What was to appear on this page fell through minutes before the presses were to begin rolling. The above photo was reproduced from a 1905 Toronto newspaper found in our old house during destruction.

SHOW AND TELL! MAY 8/89 MEETING AT 8:00 P.M. BRING ANYTHING NEW, OLD, OR NOVEL. IT'S GOING TO BE QUITE A SHOW, SO BE SURE TO COME!

SUNDAYS! AT 9:00 P.M. ON VE3OSH THERE WILL BE AN EXPERIMENTERS NET. ANYONE INTERESTED IS WELCOME TO JOIN IN. THE DISCUSSIONS WILL BE MORE OF A ROUND TABLE MEETING RATHER THAN A FORMAL NET. MORE ON THIS NEXT MONTH!

CALL IN FOR VE3HMG OR VE3DKW. JOIN IN AND HELP THINK UP A NAME FOR OUR NEWEST NET.

NORTH SHORE AMATEUR RADIO CLUB MONTHLY BULLETIN APRIL 1989

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2-METER NET CONTROL	ROY MILLER	VE3 AAF	416-852-5447
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ASST. EDITOR	BARBARA ANN TAYLOR		

CLUB STATION.....VE3 NSR
CLUB REPEATER.....VE3 OSH 147.720 MHZ IN .... 147.120 MHZ OUT

2-METER NET CONVENES EVERY THURSDAY AT 19:30 LOCAL TIME ON THE CLUB REPEATER (OSH). AS PART OF THE NET CODE PRACTICE IS PROVIDED BY BERNIE (ATI) BEGINNING AT 20:30 LOCAL.

10-METER NET - A GROUP OF LOCAL HAMS MEET SUNDAYS ON 28.200 MHZ USING CW FROM 09:00 TO 10:00 LOCAL THEN SWITCH TO SSB PHONE UNTIL EXHAUSTED OR XYLS CALL DINNER.

FROM THE PREZ.

The executive wishes to thank all who participated in the Durham Region Amateur Radio Flea Market. A special thanks to Gord VE3NZS, who headed up NSARC and to John VE3FGL who assisted. Many thanks also to our members who supplied the use of their trucks to transport tables. A thank you also goes to Local 222 C.A.W. for the loan of the tables. STRENGTH IN UNITY!::::: Hi. This was the largest Flea Market ever for our clubs.

Our repeater, VE3OSH update is coming along. At the March meeting Bernie VE3ATI, showed the new controller and explained some of its features. Bells 'n Whistles? It has 'em all! When everything comes on stream we should also be ready for the 911 emergency number. Many, many thanks to our technical committee!

Next monthly meeting will be a Show 'n Tell, so please bring along a project, test gear, something new or old, novel or what have you. This is also to be a question period for our new amateurs. Antennas, station set up, problems etc. This is your club, don't be shy, speak up and ask. Congratulations to all of you on receiving your license. Those of you who did not make it, stay with it! The club is with you! Thanks to Rick VE3ASH, our Code & Theory instructor and his assistant George, VE3INB.

NEW RADIO AMATEURS: Next month we should have a list of the new call signs that will be sending signals winging to the four corners of our globe! VE3ASH is going to have this compiled for our June issue.

SILENT KEY: It is with sadness that we must record the passing of Bill Gibson, VE3EWH, at the Oshawa General Hospital after a lengthy illness. Bill, with the aid of the NSARC code & theory class, received his ticket in the early '60's. Bill was a frequent Sunday morning 10 meter met participant and was a welcome voice to heard on the Thursday nite two meter net. Bill's son Dr. David Gibson and family, live in Calgary. Bill loved to talk with his son via phone patch on the Trans Canada Net. He could always be depended upon to get traffic in and out of Calgary. Bill's passing is certainly a loss to ham radio and he surely will be missed.

APRIL MEETING: There was a good turnout to listen to Ed Swynar VE3CUI give his most interesting presentation on DXing. Exotic QSLs were displayed profusedly. Many helpful tips were taken in by the attending membership. The questions put to the speaker proved once again that DX is still the number one interest with our hobby. The club would like to thank Ed again for taking his time and giving the effort to entertain us.

