-air. The 1969 event has been fixed for the weekend of October 18-19, and will probably be held in the future during the third full weekend in October."

Len, of course, was a member of the club and was largely responsible for the OARC's interest in assisting the Boy Scouts.

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WACKID RADIO TELEVISION LABORATORIES BACK IN BUSINESS

As reported in the April GROUNDWAVE, the premises of one of Ottawa's prominent electronics wholesalers were entirely destroyed by fire on the night of March 6th.

OARC members will be pleased to know that the company has resumed regular business in their new location at 312 Parkdale Avenue, Ottawa. For exact details of their new location, see their advertisement in this issue of GROUNDWAVE. Wackid's now have a large stock of components and are back to normal over-the-counter business. Their new location has greatly expanded storage facilities, and ample parking space is available on the grounds.

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MONITORING FACILITY

Do you have ham friends coming to visit you for the Convention or during the summer?

From the OVMRC's RAMBLER we learn that VE3CGO monitors 3760 kHz SSB and 146.940 FM daily from approximately 8:00 AM to 6:30 PM for mobile or out of town traffic. Tell your friends mobiling in they can call VE3CGO if they have traffic for Ottawa or require assistance.

" " " " " " " " " " " " "

Announcing

WACKID RADIO TELEVISION LABORATORIES LTD. (FORMERLY 317 BANK ST.)

