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16 APR 1983

FEEDBACK

Monthly Publication

of

The Georgian Bay
Amateur Radio Club

GEORGIAN BAY
AMATEUR
VE3OSR
RADIO CLUB

The Georgian Bay Amateur Radio Club (GBARC) was instituted in October, 1973, at a meeting of amateurs living in the area. That nucleus consisted of VE3BIS Dick; VE3CRV Jim; VE3DTS Jack and VE3EFX Bill.

Since then the Club has grown to approximately 50 resident and non-resident members.

Regular meetings are held monthly except July and August, on the third Thursday. Currently they are held in the Tourist Information Center at Highway #21 and #70, 6 kms west of Owen Sound.

A repeater, for use by all licensed amateurs, is located near Woodford, 15 kms east of Owen Sound. The call is VE3OSR and frequencies are 146.34 in and 146.94 out. Coverage is roughly from Collingwood to Southampton and from the Bruce Penninsula to Durham.

A GBARC Net is held every Sunday at 9:30 a.m. on 3.783 mhz. Any amateur is invited to check in on phone or cw.

PAST PRESIDENTS OF THE CLUB ARE:

VE3CRV Jim	1973-74-75
VE3BIS Dick	1975-76
VE3DXO Dave	1976-77
VE3HIP Ian	1977-78
VE3HXX Ian	1978-79
VE3IDS Don	1979-80
VE3FOT Harvey	1980-81
VE3LPD Laverne	1981-82

OFFICERS FOR 1982-83 ARE:

President:	VE3LPT Moe
Vice President:	VE3NEG Bill
Sec. Treas.	VE3IDS Don
Editor:	VE3LCZ Andy
Tech. Director:	VE3LZX Don

Feedback correspondence should be sent to the Editor - Andy Kalnins
Box 1177
Port Elgin, Ont.
NOH 2CO

Yearly dues for Full Membership are $12.00, reduced to $10.00 if paid before Dec. 31st.

Club crests, designed by and available from VE3WF Fred at $2.00 each.

More complete information on dues, membership, club activities, etc, may be obtained by contacting the Secretary-Treasurer:
Don Richards
Box 44
Hepworth, Ont.,
NOH1PO

PRESIDENTS REPORT

Once more we are to the April meeting which is the nomination meeting. I hope anyone asked or nominated for a position will give it very serious consideration. As we are not a large club it is very hard to get all positions filled, so before saying no please think it out.

Again AEO and helpers have come up with another good month with two tours, hope to see you there.

73's Moe
VE3LPT

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MEETING MINUTES MARCH 17/83

At 8:02 VE3LPT called the meeting to order. VE3BSF re-joined the club. VE3MAE gave info on a tour of the Allen Park Tele-sat station on April 19, Tuesday at 7 PM. VE3KOI gave info on his new repeater. Progress is proceeding well by the sound of things. Freq is 146.13/73. VE3LPT gave notice that elections will take place in May and nominations from the committee and from the floor will take place at the April meeting. VE3KOI moved the meeting be adjourned.

Don VE3IDS

.....

ADDITIONS TO MEMBERSHIP LIST:

VE3BSF	Verne Bohlender	Box 416	Chesley	N0G 1L0	363-3027
VE3IJD	Gene McDonald	RR 4	Tara	N0H 2C0	934-2380
Patch)					

.....

NOTE:

A tour of the Allen Park Satellite Earth Station (Telesat) has been laid on for Tuesday, April 19th at 7:00 PM. Talk in on 146.940 direct and 146.520. Starting approx. 6:30 PM.

Next meeting Thursday 21st April 1983, 8 PM, Owen Sound Tourist Information Center, Springmount.

Deadline for May Feedback submissions is 04 May 1983.

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Most men need two women in their lives, a sectretary to take everything down and a wife to pick everything up.

.....

She: "You deceived me. Before we were married, you told me you were well off."

He: "I was, and I didnT know it."