NEW REPEATERS: VE3OSH now shares a new "Digi-peater" posted on 145.590 and 145.010 under the watchful eye of Mike Skinner, VE3FIV. This will give the packet radio enthusiasts a super new toy to play with. VE3NAA is now functional under the guidance of its creator Mr. Harry Westwood,VE3QG. This UHF repeater is located east on Harmony road and has its input on 448 mcs and it output on 443 mcs. The membership sure owes a lot to these guys, including Bernie VE3ATI, for all their toil which brings us so much pleasure. God Bless 'em!

MINI HAM FEST: After the flea market, Al VE3AL, Rick, Dave VE3CLL, Mark VE3ORZ, and Roy VE3AAF with his xyl Dorthy had a grand spread at the Chicken Palace (Manchester). After a hearty meal and much chatter they all resumed the festivities up on the hill at Roy's QTH in Epsom. The reminiscing carried on long after sunset.

REMINDER: NEXT CLUB MEETING IS MONDAY MAY 8, 1989, AT 8:00 P.M. IN THE GREEN ROOM OF THE ART RESOURCE CENTRE, CENTRE STREE SOUTH, OSHAWA (BEHIND CITY HALL). BRING SOMETHING FOR SHOW AND TELL!!!

SEE YOU THERE, IT'S GOING TO BE A INTERESTING EVENING (Because I'll be there)

"IN SEARCH OF THE WHISTLER"

Whistlers heard in North America seem to have their birthplace at the bottom of South America. Scientists from the Dartmouth College wanted to confirm their Whistler investigations by generating a signal in the Whistler band. They chose Deception Island, a horseshoe shaped volcanic piece of desolation off the coast of Antarctica. The island was formed from reasonably new porous volcanic rock, which could be considered an insulator at 10kc. Its horse shoe shape with an ocean inlet gave almost perfect dimensions of a Slot Antenna at Whistler frequencies if pulsed with enough RF. Wires were layed to sea by an assisting British Scientific expedition. About one KW of sine wave at 10 kc was used. The signal was heard some 20 miles distant giving credence to the theoretical antenna. A more powerful signal was required to emulate a Whistler, perhaps a mega watt spike.

Before much more could be done, many of the chaps involved were disbanded to observe an Atomic test in the South Pacific. In the intervening time the volcano became active and the whistler site was buried beneath volcanic mud.

It is interesting to note that way back then, Deception was not only being visited by the British, Canadians and Americans, but also the Argentinian Armed Forces who took to camping on the most Northerly side of the island. The Argentinians considered this a firing range which made things very uncomfortable for all present.

Time rushes on like a raging torrent leaving silt behind to cloud one's memory. I there fore wrote to an old friend in Vermont, Will, W1FGO, involved with the Deception Island experiments and asked him what suggestions he had for the budding Whistler sleuth. The following are excerpts for his reply.

Dear Ed;

Your letter was quite a surprise, like a voice from the past, so to speak. .....etc.

"Whistler" cont'd

As for equipment to use, there seems to be no great change from years past. Times have changed and there are more and more hurdles to get over than ever. The general requirement still is: 120 db gain, low impedance input, ability to withstand fairly high noise burst, plus, especially these days, ability to accept strong signals in the VLF, ELF, bands. QRM from signals on power lines, navigation devices and the like have made it about hopeless to try anything here (Norwich, Vermont).

The antenna is probably the most touchy part. At the frequency range involved, anything smaller than the state of Texas is only a fraction of a half wave. Anything that would fit into a township would be of such high impedance that it would have real problems with static, induced fields, and more. The compromise that the Stanford people had, as well as others, including us, is to use a large loop. It is less subject to static fields, RF from broadcast stations, etc. The drawback is that the impedance is low; a loop 10 meters square has an impedance in the order of 0.1 ohms, which implies copper loss can be considerable. The solution that both Stanford and we came to, was to use 3 conductor #10 stove cabale and connect the three wires in series, thus giving about 1 ohm impedance. Of course this means some sort of a transformer to match this to the input of whatever amplifier is to be used. For portable operation, I found that a loop of 10 turns about 2 meters on a side was reasonable and had the advantage that it could be turned by hand to emphasis Whistlers or Chorus activity.

Activity in this field ceased about 1971. We were on three of the OGO satellites but the data return was not extensive enough to warrant continuing. The OGO series had orbits mostly above the F layer and what a different world it is up there! Not only different but down right puzzling at times! Ground base receiving did continue longer and we had one receiving site on Pistolet Bay, Newfoundland and another on the coast of British Columbia. Data was still good but did little to advance what was already known, so these were discontinued.