NEW PHONE

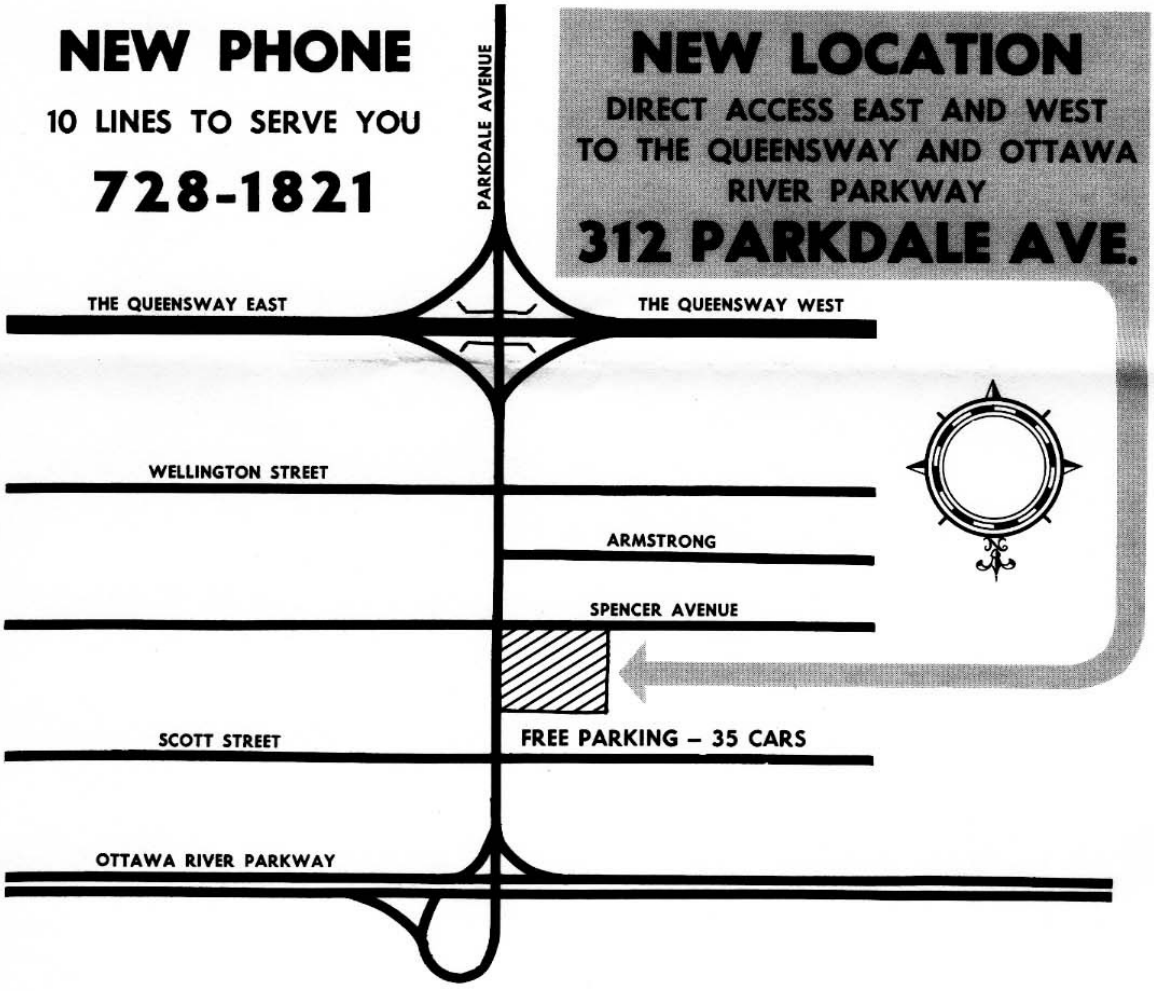
10 LINES TO SERVE YOU

728-1821

NEW LOCATION

DIRECT ACCESS EAST AND WEST TO THE QUEENSWAY AND OTTAWA RIVER PARKWAY

312 PARKDALE AVE.



NEW STOCK – LARGER QUANTITIES

Always a pleasure to serve you!

ASSOCIATE MEMBERS OF THE OTTAWA AMATEUR RADIO CLUB

April, 1969

Please notify J. McWatters, VE3MC at 233-2929 in cases of errors or omissions and for change of address.

Barker, J.D.	749-2283	382 Richelieu St Apt 6 Ottawa 7 Ont
Bartlett J.F.	728-6636	363 Clifton Road Ottawa 3 Ont
Biesenthal A.H.W.	232-2534	48 Fifth Ave Ottawa 1 Ont
Bonhomme L.	771-3386	22 Cinq-Mars Hull PQ
Brown Janet R.	729-2957	195 Clearview St Apt 1516 Ottawa 13 Ont
Carle G.		128 Cochrane St Lucerne PQ
Cave Leo V.	731-3449	1516 Caledon St Ottawa 8 Ont
Côté, Louis	235-1302	333 Metcalfe St Ottawa 4 Ont
Dagg Hugh	828-2417	73 Bradford St Ottawa 14 Ont
Dillon F.C.	733-8636	819 Nicholson Ave Ottawa 8 Ont
Dillon K.	733-8636	819 Nicholson Ave Ottawa 8 Ont
Dowler R.	224-8050	1608 Senio Ave Ottawa 5 Ont
Friedberg M.	729-2663	1378 Laperriere Ave Ottawa 3 Ont
Garneau B.J.	232-8512	791 Carling Ave Ottawa 1 Ont
Giles G.	828-1712	7 Bedale Drive Ottawa 14 Ont
Grainger J.	749-2984	588 Donald St Ottawa 7 Ont
Goat R.S.	733-7780	1833 Riverside Drive Apt 117 Ottawa 8 Ont
Gross R.	822-1672	194 McGill Ave Ottawa 10 Ont
Hamilton I.	232-9110	128 Osgoode St Ottawa 2 Ont
Hewitt R.	728-2880	362 Hamilton Ave Ottawa 3 Ont
Howard J.W.	733-5260	1026 Connery Ave Ottawa 8 Ont
Jones E.H.	836-1172	226 O'Connor St Ottawa 4 Ont
Karabonik A.	746-8728	610 Alesther St Ottawa 7 Ont
Kasperek W.	224-8511	59 Viewmount Drive Ottawa 5 Ont
Kassirer Dr. A.	722-1330	61 Forest Hill Ave Ottawa 5 Ont
Kassirer J.	722-1330	61 Forest Hill Ave Ottawa 5 Ont
Klein J.V.	233-5489	203 Third Ave Ottawa 1 Ont
Kliewer L.	729-0939	5-214 Ellendale Cres Ottawa 3 Ont
Kunkel L.D.	828-9362	8 Ascot Ave Ottawa 6 Ont
Leaker J.W.	822-6928	34 Kingsland Ave Ottawa 10 Ont
Lepage R.E.	745-7825	252 St Laurent Blvd Ottawa 7 Ont

