

N.S.A.R.C. Inc.  
Post Box 171  
Oshawa, Ont.  
L1H 7L1



*Sept 1984*

VE3CRK  
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454 HOLCAN AVE.  
OSHAWA  
ONT. L1G 5X6

**NORTH SHORE AMATEUR RADIO CLUB Inc. NEWSLETTER**

P.O. Box 171  
 Oshawa, Ontario, Canada  
 L1H 7L1

September 1984

**OFFICERS AND EXECUTIVE**

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President	Bill Sutton	VE3MLW	623-2846
Secretary	Colin Bell	VE3CEU	723-7842
Treasurer	Mac McFarlane	VE3XI	723-8484
Director	Joe White	VE3IHS	623-4069
Director	Bill Fortune	VE3NTI	986-5656
Registrar	Keith Wyard-Scott	VE3GDF	723-5758
Get-well cards	Ted Brant	VE3ADD	668-3561
Editor	Charlie Bissett	VE3IBO	668-7481
Editor	Neil McAlister	VE3KSP	668-4161

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**CLUB STATION** ..... VE3NSR

**CLUB REPEATER** ..... VE3OSH 147.72 in  
 147.12 out

**CLUB NETS**

**2-meter net** each and every Thursday at 19:30 local time, on the club repeater, VE3OSH. Net control is Roy, VE3AAF.

**10-meter net** Sundays at 13:00 local time for CW; 13:30 local for SSB. 28.200 MHz plus or minus beacon. (Conditions permitting.)

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**THE NEXT MEETING**

The next regular meeting -- and the first of the new '84-'85 season -- will be held as usual on the second Tuesday of the month, September 11 at O'Neill Collegiate in Oshawa, in the cafeteria at 20:00 local time. (8 PM).

**POET'S CORNER**

Ever striving to improve the cultural tenor of this publication, our resident poet laureate, Bob, VE3LLE, contributes the following gem, which he discovered inscribed on the wall of a public edifice best left unmentioned in print:

REMEMBER . . .

When hippie meant plump and too big in the hips,  
 And a trip involved travel in cars, planes, and ships,  
 When pot was a vessel for cooking things in,  
 And hooked was what grandmother's rug may have been,  
 When fix was a verb that meant mend or repair,  
 And be in meant merely merely existing somewhere,  
 When neat meant well-organized, tidy, and clean,  
 And grass was a ground cover, normally green,  
 When groovy meant furrowed with channels and hollows,  
 And birds were winged creatures, like Robins and Swallows,  
 When fuzz was a substance real fluffy, like lint,  
 And bread came from bakeries, not from the mint,  
 When roll meant a bun, and rock was a stone,  
 And hang up was something you did with the phone?

Its groovy, man, groovy — but English its not!  
 Methinks that our language is going to pot!

[Anonymous]

And all this time we thought that it was the hippies who had gone to "pot", so to speak. But Bob is right: That 1960s grammar was groddy to the max! His complaint brings to mind a bit of doggerel that I heard on CBC radio some years ago. The following is attributed to an anonymous Nineteenth-Century Ontario poet (definitely not Sir Charles G.D. Roberts!) . . .

My father, in his house of logs,  
 Said we were going to the dogs.

Grandfather, in the Irish bogs,  
 Swore we were going to the dogs.

The cave-man, in his quaint, skin togs,  
 Claimed we were going to the dogs.

But one thing I would like to state:  
 The dogs have had an awful wait!

**CHICKEN PALACE RENDEZVOUS PLANNED**

Dave, VE3LEW, suggests a club get-together at the Chicken Palace in Manchester on Friday 22 September or Saturday 23 September, around 17:00 or 17:30 local time. XYLs, YLs, friends and relatives welcome. Everyone buys his/her own goodies. If interested, contact Dave **before September 15** so he can make reservations.

**THE JUNK BOX: (new listings welcome)****Wants to get rid of ...**

1. Manuals for Weston 4440 & 4442 digital multimeters. VE3IBO
2. Knwd AT-130 antenna tuner with SWR meter. 1 yr old, like new. VE3KSP

**Wants to find ...**

1. Two Type 26 amphenol blue ribbon connectors 26-4100-26P. VE3IBO
2. Charlie, VE3IBO is looking for Richard W. Dowden of Brantford, phone 519-759-3435. IBO has for him a service manual for RX-1 Mohawk receiver, obtained from VE3FHQ of Hamilton. Both have tried to reach Mr. Dowden unsuccessfully several times. If anyone reading this knows Richard Dowden, it would be much appreciated if you would ask him to contact Charlie at 416-668-7481 or on VE3OSH/r.