I regret to say I do not know of any group involved in this at the present time. I should point out that the signals from useful Whistlers are in the order of 0.1 micro volt and the loudest we ever observed measured about 30 microvolts. As you can see, there is not much energy involved, which is why high amplification is needed and also why QRM is so prevlent."

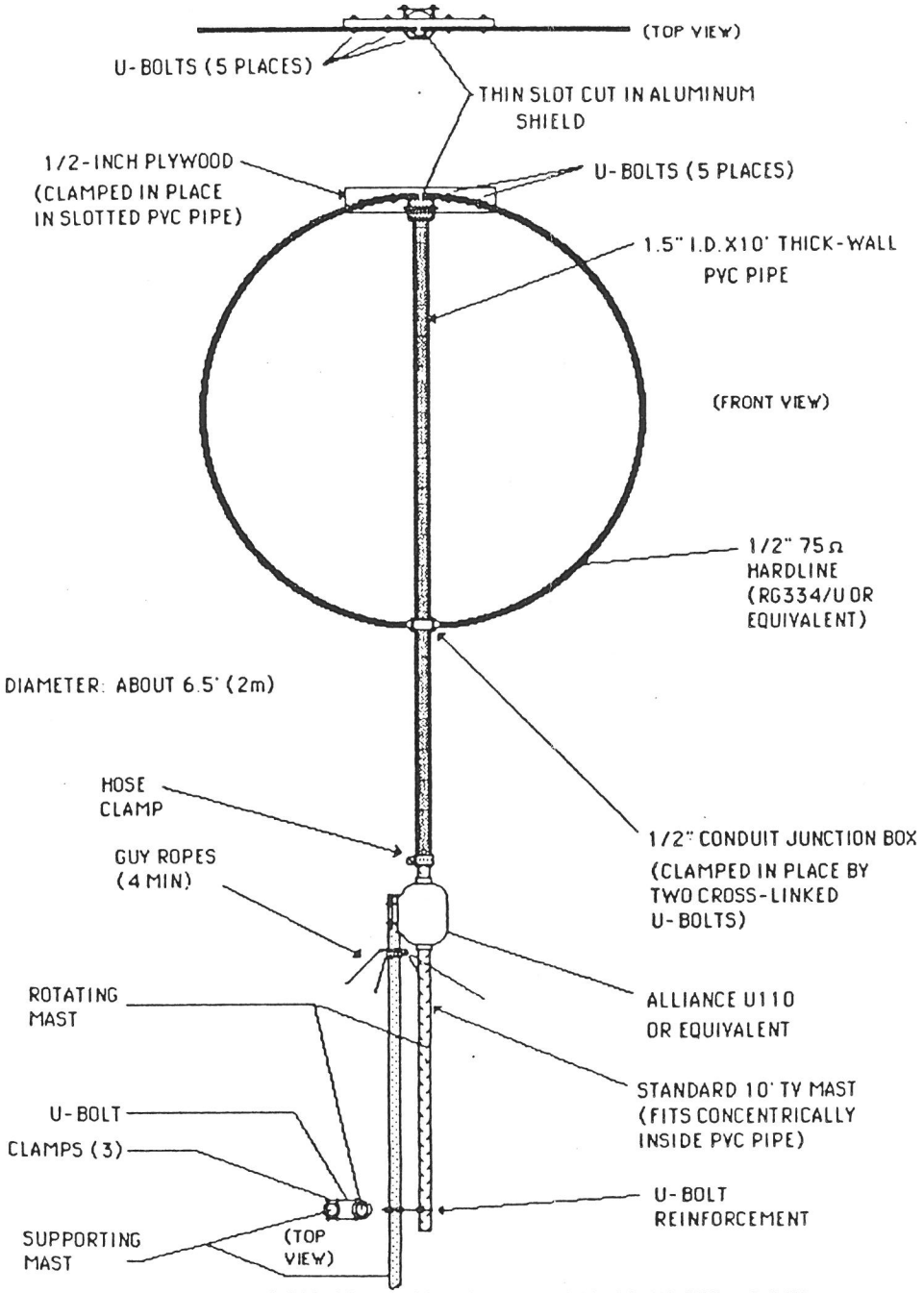
(end of excerpt)