Maillet A.	745-2235	1915 Ogilvy Road, Ottawa 9 Ont
Malo G.	684-5124	2 Arial Lucerne PQ
Molnar G.R.	745-7364	230 Eastern Drive Ottawa 7 Ont
Molnar R.	745-7364	230 Eastern Drive Ottawa 7 Ont
Monahan A.W.	838-2445	PO Box 78 Richmond Ont
MacDonald D.B.	825-1233	1 Silverwood Road Ottawa 12 Ont
McCarthy R.	822-1751	119 Deniverville Drive Ottawa 10 Ont
Mckenzie G.	235-1058	34 Blencairn Ave Ottawa 1 Ont
Nielsen R.	731-6619	2019 Tawney Road, Ottawa 8 Ont
Onstein W.	728-8089	579 Kirkwood Ave Ottawa 1 Ont
Ouillet J.R.	828-4448	2627 A Conn St Ottawa 14 Ont
Paquette P.A.	232-2534	48 Fifth Ave Ottawa 1 Ont
Parker Mrs Katie	828-4272	187 Kehoe St Ottawa 14 Ont
Patterson R.	728-1463	364 Huron Ave Ottawa 3 Ont
Pope L.	828-8252	2173 Elmira Drive Apt 7 Ottawa 5 Ont
Porter E.F.	825-1157	19 Pineglen Cres Ottawa 12 Ont
Radley M.	749-0888	374 Fullerton Ave Ottawa 7 Ont
Reed D.	731-9236	994 Harkness Ave Ottawa 8 Ont
Reid D.J.	828-4562	3892 Richmond Road Ottawa 6 Ont
Roach Mrs	234-0885	104 Strathcona Ave Ottawa 1 Ont
Ryback W.	749-1358	476 Newman Ave Ottawa 7 Ont
Schamp R.	234-0244	308 First Ave Ottawa 1 Ont
Scott Mike	232-9755	44 McLaren St Ottawa 4 Ont
Smith L.G.	833-2669	RR 2 Cumberland Ont
Stanton D.	235-7741	373 Templeton St Ottawa 2 Ont
Stenzel H.	836-1718	Box 168 Stittsville Ont
Stevenson Mrs Joyce	828-5312	26 Cherrywood Drive Ottawa 6 Ont
Stinson K.J.	828-6042	5 Bonner St Ottawa 6 Ont
Stonehouse C.E.	692-4097	RR 3 Manotick Ont
Stovell A.K.	728-5305	1266 Marygrove Circle Ottawa 5 Ont
St.Germain G.M.	722-8040	1359 Chatelain Ave Ottawa 3 Ont
Sutherland F.	728-1591	283 Zephyr Ave Ottawa 14 Ont
Taylor Mike	828-6776	2065 Baseline Rd Apt B Ottawa 5 Ont
Tomlin Mrs Beryl		PO Box 492 Kemptville Ont
Tomlin Peter		PO Box 492 Kemptville Ont
Towns R.L.	731-3934	3129 Southmore Drive Ottawa 10 Ont
Tremblay A.		1339 Labrie Cyrville Ont
Van Bargen R.		104 Knoxdale Road Ottawa 12 Ont
Ward F.S.	824-1396	Box 187 RR 1 Orleans Ont
Watson John	722-3941	841 Kingsmere Ave Ottawa 13 Ont
Wendell C.	224-6202	113 Granton Ave Ottawa 5 Ont
Wickens A.J.	722-3074	1179 Cline Cres Ottawa 5 Ont
Zagol Margaret	232-5088	230 Gloucester St Apt 304 Ottawa 4 Ont

HW-100

$399.95

• Solid-state (FET) VFO • 80-10 meter coverage • Switch selected upper or lower sideband or CW • 180 watts input PEP SSB—170 watts input CW • Crystal filter • Full coverage on all bands with 500 kHz per band segment • Smooth vernier control of frequency with patented Harmonic Drive™ dial mechanism • Built-in 100 kHz calibrator • Separate offset CW carrier crystal • TALC • Quiet, enclosed relays • Fixed or mobile operation with HP-23 or HP-13 power supplies • Easy assembly with circuit boards and wiring harness

Top view of the HW-100...shows the neat layout provided by the five circuit boards which mount on the top of the chassis.