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**ADVANCED AMATEUR CLASSES**

Last chance to register at Durham College for Advanced Amateur classes, beginning Thursday Sept. 27 at 6:00 PM. Fee \$60. Contact the college directly, or for more information, phone Mike Skinner, VE3FIV, at 983-9584.

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**N.S.A.R.C. AT "THE EX"**

At the **Warrior's Day Parade** this year, VE3s MKC, IHS, MLW, and IND took part in mobile communications service. There were about 8 mobile operators in all, and 3 hand-held portables. Everything went smoothly, fortunately with no emergencies. Our members were invited to drive the last car in the parade, entering Exhibition Stadium to be presented to the crowd. That afternoon, MLW, IHS and MKC worked as guest operators at VE3CNE, the demonstration station on the fair grounds.

Other club members who worked as guest ops at VE3CNE this year included VE3s IBO, SJ, HE, and perhaps some others we didn't hear about.

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**IT REALLY WORKS!**

On a recent Thursday night net **code practice**, Steve VE3LLD (editor of our sister club's newsletter, the "Splatter") used a Reader's Digest story that recommended driving with your headlights on during the daytime. Back in the summer of 1964 this practice saved my life — and maybe two others!

In those days, Highway 401 was divided only as far east as Marysville. From there on, only the eastbound lanes were completed, and there was a single lane in each direction.

As I crossed the Salmon River about 1/4 mile west of the junction I switched on my headlights. A year or so earlier, another article in Reader's Digest explained why it was a good idea.

As I reached the junction I overtook another eastbound car. I looked past him and thought I saw an eastbound streamlined travel trailer in front of him, so I pulled out to pass the car.

But the car-trailer was **WESTBOUND** !

The driver of the rig saw my headlights, and that gave him a couple of seconds to squeeze out of the way. The car I was passing saw my headlights in his rear-view mirror and knew there was trouble coming, so he started to brake.

I hit the trailer; bounced into the path of the eastbound car, which hit my car, and was itself thrown into the rockbound ditch. A baby in that car was thrown off the front seat onto the floor.

The Good Lord was smiling on us. Of the couple in the car-trailer, the couple and infant in the other car, and myself, I was the only one to sustain injuries, and they were minor.

I was charged with careless driving and improper passing. Because in their evidence the other drivers referred to my headlights being switched on, I was acquitted of careless driving, though found guilty of the lesser charge of improper passing.

There could have been at least three dead. Oh yes -- there had been a number of fatal accidents at the same place in the previous 12-15 months.

It really works!

73s es safe driving! Evan, VE3IND

The baby was very lucky. Use of government-approved restraining chairs for infants and toddlers is now mandatory for Ontario motorists. The reduced fatality statistics speak for themselves. -- Eds.

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#### **BICENTENNIAL QSL CARDS WANTED!**

One of the club's more active DX-ers has piled up thousands of QSOs this year, a great many of which he needs to QSL. If anyone has extra Ontario Bicentennial QSL cards — the ones that say "Yours to Discover" — he would greatly appreciate it if you would bring them to the next club meeting.

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#### **FROM THE EDITORS**

Welcome back, everybody, from wherever you've been during the summer. We haven't gone anywhere special in the past few months — we've been too busy sprucing up the shack in anticipation of improved propagation in the fall! (Radio wave propagation, that is!)

[continued]

More on that Zepp antenna

Among more mundane pursuits, we built the "too good to be true" **modified Zepp antenna** described in a past issue of the Newsletter. At KSP's QTH, the antenna is erected as an inverted Vee (sort of), squashed into a space that's really too small for it. It still seems to work fine for 20, 40 and 80 meter CW. After some fiddling, the best length for each arm worked out to be 54 feet, at which point the antenna appears to be resonant as approximately two wavelengths on 20 meters, and capable of some pretty remarkable DX (how's 589 from Kiribati?) even under rotten summertime conditions. For purists, we should clarify a critical portion of that reprint that reproduced poorly and was hard to read: The calculated length (in feet) of each arm of the antenna is  $189/\text{frequency}$ . Of course, the actual length at your place would vary depending on elevation, surrounding objects, and how far apart you can space the two arms. If anyone wants practical details on construction, please ask either of us.

Still More Antennas!

Still on the subject of antennas, Bob, VE3LLE (who probably knows more than most of us will ever want to know about 2-meter antennas) has opened his coveted files to donate an interesting design for a nifty "cubical quad" that he found in **73 Magazine**. It is reproduced in this issue.