"Whistler" con't

Remember, high amplification, low input impedance to keep out static. Perhaps you may have an old vacuum tube amp and a pre-amp with a magentic input. (20 ohms). Vacuum tubes have faster recovery time than transistors, from static discharges. Between the antenna and amplifier you may want to engineer an impedance matching transformer/band-pass filter. It should have good sharp roll-offs to omit Omega stations in the upper band and 60,120 cycles power line QRM in the lower extremities. Power line QRM has been received by OGO satellites in the semi-darkness of orbit. Potential differences between hydro grounds can raise local havoc in a 3 wire system. Although Whistlers travel a Polar path, keep the loop in a east/west direction. Whistlers, once re-entering the atmosphere scatter in all directions much like a golf ball landing on a pebble beach. East/west will give you a better chance to capture their erratic wandering. The further north you travel the less apt you are to hear Whistlers. Frobisher Bay is almost Whistler barren. Whistler phenomenom can be harvested bountifully around 3am in the summer. While you're up, you may as well catch the Dawn Chorus at sun-up. Good hunting!

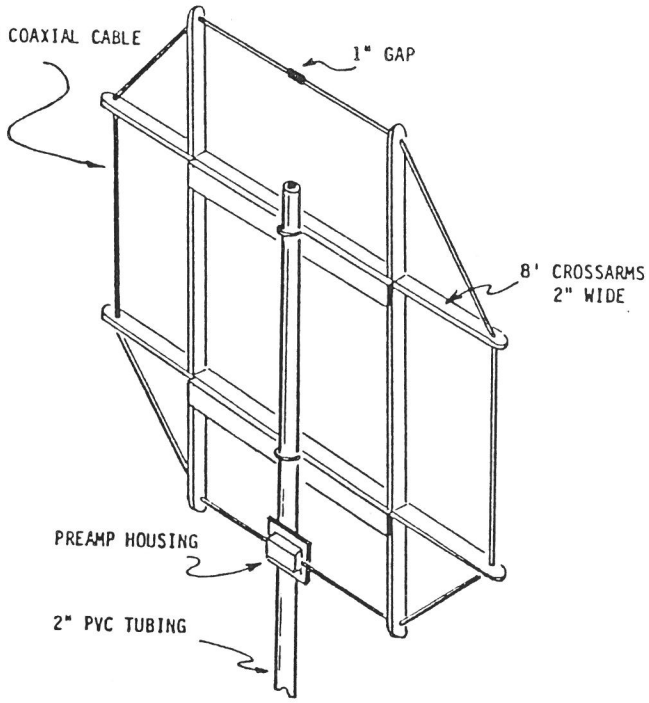
Ed Taylor - VE3FRM

Eric, VE3HMG and Mike, VE3DKW have each acquired from Ford Electronics, a Hewlet Packard selective voltmeter, tuneable from 20 cycles to 530 kc. These are little gems and are almost a complete station for hearing ELF phenomenom. Mike is planning a shielded loop antenna, eight feet in diameter with 24 turns of wire within a copper tube shield. Mike uses TV horizontal flyback transformers for impedance matching circuits. Eric is on the same path and is also into measuring earth currents and studying propagation at 24 kcs. He is presently using his trapped dipole as an antenna but has a loop on the drafting table ready for production. Eric's experiments with earth currents warrant an article itself and perhaps someday Eric will do that for us.The following are some clippings from the "Lowfer" the official bugle for the Long Wave Club. An earth current detector is included in case your interested in how "old Sol" is effecting us. If you get involved in any similar experiments, please pass along your findings and let us know what you are doing. By the way if you are interested in becoming a bonifide Lowfer, just wrap up a $12.00 US postal money order payable to the Longwave Club and mail it to William Oliver, 45 Wildflower Rd. Levittown, PA, 19057. It's a very interesting magazine for a very interesting hobby!