Bottom view of the HW-100 shows the 8 vertical circuit boards with band switching filters and crystals mounted directly on the board.

The Heathkit HW-100 5-Band SSB-CW Transceiver . . .
Red Hot Performance . . . Winning Features . . .
Money-Saving Kit Price

HW-100 SPECIFICATIONS—RECEIVER. Sensitivity: Less than .5 microvolt for 10 dB signal-plus-noise to noise ratio for SSB operation. **Selectivity:** 2.1 kHz minimum at 6 dB down 7 kHz maximum at 60 dB down (3.395 MHz filter). **Input:** Low impedance for unbalanced coaxial input. **Output impedance:** 8 Ω speaker, and high impedance headphone. **Power output:** 2 watts with less than 10% distortion. **Spurious response:** Image and IF rejection better than 50 db. **TRANSMITTER. DC Power input:** SSB: (A3j emission) 180 watt P.E.P. (normal voice: continuous duty cycle). CW: (A1 emission) 170 watts (50% duty cycle). **RF Power output:** 100 watts on 80 through 15 meters; 80 watts on 10 meters (50 Ω non-reactive load). **Output impedance:** 50 Ω to 75 Ω with less than 2:1 SWR. **Oscillator feed-through or mixer products:** 55 dB below rated output. **Harmonic radiation:** 45 dB below rated output. **Transmit-receive operation:** SSB: PTT or VOX. CW: Provided by operating VOX from a keyed tone, using grid-block keying. **CW Side-tone:** Internally switched to speaker or headphone, in CW mode. Approximately 1000 Hz tone. **Microphone input:** High impedance with a rating of —45 to —55 dB. **Carrier suppression:** 45 dB down from single-tone output. **Unwanted sideband suppression:** 45 dB down from single-tone output at 1000 Hz reference. **Third order distortion:** 30 dB down from two-tone output. **RF Compression (TALC*):** 10 dB or greater at .1 ma final grid current. **GENERAL. Frequency coverage:** 3.5 to 4.0; 7.0 to 7.3; 14.0 to 14.5; 21.0 to 21.5; 28.0 to 28.5; 28.5 to 29.0; 29.0 to 29.5; 29.5 to 30.0 (megahertz). **Frequency stability:** Less than 100 hertz per hour after 30 minutes warmup from normal ambient conditions. Less than 100 Hz for ± 10% line voltage variations. **Modes of operation:** Selectable upper or lower sideband (suppressed carrier) and CW. **Dial calibration:** 5 kHz. Calibration: 100 kHz crystal. **Audio frequency response:** 350 to 2450 Hz. **Transistors:** MPF105 FET—VFO; 2N3393—Voltage regulator. **Rear apron connections:** CW Key jack; 8 Ω output; ALC input; Power and accessory plug; RF output; Antenna; Spare. **Power requirements:** 700 to 850 volts at 250 ma with 1% maximum ripple; 300 volts at 150 ma with .05% maximum ripple; —115 volts at 10 ma with .5% maximum ripple; 12 volts AC/DC at 4.76 amps. **Cabinet dimensions:** 14⅜" W x 6¾" H x 13⅞" D.
*Triple Action Level Control™

Designed To Leave The Rest Of The Field Behind . . . in performance, in price, in value. You can check the specs, and be impressed, but in general, the HW-100 operates with a hybrid circuit that uses 20 tubes (26 functions), two transistors (one an FET for the VFO), six germanium diodes, nine silicon diodes, and one Zener diode. Everything but the VFO, final amplifier, and various controls mount on nine circuit boards for stable, dependable, easy-to-build circuitry.