An exhortation ...

The end of the holidays heralds the beginning of a new season of NSARC business. Let's hope for a large attendance at meetings this year: Everybody's input is valuable for making the best decisions affecting our club. NSARC is a democracy, its activities reflecting precisely the wishes and enthusiasm of its members. There is lots of room for everyone to find rewarding places to apply his or her talents.

A good place to start would be this newsletter: All articles, letters, projects, reminiscences, and ham trivia are most welcome — after all, it's your newsletter. If you have any ideas or suggestions for ways to improve things in the coming months, please let us know. Better yet, if you'd like to get involved in helping to produce the Newsletter, and learning the ropes, we'd be overjoyed. This job doesn't have life tenure: We don't intend to remain the Editors forever!

Best of 73 fm Charlie VE3IBO es Neil VE3KSP.

...-.-

## Ontario Bicentennial Award

*Multi-coloured parchment*

*Sponsored by The Radio Society of Ontario Inc. Contacts valid only for Jan. 1 to Dec. 31, 1984.*

### **VE3 Stations**

Contact 200 different VE3 or portable VE3 stations. One point each.

### **Other VE, VO, VY**

Stations contact 100 different VE3 or portable VE3 stations. Two points each.

### **DX stations including USA**

Contact 20 different VE3 or

portable VE3 stations. Ten points each.

Any mode, band endorsed at your wish. Special seals for each 200 extra points. If VE3 stations are using special call or prefix, they count double.

### **No QSL Cards necessary**

Send certified Log Data and \$1.00 or 3 IRCs to: VE3LSS, Bicentennial Project, Listowel District Secondary School, Geography Department, Listowel, Ont., Canada N4W 2M4

# How to Gain with PVC

*This could be history's cheapest quad.  
Try water pipe on 2m.*

To find out why I need a very portable, high-gain 2-meter antenna, first you must understand a bit of both ancient and recent California history.

About 15 million years ago (an extremely short while, geologically speaking), the Earth groaned and shuddered; huge rock plates cracked together, and the

spiny hills known as the Sierra Nevada started to rise 20 to 30 thousand feet into the air. Huge volcanoes resulted from this immense pressure and uplifting, and these 30,000-foot peaks belched smoke and lava, breaking themselves into smaller hills (like Mt. Whitney, "only" 14,000 feet high) and deep valleys, which in time became huge lakes. Lake Ta-

hoe, 6000 feet high and unknown thousands of feet deep, is the result of one of these huge cindercones blowing its top and then collapsing back in upon itself, a classic case of a mountain lake surrounded by peaks many thousands of feet high.

At about this time, Tehama, one of the minor volcanoes of the range, also ex-

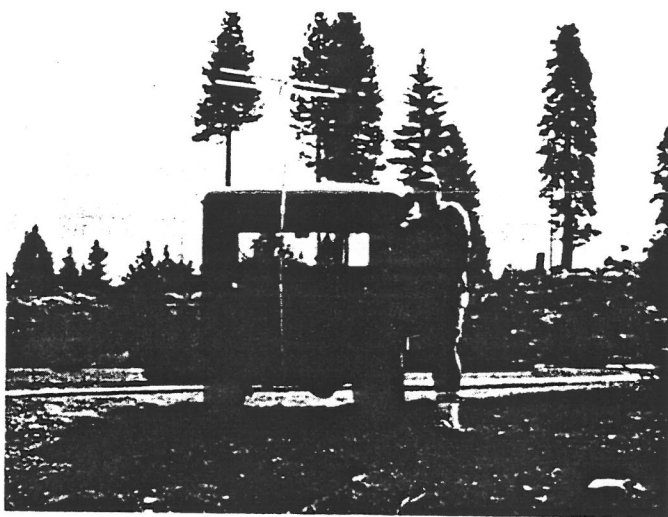


Photo A. The author, with quad mounted on the jeep.

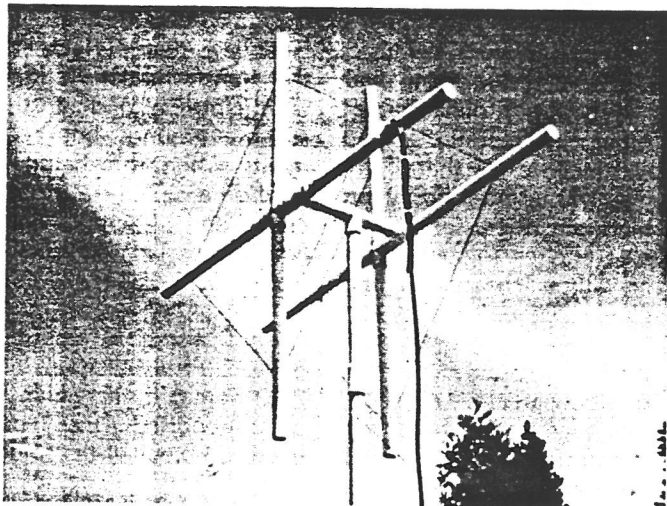


Photo B. The quad in assembled form.