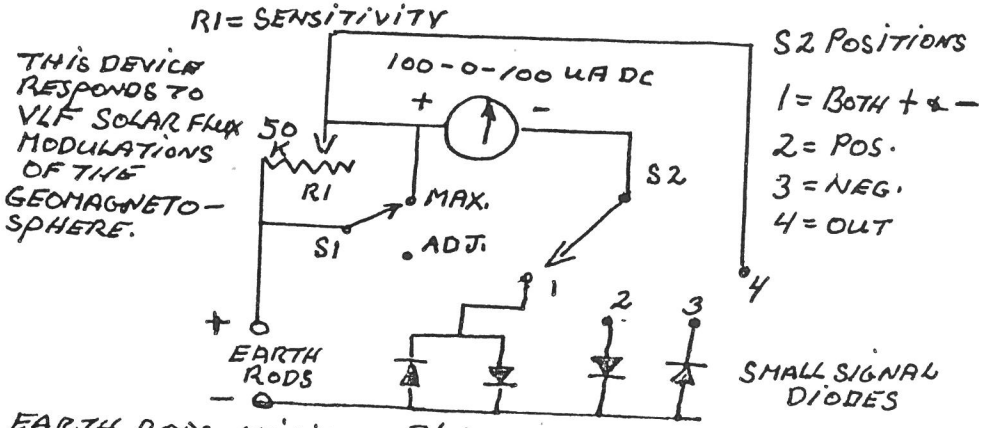
6-FOOT HARDLINE BROADBAND LOOP. BURHANS BROADBAND PREAMP FITS INSIDE WEATHERPROOF 1/2" CONDUIT JUNCTION BOX. THE TV MAST SECTION IS INSERTED ABOUT HALF WAY UP THE THICK WALL PVC PIPE FOR RIGIDITY.

MORE LOOPS



Since the loop was to be located outdoors where it would be subjected to seasonal weather variations, 3/4" plywood was chosen for the frame. The finished frame was coated with two coats of exterior porch paint to seal and protect the wood before the coaxial loop was threaded through the securing holes.

EARTH CURRENT DETECTOR



EARTH RODS MINIMUM 3' INTO GROUND, 100' APART. RODS MUST BE OF THE SAME METAL.

