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XTAL

for the radio amateur

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XTAL

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Excerpts from the President's Report presented to a meeting of the Executive Committee held at Brantford, Ont., on February 25, 1950.

Let me turn now to XTAL. It is a fact that our magazine is necessary to our association life. We cannot live without it and yet, paradoxically, it has been the cause of a loss of members in some quarters. The reason for that is psychological and demands the attention of this committee. Again, I believe this to be due to a lack of association publicity.

Many of our members have joined our ranks as XTAL subscribers rather than as CAROA members. When this is so, many of such members form their impressions on the basis of a comparison of XTAL with senior amateur radio publications. Since it is not our intention to publish a magazine which is the Canadian counterpart of our major contemporaries, XTAL suffers by comparison in the eyes of a subscriber rather than of an association member.

However, inasmuch as XTAL is produced by CAROA, being neither a commercial venture nor a publication to which one may subscribe, it is owned by the members and is produced by them for themselves, therefore, we should be able to make it the most intimate magazine that goes into Canadian shacks. This calls for vision, inspiration and imagination coupled with the ability to get close to the pulse of the Canadian amateur.

XTAL is a long way from being the magazine we hope it some day will be, nevertheless, we are justly proud of it for what it is — our own magazine, and a medium through which we may communicate with our members.

Notwithstanding our pride, we must frankly admit that XTAL can almost immediately be substantially improved if we devote to its affairs the same extensive objective planning I think is necessary in the broader field of CAROA.

I lack extensive experience in such matters, but it occurs to me that we should appoint an Editorial Board which will plan each issue many months in advance of publication date. In fact, I would go further and say that there should be a general block diagram covering the issues for a year. By planned diversity for each issue, and for a series, we can improve XTAL immeasurably. Some such method will permit the solicitation of specific material by direct invitation well in advance of the date it is required. We have repeatedly, through the pages of XTAL, urged our members to forward material and we have found that method unproductive. We must try other methods.

In consideration of the fact that there is a strong tendency to judge CAROA on the basis of XTAL, and since the Executive Committee must accept final responsibility for the fortunes of CAROA in all its branches, including XTAL, it naturally follows that the Executive Committee should be the final authority on the broad policies of XTAL which would include general form, regular features and editorial content.

An Editorial Board, planning issues well in advance would have ample time to receive Executive Committee approval on major considerations. True, matters of advertising and finance will reflect themselves in last minute adjustments of even well laid plans. However, they are merely matters of operating detail as distinguished from basic editorial policies and as such they do not detract from the wisdom of pursuing a well-planned policy course.

In concluding my report, may I express the opinion that CAROA has reached the stage where its future depends upon the quality of administration this Executive Committee gives to the association and all its affairs. We who are members of the administrative body enjoy a privilege and an honour by virtue of our election. We have been given a trust which unfolds to us the opportunity of laying the foundation on which will rest the structure of a highly successful CAROA. But it is a trust which does not sit lightly on our shoulders. Its responsibilities are many, and perhaps even onerous at times but, withal, they are pleasant responsibilities, for they represent opportunities to serve the cause of CAROA, and our fellow-hams of Canada.

— R. MACDONALD, VE3APS, President.

75-METER MOBILE

Second of a series of articles describing a complete mobile station for 75 phone.

By ALEX VELLEMAN, VE3BTQ*

NOW that the transmitter and power supply are completed, at least in basic design, let's face another of the problems. The simplest of these is the control system, so let's look into that one next.

At the dashboard of the car, we want as few actual controls as possible, yet these controls must do a good many things. Indicators are also required, and again, only the most important ones are wanted. A single on-off switch is a basic requirement, with an indicator light. A jack for the microphone is desirable, and the microphone should have on it a pushbutton, which will give the operator push-to-talk control over the transmitter. Again an indicator lamp should be included, to indicate that the transmit condition is existent.

Let's tabulate the desirable features, and then see about getting them all into a simple sequence.

The on-off switch should: (1) Turn on the transmitter filaments and at the same time turn on the converter filaments. Normally the transmitter is not used unless the receiver is used. (2) Turn on a pilot lamp to indicate at the dash that the transmitter filaments are on. (3) Transfer the aerial post of the receiver from the receiver aerial to the output of the converter.