FROM EDITORS DESK:

Back to work, after a very enjoyable trip down south to Lakeland, Florida. Two meter repeaters kept us company all the way there and back and proved out quite handy for weather reports, traffic conditions and for just saying hello to various Hams. Enjoyed an eyeball QSO with Helen and Dick VE3BIS/W4. Time is one thing that you seem to run out of when enjoying a vacation and it was a contributing factor for not attending the Orlando Hamfest. From various reports it sounded like that was quite a do, maybe Mal VE3LPG can give us a report.

Cordless telephones use two channels, one in the 49 MHZ range and the other in the 1.6 - 1.8 MHZ range. Unfortunately, the telephones are appearing on the nearby 160 meter amateur band. Signals 30db over S-9 have been copied from telephones several hundred yards away. CRRL checked with DOC and found that all cordless telephones in Canada are illegal to the extent that such telephones are supposed to be approved by DOC, but none have been submitted for approval. DOC is working on the problem, and a new TRC-68, with tougher standards for cordless telephones will soon be issued. In the meantime, CRRL is writing to DOC to get assistance in keeping these telephones out of our 160 meter band.

(CRRL News)

How is DOC's new TRC-24 different from the old one? Basically, it's in the way that the technical requirements are set out. Candidates for the Amateur Certificate will be responsible for material on 1) theory of electricity, 2) vacuum tubes and semiconductors, 3) radio wave propagation and basic antennas, 4) block diagrams of equipment for various emissions, and 5) setting up an amateur station. Candidates for the advanced amateur certificate will be responsible for detailed material on 1) power supplies, 2) receivers for various emissions, 3) transmitters for various emissions, 4) antennas and transmission lines, and 5) test equipment. As announced earlier, the new TRC-24 should be ready for general distribution in April, but will not be used as the basis for exams untill February, 1984.

(CRRL News)

Next Amateur Exams, April 20, June 15 and October 19, these will be based on the current syllabus.

As a result of a CARF request, DOC has extended the deadline for the CRRL and CARF submissions on a volunteer examination program to May 27. CRRL and CARF will now meet with DOC on June 10. This will give all Amateurs ample time to make their feelings known. CRRL would particularly appreciate your input. Please send your comments to CRRL, Box 7009, Station E, London, Ontario. N5Y 4J9.

(CRRL News)

CRRL has now received 2500 survey sheets, about 11 per cent of those mailed out. Included with these sheets were applications for over 450 new memberships, and many, many renewals. To all, thanks for your support.

(CRRL News)

Rahn, VE3MAI is now home and recovering. Look for him on 2.

By the time you read this, a new repeater in Wiarton should be on the air in test mode and I am sure that Paul VE3LOI would like to hear any comments on its operation.

TRY: VE3ERX 146.13 in 146.73 out.

Keep in mind S.O.R.T. Flea Market, Sunday, May 15, 1983; Medway High School, Arva, Ont. See March Feedback.

73's
VE3LCZ Andy

FIELD DAY 1983 PROGRESS REPORT by Jeff VE3KPT

At the march meeting of the G.B.A.R.C., I was requested to take over Field Day (FD) operations from Bill VE3NEG due to circumstances that may hinder his participation.

I would like to organize a serious all-out effort that will put the club well up or even at the top of the standings for our category in Canada!!! Of course, this will require a considerable amount of time and effort both on my part and on the part of the participating membership. I have often heard the statement, "Let's make FD a fun day and the heck with worrying about points!" My feeling is that there are 363 other days in the year to hold a social gathering and that the 2 days for field day should be used to prove what we are capable of doing.

Some consideration should be given towards selecting a site for this year's FD. To date, there are 2 confirmed sites that are available. Ian VE3HXX has volunteered his farm which is located west of Owen Sound on highway 21. I also have the use of a 150 acre farm that is located about 8 miles SW of Desboro. Make any other site suggestions known at the April meeting. Please keep in mind that in order to run a well organized event, the site should be kept a reasonable distance from the persons involved in the bulk of the pre FD set-up.

As far as equipment goes, it would be nice to get a couple of trap dipoles for 80/40 and a tri-band beam seems to work out quite well especially for 20/15 fone. I have 30 ft. of tower that a beam could be mounted on. Of course, we will need the loan of a couple of reliable rigs. It has been my experience in the past that too much time is wasted on equipment that is not working properly. If possible, it would be nice to know ahead of time what rigs would be available for the entire duration of FD. If this could be established, we could educate our operators on the proper tune-up procedures for that particular rig ahead of time. I feel that the club should offer to replace the finals in any loaned rig should they become damaged due to operator error.