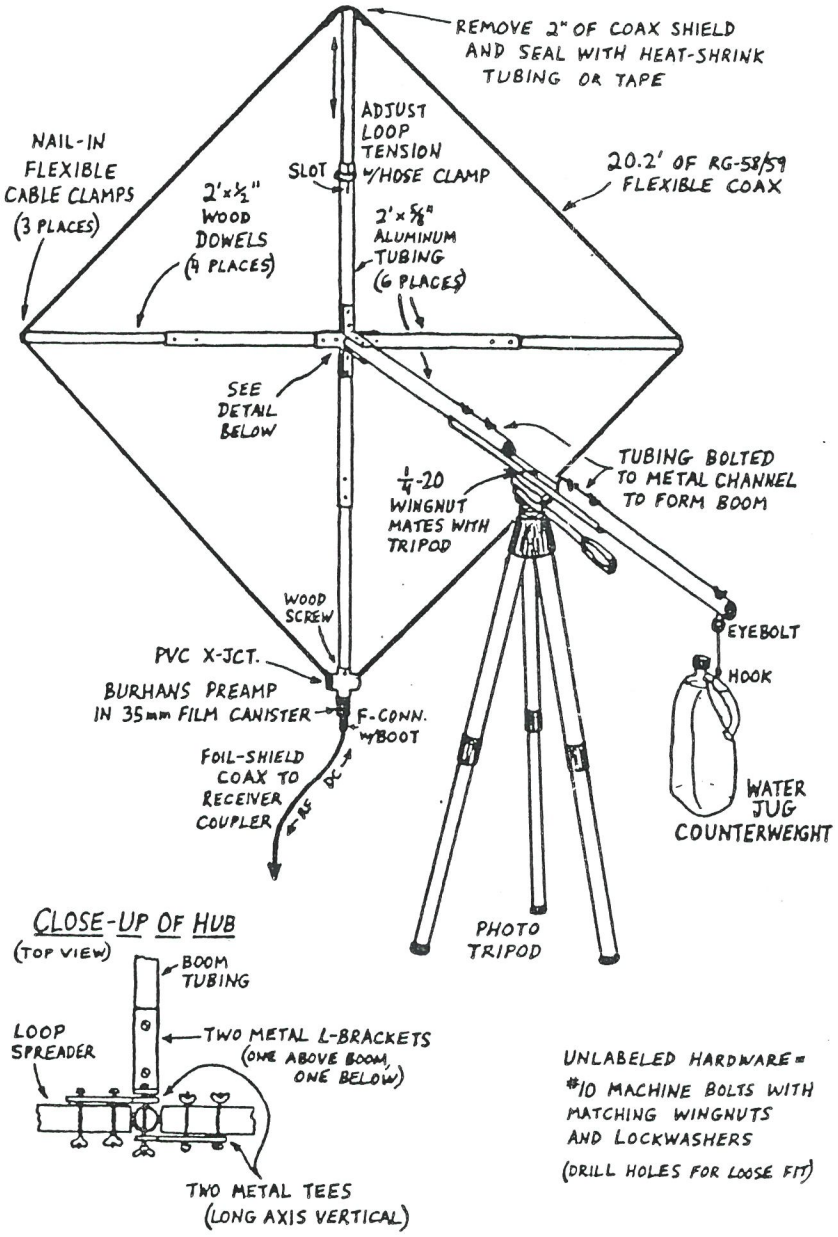
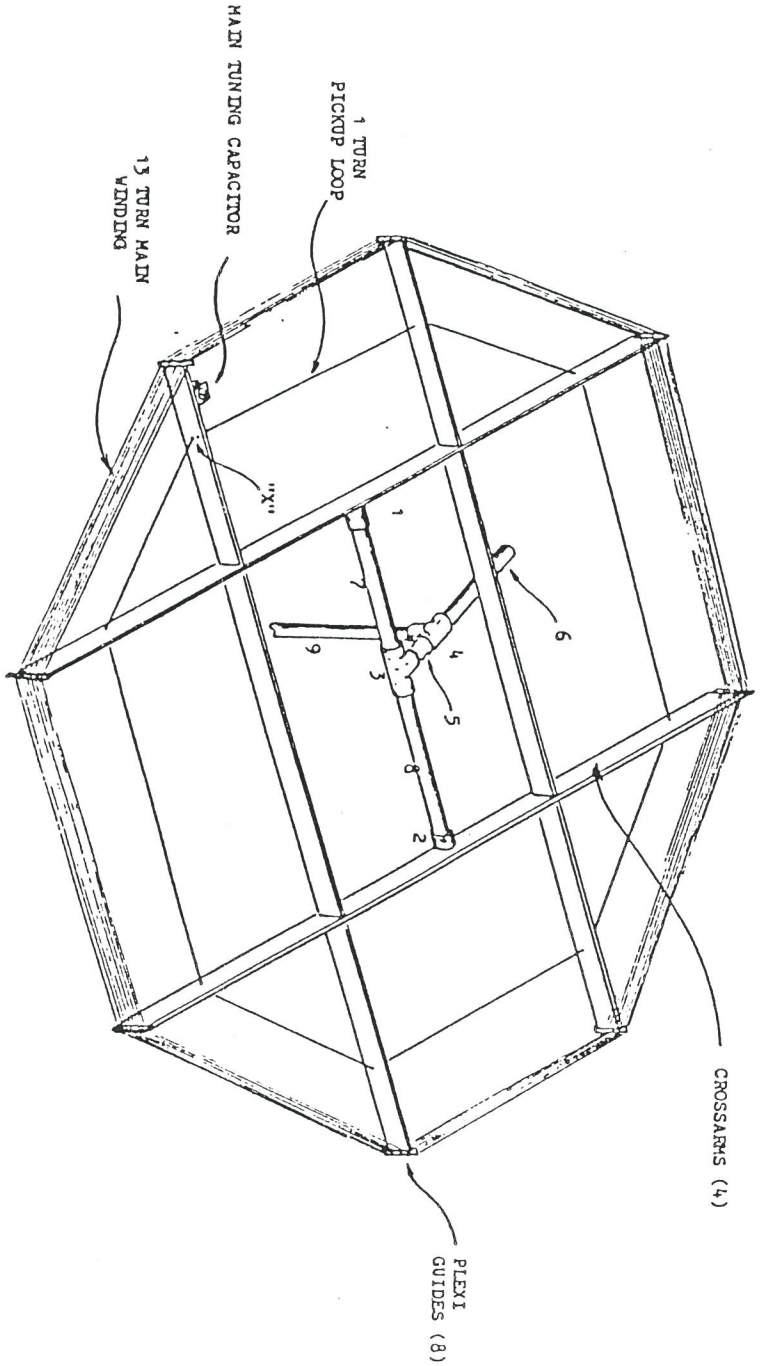


Figure 2. The Kauai Collapsible Loop



SOME LOOPS