The transmit-receive button on the microphone should (1) Turn "on" the motor-generator, to operate the transmitter. (2) Transfer the aerial from the converter to the transmitter. (3) Turn "on" the red pilot lamp to indicate that the transmitter, is on "transmit." (4) Mute or silence the receiver, so that excessive feedback or talkback does not take place.

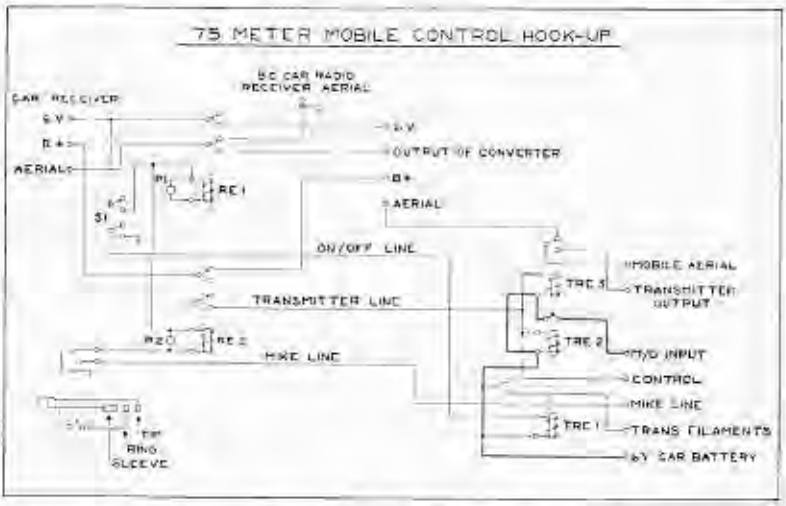
The relay and control diagram, Fig. 1, shows various relays and switches, and thus is divided into parts. Some of these are at the transmitter, others are at the remote control panel at the dash of the car. Cables run from the control panel to (1) the transmitter, (2) the receiver, (3) the converter. Separate shielded leads of special type run from the receiver to the control panel, and then to the receiver aerial. In the particular installation under discussion, twin-lead with one lead grounded was used to feed from the transmitter to the converter, and small type receiver co-ax was used from the output of the converter to the control panel.

Parts required at the control panel:
S1-DPST Toggle switch (on/off)
RE1-DPDT Relay (on/off)
P1-Green Pilot Lamp bracket
J1-3 way jack, and mike c/w push button
RE2-DPDT relay (Trans/Rec)
Hardware to connect aerial post of receiver to control unit, and to connect aerial of car to control unit.
P2-Red pilot lamp and bracket

Parts required at the transmitter:
TRE1—SPST filament relay
TRE2—SPST heavy duty m/g relay
TRE3—SPDT Aerial relay

Action: When one section of S1 closes, ground is connected through a cable to one side of TRE1, the other end of which is connected to the car battery. This relay is energized, and thus applies 6V to the filaments of the transmitter. As well as this, 6V is applied to one side of TR2 and 3. The other section of S1 applies 6V to one side of RE1 and P1. The other side of these components are grounded, so P1 lights, indicating that the filaments are on, and RE1 closes. When RE1 closes, the lower set of contacts transfer the aerial post of the receiver from the aerial to the output of the converter. The upper set of contacts apply 6 volts to the converter filaments when closed.

When the mike button is up, RE2 is not energized, so the lower set of contacts in their normal position allow the receiver plate supply to be fed to the converter. When the mike button is depressed, one side of RE2 is grounded through the button, the other side of RE2 is connected to the hot side of RE1, thus energizing RE2. (The connection is made to RE1 so that RE1 must be closed before RE2 can be closed.)



* Technical Instructional Staff, R.C.A.F., R. & C.S., Clinton, Ont.

When RE2 is energized, the plate supply to the converter is broken, therefore the receiver is now silent, and feedback or talkback is eliminated. The upper set of contacts apply a ground to a cable connected to the transmitter. This cable is connected to one end of both TRE2 and 3. The other ends of these relays are connected to the filament supply, therefore they become energized. TRE2 applies the 6-volt car battery to the motor-generator, starting it, and thus placing the transmitter on the air. The relay TRE3 removes the transmitting aerial from the converter to the transmitter.

The next article in this series will deal with the mobile antenna, and methods of loading it and tuning it. The final article will deal with the converter.