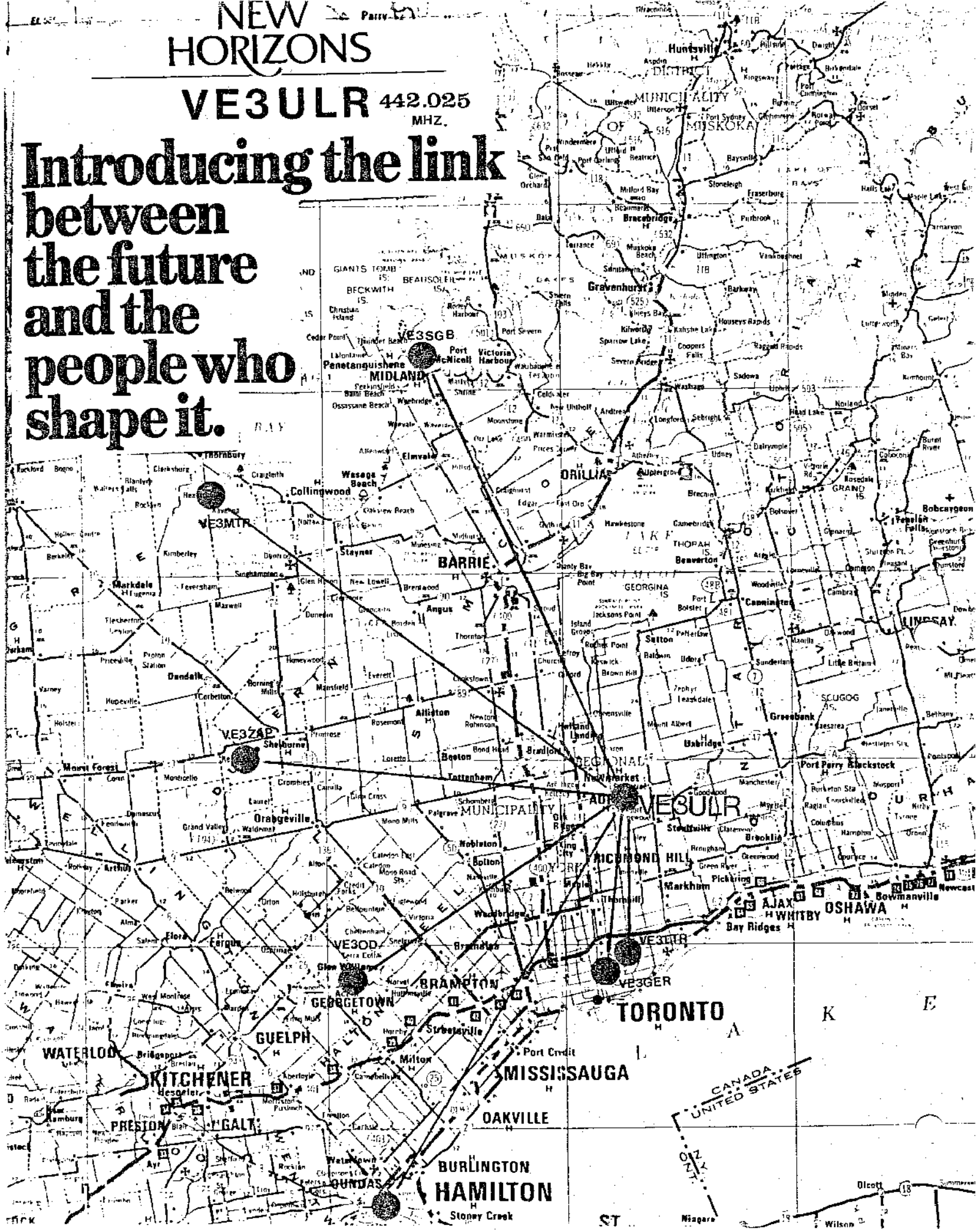
The above views and ideas represent my personal opinion and are subject to approval or criticism from the membership. Let's make FD 1983 one to remember!!!