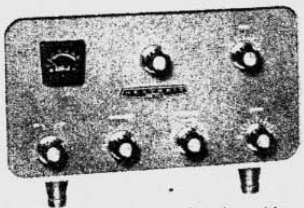
Here's what it delivers. The receiver portion of the HW-100 has a sensitivity figure of less than ½ uv for a 10 dB S+N/N ratio for SSB operation. Crystal filter selectivity is 2.1 kHz at 6 dB down, 7 kHz at 60 dB down. Image and IF rejection better than 50 dB.

The transmitter section in SSB continuous duty is 180 watts PEP, CW input is 170 watts on 50% duty cycle. It operates PTT or VOX on SSB, and CW transceive is provided by operating VOX from a keyed tone, using grid-block keying. CW side-tone is 1 kHz, internally switched to speaker or headphones. Carrier and unwanted sideband suppression is 45 dB down; third order distortion 30 dB down, RF compression (TALC) is 10 dB or better. Frequency stability is outstanding . . . less than 100 Hz drift per hour after 30 minute warmup . . . less than 100 Hz variation under a 10% line voltage variation. And the HW-100 is the only rig that uses a Field Effect Transistor (FET) in the VFO for superior thermal stability.

A Pleasure To Use . . . the patented Harmonic Drive™ tuning provides 28 revolutions of the knob per 500 kHz band segment, with 5 kHz divisions. A handy zero reset button is adjacent. To the left are the Band Selector switch, Mode selector, Load and Final tune, Driver preselector, Mic/CW Level control, Mic connector, and Phone jack. To the right is the S-Meter with a 3-position switch for checking ALC, Relative Power, and Final plate current. Adjacent is another 3-position switch for PTT, VOX and Calibrate. RF gain and AF gain controls complete the front panel. Located inside are controls for Meter Zero, Bias, VOX sensitivity, VOX delay, Anti-Trip, Carrier Null, and Neutralizing. On the rear apron are the CW key jack, 8 ohm speaker output, ALC input, Power/Accessory plug, RF output, and Antenna connector.

Easy To Build. Most components mount on 9 circuit boards and the one wiring harness makes interconnection simple & fast. For the best value & performance in sideband, make the HW-100 your rig now!

Kit HW-100, 22 lbs.,
Kit SB-600, 8 ohm speaker, 6 lbs.
Kit HP-13A, DC power supply, 7 lbs.
Kit HP-23A, AC power supply, 19 lbs.



THROUGH HEATH NEW RESEARCH

Kit SB-500

$299.95

SB-500 2 Meter Transverter ! !

Heathkit puts you on "TWO" for only $299.95 when used with your SB-101, SB-110, HW-100 or SB-301/401

HF performance on VHF at Nominal Cost . . . with your own exciter/receiver and this new transverter

The SB-500, when used in conjunction with any of the low band equipment mentioned above, gives complete, reliable SSB and CW capability from 144 to 148 MHz, by using the 6 or 10 meter output of the exciter. In the receive mode, the SB-500 takes the incoming 2-meter signal and heterodynes it to either the 6 or 10 meter band, where the transceiver processes it in the usual way. On transmit, a driving voltage in either the 50 MHz or 28 MHz range is heterodyned to 2-meters, amplified and coupled to the output. The "500" derives final plate voltage from the driving unit, but all other operating voltages are supplied by a built-in 120-240 VAC, 50-60 Hz power supply — no external power supply is necessary.

DC Power Input To The Final Is 130 Watts PEP, with a husky 50 watts output into a 50 ohm non-reactive load. Final tubes are a pair of inexpensive 6146's in an AB_1, push-pull configuration. Receiver sensitivity is .2 uV for a 10 db S/N/N ratio. A front panel on/off switch places the transverter into operation or allows the lower frequency equipment to operate straight through to a linear amplifier or antenna. Relays controlled by the driving unit automatically switch the "500" between transmit and receive modes. ALC voltage is supplied to the driving unit as an aid in preventing over-driving and distorted signals. Tuning is fast and easy, and a built-in meter monitors either final plate current or relative power. The Calibrate position on the meter switch activates a built-in 1MHz crystal calibrator. No cables or antenna to change.

Kit SB-500 Transverter.....**$299.95**

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