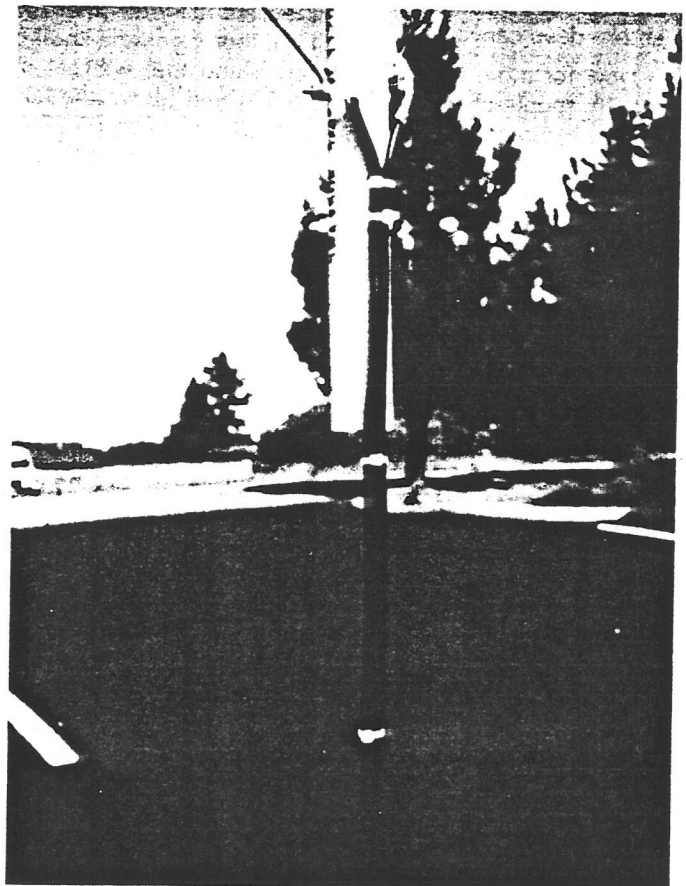


Photo C. The balun attached to the quad driven element.

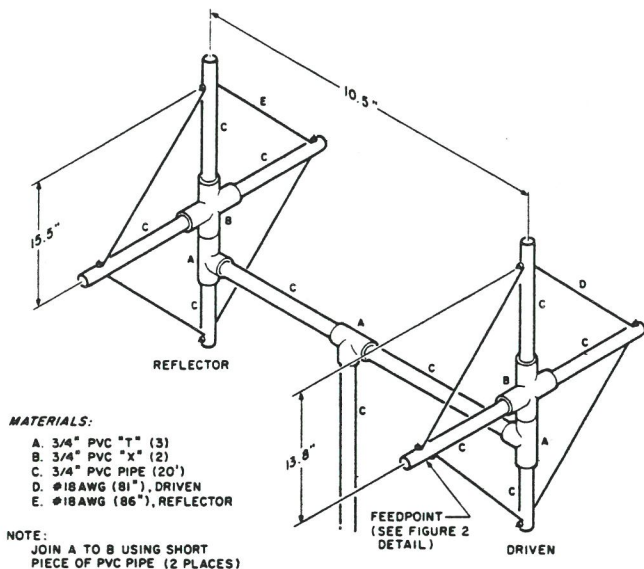


Fig. 1(a). PVC quad.

ploded, creating a secondary volcano called Mt. Lassen. In the process, a deep lake surrounded by peaks, called Lake Almanor, was formed. Later, about a million or so years ago, an earthquake created a crack in the hills surrounding Almanor. The escaping water created the Feather River and its deep canyon.

Now for more recent history. A couple of years ago, a local group of pilots decided to hold a rather unique air race. Instead of merely the fastest being the best, this group decided to award a trophy to the airplane that hauled the biggest load on the least fuel the fastest. They called this 400-mile race the "Competition for Aircraft Fuel Efficiency," since shortened to the CAFE 400.