Jeff Marklevitz VE3KPT

NEW HORIZONS

VE3ULR 442.025 MHZ.

Introducing the link between the future and the people who shape it.



VE3ULR

Dear O.M.

Enclosed is background information regarding the U H F Link Repeater network V E 3 U L R. Becoming part of the "NETWORK" is accomplished merely by the addition of a U H F transceiver to your V H F system. (no costly duplexer required)

Linking is the key that provides you with access to geographic areas never before available to the average two meter repeater user. As you can see by our current "Network" map your repeaters' footprint can change dramatically by transmitting the proper encoded command.

The cornerstone in this system, V E 3 U L R, operates as the nucleus of the "Network" and will be microprocessor controlled providing a "user friendly" system. The repeater has been in operation since January. It is located near Aurora, Ontario. The antennae gain is 9.5 db omnidirectional on a 390 foot tower, 1465 ft. above sea level. Effective radiated power currently is 40 watts and will be increased to 300 watts in June 1983. Recent field tests have shown that ULR's coverage does extend to the following areas; West of Waterloo, North of Orilla, and East of Oshawa.

It takes little imagination to see how easy it is for a 2 meter mobile or base station to make reliable contacts within the "Network" once their local repeater system provides the access !

Should you or your repeater organization desire to know more or wish to participate in this novel and exciting aspect of amateur radio please feel free to contact me in writing.

73,

Terry S. Darling VE3CAB

140 Carlton Street
Apartment PH 2
Toronto, Ontario M 5 A 3 W 7

CTV
Amateur
Radio
Association
VE3OLP
VE3GER

"Professionalism in Amateur Radio"

March 25, 1983

TO: All Area Amateurs & Amateur Radio Clubs

FROM: Terry Darling, VE3CAB

SUBJECT: JUNE 2, 1983 TELECONFERENCE RADIO NET

The A.R.R.L. Teleconference Radio Net of March 3, 1983 was a big success on VE3GER! Due to the overwhelming support from our listeners, the CTV Amateur Radio Association is proud to announce that the June 2 Teleconference Radio Net will be broadcast on VE3GER beginning at 20:30 p.m. local time.

In addition, VE3GER will transmit uplink to the new VE3ULR UHF LINK REPEATER which will enable the following amateur repeaters to also carry the teleconference.

VE3MTR	Collingwood	146.79 MHZ
VE3ZAP	Shelburne	146.685 MHZ
VE3DRW	Hamilton	145.49 MHZ
VE3OD	Georgetown	147.735 MHZ
VE3TTR	Toronto	224.98 MHZ

Due to the superior audio quality present on VE3GER, amateurs within the coverage area of our repeater are encouraged to listen to the teleconference on 145.37 MHZ. However, repeater groups wishing to participate by broadcasting the net on their area repeaters are encouraged to utilize the feed from VE3ULR Aurora on 442.025 MHZ. The excellent audio quality at VE3GER together with the wide coverage of VE3ULR should serve to saturate the southern Ontario core.

Repeater groups wishing to use the feed from VE3ULR for this event must first contact me for further instructions.

The CTV Amateur Radio Association is trying to work together for you!

TD/sh

42 Charles St. E., Toronto, Canada, M4Y 1T5

CTV
Amateur
Radio
Association
VE3OLP
VE3GER

"Professionalism in Amateur Radio"

CTV

March 23, 1983.

Richard A. Whiting, WOTN
4749 Diane Drive
Minnetonka, Minnesota
U.S.A.
55343

Dear Rick:

We would like to thank you for allowing our group to be part of the highly successful March 3, 1983 Teleconference Radio Net. It was extremely well received here in the Toronto area.

VE3GER was the only repeater in the Toronto area which carried the entire net from start to finish. There were absolutely no interruptions in our transmission and we also received many favourable comments with regard to the audio quality.

VE3GER will shortly be joining the VE3ULR link network. This will give us the potential to broadcast the next Teleconference Radio Net to five amateur two meter repeaters and one 220MHZ machine. (See enclosed map.) All the groups on the VE3ULR network have been contacted and have planned to carry the feed from us via the UHF link network on June 2, 1983.