CORRECTIONS

The parts list for the noise limiter described in January issue was inadvertently omitted. We apologize to VE2XR and all those interested in the circuit for this omission.

"Before" Diagram

C65-66 — 220 mmfd. grey (remove)
C68 — 1200 mmfd. grey (remove)
C74 — 12 mmfd. grey (remove)
C75 — 6.8 mmfd. grey (see text)
C77 — 5 mfd (leave as is)
C91 — Mica padder on side of chassis (remove)
R36 — 220K (leave as is)
R38 — 1 Meg (leave as is)
R39 — 1K (leave as is)
R30-31 — 150K (remove)
R32 — 47K (remove)
R33 — 100K variable on side of chassis (remove)
R33 — 30K variable, old ANL control (remove)

"After" Diagram

C1 — .0001 mfd mica
C2 — .006 mfd tubular, 400V (see text)
C3 — .00025 mfd mica or former C65
C4 — .1 tubular, 400V
R1 — 68K, ½ watt
R2 — 100K pot with switch, new ANL control
R3-4 — 270K, ½ watt
Junction of centre lug of R2 and R3 made at lug 4, top strip (see text)

* * *

In "75-Meter Mobile," part one, in April, 1950 XTAL, by VE3BTQ, note that the coupling condenser between 6C4 plate and 807 grid should be 50 mmfd and the 807 plate tuning condenser should be 140 mmfds.

The **Truro Amateur Radio Club** had its annual meeting Apr. 4. The officers elected for 1950-51 are as follows: Past president, VE1XL, Allan Doane; president, 1XK, Gordon Purdy; vice-president, 1MT, Frank Singer; secretary-treasurer, 1KN, Richard Rector; emergency co-ordinator, 1NZ, Weldon Mills. Motion pictures were shown and door prizes were won by VE1CB and associate member Bob Drew. The gathering dispersed after a good feed of fish and chips, sandwiches, chocolate cake and coffee.

In the Realm of Clubs

The April meeting of the **Saskatoon Amateur Radio Club** was another howling success when 5KO and 5JC showed movies on X-ray and its uses in industry as well as medicine. The whole gang agreed it was one of the most instructive and enjoyable programs of the year. 5GR reported that all committees for the hamfest are working hard, and all indications are that this year's hamfest in Saskatoon on July 1 and 2 will be the biggest and best ever held in this part of the world. Mrs. Carl O'Brien, Mrs. Les Georgy, Mrs. Syd Young, Mrs. Cec Brandt and Mrs. Frank Foster have consented to act as a committee to look after the xyl's, so come along, gang, and bring the family.

* * *

The **North Vancouver Radio Club** held a reorganization meeting on March 28 at the home of Bert Porter, 7EL. We hope to report future plans soon.

* * *

The banquet of the **Kirkland Lake A.R.L.**, Kirkland Lake, can no doubt be blamed for part of the aurora skip and black-outs on the bands recently. The boys are planning code practice on the air and K.A.R.L. Words per Minute Certificates for those interested.

* * *

The **Queen City A.R.C.**, Toronto, held the first post-war meeting and initiation of the Mystic Knights of the Ether on May 26 at the Eastern High School of Commerce Auditorium.

* * *

The **Frontier Radio Ass'n.**, Windsor, held their banquet on Feb. 24 with many W8's in attendance. The club has set up a TVI Committee, a technical advisory group to function throughout the year and to officiate technically on F.D. The members are 3FP, 3AHL, and 3TO.

* * *

The 1950 executive of the **Calgary A.R.A.** is: President, 6MY; vice-president, 6JK; secretary, 6DF; treasurer, 6XX; and publicity, 6RL. The club address remains P.O. Box 196.

* * *

The officers of the **Kingston A.R.C.** are: President, 3BDA; vice-president, 3AOU; secretary-treasurer, 3BFK; activities 3CAQ.

* * *

The Loyalist City A.R.C., Saint John, have the following officers: President, 1GQ; vice-president, 1RQ; secretary, 1FN; treasurer, 1MR; press representative, 1IZ; program director, 1GE and social convener, Martin O'Leary.

* * *

The **Niagara Peninsula A.R.C.** has purchased a 1500-watt AC generator, to be kept for emergency and F.D. use. 3DBF has been appointed chairman of a committee to gather and catalogue information regarding TVI.