All of which brings us to the present day. One of the checkpoints in the race is an island in Lake Almanor, and the race folks wanted reports from Almanor back to race headquarters in the Sonoma Valley, some one hundred fifty miles away, preferably on 2 meters. In case you don't get the picture yet, let me paint it in vivid colors: Here I sit on an island in the middle of a lake, surrounded by hills 3 to 4

thousand feet high in every direction, with no ac power, no telephone, and a mission to communicate via 2 meters to another station 150 miles away, which is further tucked into another valley blocked by another mountain range 4500 feet high!

Fortunately, this deck has 3 aces and I drew them all. First, there is a little knoll on this island that will get me up 500 feet above the lake. Second, the Feather River Canyon, although only half a mile wide, is 3000 feet deep, 40 miles long, and pointed directly at Sonoma. Third, Sonoma has a 2-meter repeater on one of those 4500-foot peaks just outside of town.

And the ace up my sleeve (without which we would have lost the game) is my portable quad antenna. 50 Watts and a vertical dipole bought us absolutely nothing, but with the quad antenna described below, signals were Q5 both to and from the lake. See Photo A.

There were some specifications on this quad, though, that made it rather unique. First of all, the entire antenna and mast needed to be disassembled and packed into a bundle of sticks no longer than a meter and a quarter (48"), a size suitable

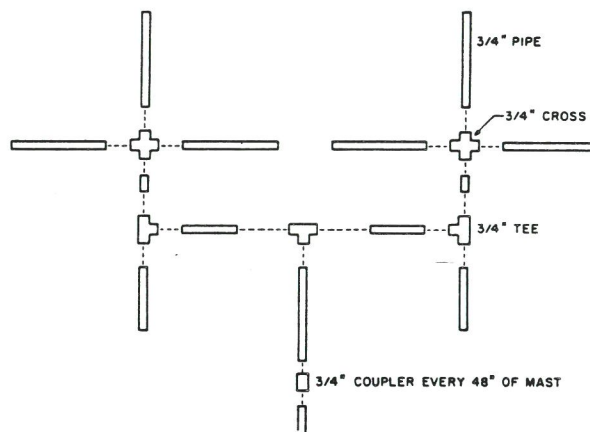


Fig. 1(b). PVC assembly.

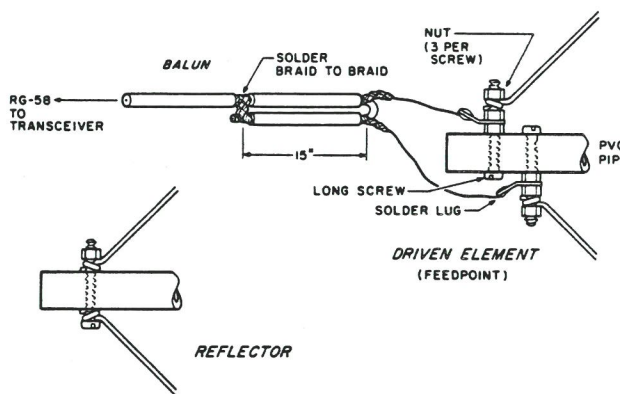


Fig. 2. Feedpoint and balun detail.

for backpacking (if necessary) a considerable distance. Second, it needed to be put together in 15 minutes or less. Third, of course, it needed to be cheap, cheap, cheap. See Photo E.

I decided to make the entire antenna-supporting structure from 2-cm (3/4") polyvinylchloride (PVC) water pipe and fittings. Photo B shows the general construction details, and Figs. 1 and 2 show construction details of the quad. In working with PVC fittings, I found that the fittings were all tapered, with the result that if the pipe was inserted firmly into the fitting, the assembly was rigid enough to stay together without the use of pins, glue, or keepers of any sort. Furthermore, the joint so made is rotatable with a bit of elbow grease. This allows the quad to go from horizontal to vertical polarization (and anywhere in between to allow for polarization-rotation bounce off the

canyon walls) in a few seconds time.

For those of you who have never done any aviation antenna work, the balun shown in Photo C and Fig. 2 may appear strange. Note that the center conductor of the coax does not attach to anything at the antenna end, and that the antenna is connected to only the shield braid of the coax. The loss, though, is about 0.1 dB, the balance is near perfect, and the transformation ratio is 1:1. (Note also that this scheme grounds both elements when this balun is used on a dipole—affording cheap and automatic lightning protection.) The balun fastens to the quad element by means of solder lugs. Photo D also shows that the balun is firmly laced to the PVC frame; if the balun is not supported, the coax braid will break at the solder lugs.

The quad elements themselves are AWG 18 wire.