There were many from the Rochester, Buffalo N.Y. areas listening to the teleconference on VE3GER. If you are aware of any areas in the Northern N.Y. state area which wish to participate in the next net, we would be only too happy to allow them to use the feed on VE3ULR at 442.025MHZ. This facility is available for use and its real potential is just now being realized. This network could easily extend into the Buffalo, Rochester area to be re-broadcasted on two meter machines in their area. Any interested groups are encouraged to contact me for further information.

Thank you once again for your patronage.

Sincerely,

Terry Darling,
VE3CAB.

TD/az.

42 Charles St. E. Toronto, Canada M4Y 1T5

CONSTRUCTION DETAILS FOR FIXED TUNED STUB TRAPS

Quarter-Wave and Half-Wave Fixed Tuned Stubs can be constructed from 300 ohm twin lead or coaxial cable to effectively attenuate TVI on VHF and UHF television channels. The following detailed drawings and formulas will help you construct Fixed Tuned Stubs:

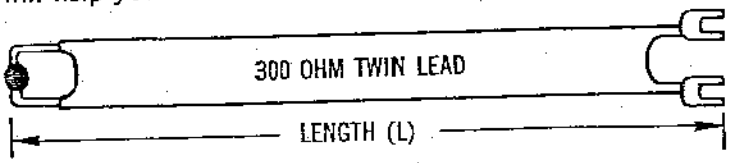


FIG. 1—Half-Wave Shorted End Fixed Tuned Stub

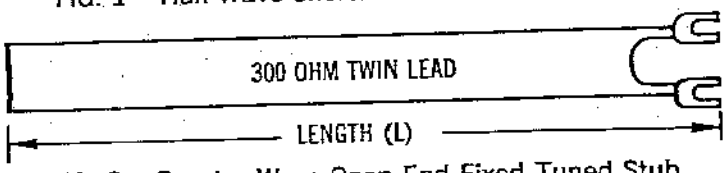


FIG. 2—Quarter-Wave Open End Fixed Tuned Stub

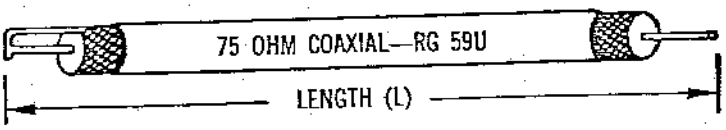


FIG. 3—Half-Wave Shorted End Fixed Tuned Stub

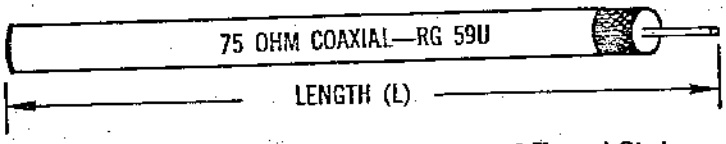


FIG. 4—Quarter-Wave Open End Fixed Tuned Stub

The length of a half-wave and quarter-wave stub for the 300 ohm twin lead and 75 ohm coaxial cable (RG 59U) can be determined by the following formulas:

Figure 5: Half Wave

$$L = \frac{5906 \times K}{f\ MHz} \text{ inches}$$

Figure 6: Quarter Wave

$$L = \frac{2953 \times K}{f\ MHz} \text{ inches}$$

Note: 300 Ohm Twin Lead (K = 0.83). 75 Ohm Coaxial RG 59U (K = 0.66).

FORMULA DEFINITIONS:

L = Length in Inches

K = Propagation Constant of Transmission Line

f MHz = TVI Frequency in Megahertz

Example 1: For a Half-Wave Fixed Tuned Stub—TVI Cross Modulation is identified on TV channel 5 (76-82 MHz), caused by a strong TV signal from channel 6 (picture carrier 83.25 MHz) which floats through the picture of channel 5

A. Picture carrier (Channel No. 6) f MHz = TVI = 83.25 MHz

B. $L = \frac{5906 \times K}{f\ MHz} = \frac{5906 \times 0.83}{83.25\ MHz} = 58.88$ inches

Note: See Section V for VHF/UHF Television Frequency Chart, showing picture carrier, sound carrier and receiver RF oscillator frequencies.