* * *

The **North Shore R.C.** held their annual banquet at the Genosha Hotel, Oshawa, on April 15.

* * *

The resignation of 7TG as president of the **Victoria Short Wave Club** resulted in the following changes: President, 7PO; vice-president, 7MU; director, 7DY. 7AAD remains club secretary.

EMERGENCY CORPS ACTIVITIES

I am writing this the morning after the Rimouski, Que., fire, which was just another example of the oft-repeated saying, "It can happen here." Most of you will probably be aware that as a result of the fire, all communications in the town and also power supplies were put out of commission, and that once again amateur radio helped out a great deal in the summoning of help and handling of relief traffic. Information is not complete here yet as to which amateurs took part, but it is apparent that VE2ZL, VE2XO and VE2SC operated on the 75-meter phone band, and I believe VE2FI and VE2NX operated from the Rimouski area on emergency power.

As one of the four Emergency Co-ordinators in the greater Toronto area, I would like to strongly urge each and every Canadian radio amateur to give consideration as to how he and his equipment might be useful in such an emergency in his own community. In return for the privilege we have of using ham radio, let us be prepared to render a public service in time of need.

73 till next month,

W. F. CHOAT, VE3IL.

Kirkland Lake, April, 1950: Gord Browne spoke in favour of CAROA, pointing out the need for our support. Membership application cards were passed around, and any others can get the cards from Gord.

HAM-ADS

Advertising accepted for this classification subject to the following conditions:

1. The rate is seven cents per word.
2. A special rate of two cents per word is applicable to non-commercial advertising submitted by CAROA members.
3. Copy must be received by the 10th of the month preceding date of issue.
4. Remittance must accompany order.

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1326	Beam Position Indicator, AC Foundation Kit	10.53
22067	Clipper Choke 3.75 Hys. (Nov. 46 QST)	1.38
22099	Inductor 0.5 Hys., 4500 ohms, Res. (G.R. 119B) Nov. 46 QST 140 Series mtg.	2.00
22737	Power Transformer, Pri. 115V 25 cycle, Sec. 115V 30 MA. D.C., "B" Supply only for R.C.A.F. C2 Frequency Meter	1.80
22955	Power Transformer, Pri. 115V 25/60 Cycle, Sec. 5V 3A, 12.6V, 4.5A, 300-0-300V, 110 M.A. Supplies 265 V.D.C. for No. 19 Mk. III tank set 550 V.D.C. for No. 19 Mk. III tank set	6.47 6.47
23078	Power Transformer, Pri. 115V 25/60 Cycle, Sec. 11V 15 M.A., supplies 6V D.C. for	
23078	Power Transformer, Pri. 115V 25/60 Cycle, Sec. 11V 15 M.A., suplies 6V D.C. for antenna position indicator No. 1326	1.06
23310	Fil. Transformer, Pri. 115V 25 cycle, secondary 12.6V 3A C.T., 5V 3A C.T. for Fils. AC conversion SCR522	5.09
23609	Choke 2.4 Hys. Dec. 47 Electronics, Jan. 48 Radio News	5.30
23610	Choke 0.8 Hys. Dec. 47 Electronics, Jan. 28 Radio News	5.30
23636	Choke Tone Control (Thor. 14C70-20C74) 800 series case	3.50
23621	Clipper Choke, 0.8 H. brkt. mtg. (see Nov. 46 QST)	1.37
23697	Choke, Splatter 0.3 Hy. Iron Core 500 M.A.	5.83
23776	Choke, Splatter 0.8 Hy. Iron Core 300 M.A.	7.05
24498	Filament Transformer, Pri. 115V 25/60 Cycle, Sec. 24 volts, 0.5 A.	2.43
24675	Cathode Modulation Transformer, Pri. 7000 ohms, c.t. sec. 500, 1000, 1500, 2000, 2500, 3000 ohms, 200 ma. D.C. 60 watts, "X" mtg. (see circuit 1269)	7.47
26442	Output Transformer for Williamson Amplifier. Primary 10,000 ohms with baland centre tap. Secondary tapped at 4, 8, 15, 20 ohms. High Primary inductance and low leakage indictance for high quality reproduction. Black Wrinkle, WE8 case, 4 3/16 x 5 1/16 x 6" high	24.25

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