Example 2: For a Quarter-Wave Fixed Tuned Stub—TVI identified on Television Channel 6 (82-88 MHz) from an FM station operating on (88.0 MHz). Transmission Line 75 Ohm Coaxial (RG 59U).

A. Fundamental (FM) f MHz = TVI = 88.0 MHz

B. $L = \frac{2953 \times K}{f\ MHz} = \frac{2953 \times 0.66}{88.0\ MHz} = 22.15$ Inches

INSTALLATION TECHNIQUES FOR FIXED TUNED STUBS

1. HALF-WAVELENGTH STUBS

A half-wavelength section of transmission line is often used to attenuate undesirable signals, such as TVI. The length of the transmission line stub is determined mainly by the frequency at which it is to be used and the propagation constant of the line (Figure 5). Practically, the influence of surrounding objects may make a slight difference in the exact length used.

If one end of the half-wavelength stub is shorted, a short is reflected to the other end of the line at the frequency for which the stub was cut. In effect, a series-resonant circuit is present, which can be placed across another transmission line and thus attenuate signals at the undesired frequency.

Another method for determining the correct length of a shorted stub for interference attenuation is by trial and error. Connect a 24-inch length of transmission line to the antenna terminal block of the television receiver, firmly secure it in the desired position; and then with a pair of wire cutters, cut through the insulation of the twin line or coaxial cable until both wires or the cable shielding are in contact with the cutting tool. Repeat this procedure every ¼" until maximum attenuation is observed of the undesired signal. After the correct length has been determined, increase the length by ½", strip the insulation, twist the open ends together and solder to form the shorted end.

2. QUARTER-WAVELENGTH STUBS

A quarter-wavelength stub can also be used for interference suppression and attenuating purposes. In this case the stub is only half as long as those previously mentioned. The stub is left open at one end, and the terminals of the other end are connected to the terminal block on the back of the television receiver. A series-resonant circuit is effectively formed by the stub, thus shorting the undesired signal. However, the stub must be carefully "pruned" to exactly the right length for maximum attenuation of the undesired signal while it is in the exact physical position it will finally occupy. Otherwise, the best results may not be obtained because of subsequent detuning of the stub while mounting it. "Pruning" is best accomplished after the wavelength has been determined from the formual in Figure 6, and by adding a few extra inches to the calculated wavelength. This will allow for cut-

ting off ¼" segments with a pair of wire cutters until resonate at the undesired signal.

In some cases it may be desirable to broaden the stubs tuning which can be accomplished by using a resistor either in series, or parallel with the stub. A series resistor of a few ohms should be used with shorted-type stubs, and the value of several hundred ohms should be used parallel to open-type stubs. Some attenuation at the picture and sound carrier frequencies may occur near the stub frequency, on the channel with the undesired signal, as well as other channels. A switching arrangement can be added where it is desirable to operate a channel with or without a stub.

CONSTRUCTION DETAILS FOR TUNABLE TRAPS

A tunable stub can be constructed from 300 ohm twin lead or 75 ohm coaxial cable to effectively minimize FM interference (TVI) or other sources of RF interference, within a range of 40 to 990 MHz entering a television receiver via the VHF or UHF antenna terminals.

A tunable stub is composed of a length of 300 ohm twin lead or coaxial cable and a ceramic trimmer. The trimmer is soldered on one end of the line and the other end is terminated with a short, or left open.

The table shown below gives the length of the transmission line and the type of termination to use on the end of the line for the construction of tunable stubs (Refer to Figures 1, 2, 3 and 4 for detailed drawings).

Figure	Band	Channels	Freq. (MHz)	L Length	Ceramic Trimmer	Line Term.
1	VHF-Low	2–6	54–88	8"	1.5–28pF	Short
1	VHF-High	7–13	174–216	3"	1.5–28pF	Short
2	UHF-Low	14–50	470–692	5"	1.5–28pF	Open
2	UHF-High	50–83	693–990	3"	1.5–28pF	Open
1	FM/Other RF	–	40–170	4⅜"	2.5–28pF	Short

All of the above tunable stubs tune very sharply and must be tuned carefully. To broad band a tunable stub, the end can be terminated with a resistor instead of a short. Use a value around 10K ohms. If less rejection is required, use a lower value. See Fig. 4 for location of resistor.

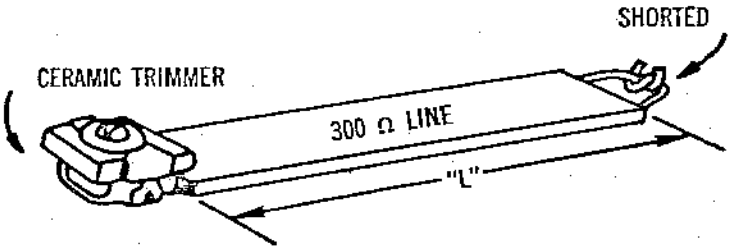


Fig. 1—VHF Shorted Line Tunable Stub Trap

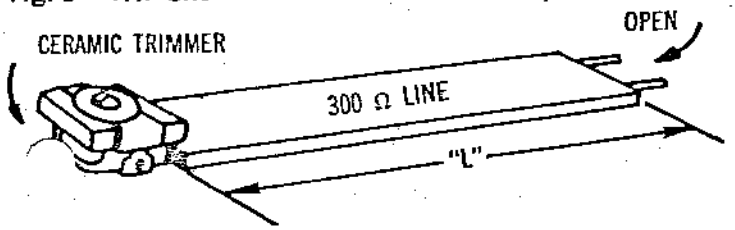


Fig. 2—UHF Open Line Tunable Stub Trap

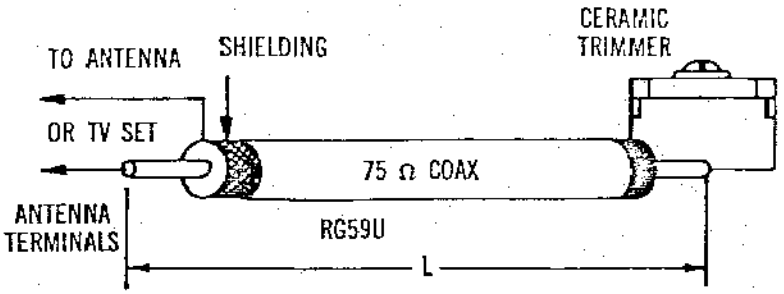


Fig. 3—75 Ohm Coax Tunable Stub Trap

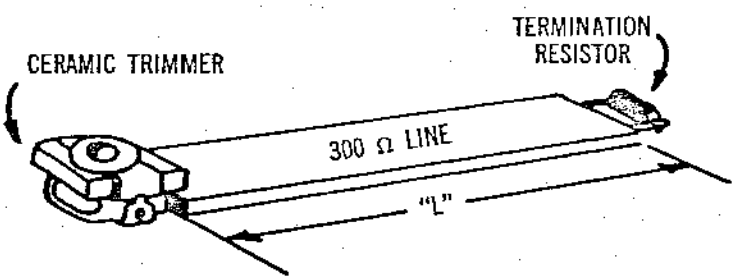


Fig. 4—Broad-Band Tunable Stub Trap

TUNABLE STUB TRAPS INSTALLATION TECHNIQUES

Tunable traps are installed by taping them to the 300 ohm antenna lead-in (Refer to Fig. 5). The effectiveness of the trap is controlled by several factors:

1. Position of the trap along the lead-in: The trap sets up a standing wave at the trapped frequency in the lead-in wire to the receiver. The trap should be moved along the lead-in until the optimum trap placement is found, remembering to retune.
2. Physical length of the trap: The length (dimension "L") may be varied and the trimmer adjusted accordingly. A longer trap tends to be "broad band."
3. Coupling of the trap to the line: For effective operation it is necessary that the trap be installed against flat 300 ohm lead-in. After final adjustment the trap can be held in place by means of paper or vinyl tape. A convenient initial adjustment technique is to hold it on the 300 ohm line by means of spring loaded plastic clothespins. The clothespins serve as convenient handles during the trimmer adjustment, and allow positioning along the lead-in for optimum attenuation.

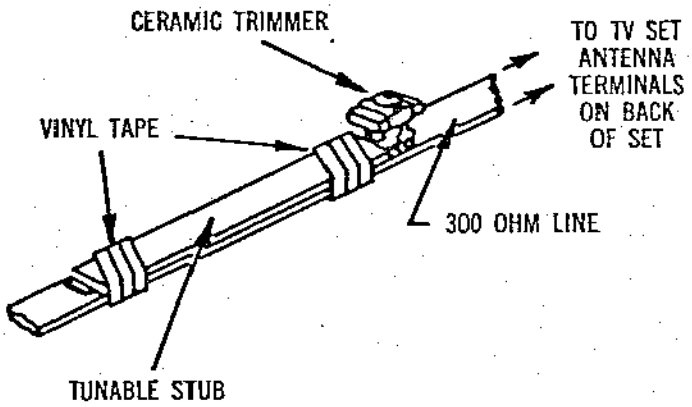


Figure 5

GOOD RESPONSE TO CALLBOOK OFFER

There was good response at the March meeting for the opportunity to take advantage of a 15% discount in purchasing the brand new All Canada Callbook.

There was no difficulty in meeting the minimum number of 10 orders to qualify for the discount.

Seventeen Amateurs paid $10 each and the order was placed the next day.

Those of you who have not been contacted by me or who have been unable to pick up their copies, will be able to do so at the April meeting.

Thanks for your co-operation and I hope you will find, as I have, that it is a very useful reference tool for the shack.

73,
Rob, VE3AQT

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FOR SALE

Patrolman 2 band VHF/UHF receiver Radio shack PR3	Good Offer Not Refused
Wilson handheld 2 meter transceiver plus touchtone	$150.00
Sure 444 Desk Mike	$ 50.00
Drake Twins R4B receiver TR4XB Transmitter with Power Supply.	Good offer not refused
Drake MN2000 1 KW Matchbox	$200.00
80W UHF Transceiver, suitable for UHF repeater, Solid State	$100.00
50 Watt Low Band suitable for 10 meter FM Transceiver, 2 Channels, REPCO USA. ($1500 Mobile)	Good offer not refused
G.E. Progline was a repeater, 90 Watt output	$100.00

Contact - Walter Stoyko
VE3FFN
Proton Station 932-3544

.....

FOR SALE

Realistic DX160 General Coverage Receiver Broadcast Thru 30 MHZ, Solid State, 110 VAC or 12 VDC Operation.	$100.00
RF Modualtor Suitable for use with TRS 80 Model 1 Level II Computor. Lets you use a black and white TV as monitor on channel 3 or 4.	$ 15.00

Contact - Jeff VE3KPT
Chesley

This test does not measure your intelligence, your fluency with words and certainly not your mental flexibility. In the three years since the test was developed, few people were able to solve more than half of the questions on the first try. Many, however, reported getting answers long after the test has been set aside particularly at unexpected moments when their minds were relaxed. Some reported solving all the questions over a period of several days. GOOD LUCK!!!

INSTRUCTIONS: Each question below contains the initials of words that will make it correct. Find the missing words.
EG. 26 = L of the A - Letter of the Alphabet

1) 26 = L of the A
2) 7 = W of the A W
3) 1001 = A N
4) 12 = S of the Z
5) 54 - C in a D (with the J)
6) 9 = P in the S S
7) 88 = P K
8) 13 = S on the A F
9) 32 = D F at which W F
10) 18 = H on the G C
11) 90 = D in a R A
12) 200 = D for P G in M
13) 8 = S on a S S
14) 3 = B M (S H T R)
15) 4 = Q in a G
16) 24 = H in a D
17) 1 = W on a U
18) 5 = D in a Z C
19) 57 = H V
20) 11 = P on a F T
21) 1000 = W that a P is W
22) 29 = D in F in a L Y
23) 64 = S on a C B
24) 40 = D and N of the G F
25) 20,000 = L under the S
26) 60 = S in a M
27) 3 = C in a F
28) 12 = M in a Y