SPLATTER

This Sardine Wrapper is printed from time to time and distributed to the members of the *Tamaqua Transmitting Society* Tamaqua, Pa. 18252

1994 THE FIRE CRACKER ISSUE 1994

WHY IS IT "c"

There are more than 250 licensed Amateurs out there that got their start by attending our Societies Annual Novice instruction classes. All those operators who attended between 1963 and the mid '70s should recall the class presentation about Frequency vrs. Wavelength and the formula for calculating. During that era the formula was; Velocity factor is equal to the Frequency multiplied by the wavelength, or v = f λ. Velocity factor is known as the speed of light, or 300,000,000 (3×10^8) metres per second. All publications at that time noted the small "v" representing the velocity factor in the formula and the large or capital "V" representing voltage, e.g. Vcc. for Colector Voltage.

It was then during the mid '70s that publications changed the symbol from "v" to small or lower case "c". The capital or large "C" represents Capacitance.

This change caused some confusion for the Novice students as well as for ye class instructor. So ye instructor, W3TI, inquired of the ARRL Technical Manual writers "Why the change from "v" to "c" ? That was more than 20 years ago - - - We're still waiting for their answer. Evidently they just copied the change from the IEEE who is usually responsible for such changes in Electronics. (Recall Cycles to Hertz, that was one of their doings.)

From that time to the present we never found out what prompted such a change.

AH ! Finally there is light at the end of the tunnel. Neal Osborn N4PYB enlightens us with the answer printed in the ARNS news bulletin.

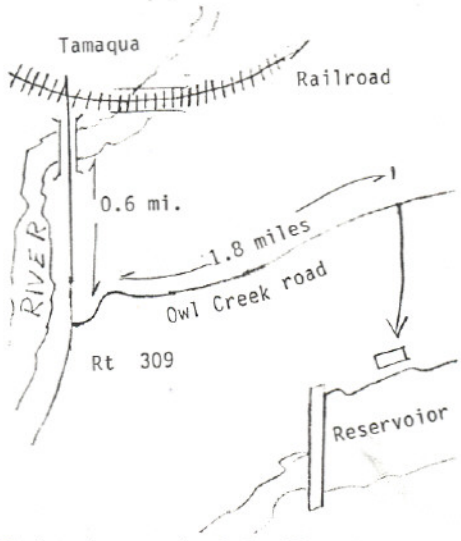
It was Albert Einstein (not WHO) reportedly chose "c" representing "celeritas", Latin for Velocity or Speed. The English word "constant" may also have influenced him, since his theory is that of the speed of light which at present is a constant. Another possibility, acceleration comes from Latin "celeritas.

So now we are no longer in the dark about why "c" and not "v". Incidently does anyone know the speed of Dark or the absence of Light ?

T.T.S. Field Day '94

It had been mentioned previously that Field Day '94 would take place at the Owl Creek reservoir and NOT Still Creek dam. Follows are instructions on its locations and how to get there.

The hand drawn map (not to scale) shows the railroad crossing at the south end of Tamaqua on Rt. 309. Owl Creek road is 0.6 miles south of the railroad crossing. Move to the center lane. Owl Creek road is two lane tarvia and will be up-grade to the reservoir entrance.



That entrance is 1.8 miles from Rt. 309 intersection. Look for a high ornamental iron gate painted red, white, and blue. If you miss the gate you will pass a long line of tall fir trees on your right. Turn around and try again.

The gate will be closed at all times. Stop, open the gate, drive thru, stop, get out and close the gate. The same system prevails when you leave the site.

Field Day will be June 25-26. Field Day is a two day exercise to gain experience in operating Amateur Radio under emergency conditions. Contrary to belief, it is not a picnic. Our picnic is held in August. Old timers as well as our newer members gain knowledge on erecting antennae, stringing feed lines, guy wires, A.C. power lines in addition to 24 hours of continuous round the clock operating.

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FROM WHERE WE SIT

Editorial Ramblings

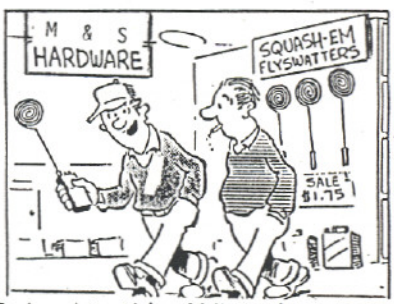
At times even ye editor finds it difficult to pick a topic for "From Where We Sit" column. In recent issues we have replicated ideas from early QST's "Rotten Radio". It was a famous column during the 30's. We've ripped the League and FCC apart piece by piece and at times even gave them a Kudos. As previously stated, an editorial either compliments or disagrees.

Our Society membership has grown to 33 active members. We still retain 64 % as League members. If you noticed all committees are active and make regular reports. KB3ATA, our president has taken especial interest in your Society and our meeting agenda has changed drastically. We try to have some type program for you after each meeting.

We have been graced with contribution of articles for your bulletin by a few members but returns on your "Member Profile" has been disappointing to say the least. Perhaps if a contest were in order with First, second and third prize, we might get a few entries.

The month of June is loaded with activities and that's just the beginning. We still have Soap Box Derby, Schuylkill County Fair, and Halloween parade to look forward too. And to climax our summer activities, the Annual Family picnic August 21.

Lest we forget, ACTIVITY IS OUR MOST IMPORTANT PRODUCT.



I bought this 32db. gain antenna for only ten bux at the Tamaqua Hamfest

Advanced Class Anyone

We left a big black hole in our activities early in 1994 when the Wx was just cause to terminate our annual Novice instruction classes. There is however, still light at the end of the tunnel.

It has been several years since we last held Advanced Class instruction and it was discussed briefly at a recent Wednesday night committee and teck session in regards to having another in the Fall of this year. We checked on the availability of Advanced class manuals and are available.

Now for the punch line. Is there sufficient interest to warrant getting a class room for 8 to 10 weeks, say from September to November ?

There are of course two methods of acquiring that Advanced ticket.
(1). Read the questions and learn the answers by rote.
(2). Read the questions and learn the answers in detail on how and why each electric component functions in a circuit. Our Advanced instruction tries to teach by the number (2) method to get the answers, in addition to detailed black board explanations on how and why we can prove everything in Electronics by the use of mathematics and trigonometry.

WHOOOOPS ! ! We said that secret word, Trigonometry. As soon as you read that word it turned more than 70 % of you right off. What's so difficult about Trig ?

Back when you were in grade school addition and subtraction were hard to comprehen and when they hit you with multiplication and division it dam near floored you, but you learned enough to get the Novice class math problems. Have you ever looked at it in this manner. Multiplication and Division are just a higher level from Addition and Subtraction. So when you think TRIG, just assume it to be two levels higher than Addition and Subtraction. The basics of Mathematics, Geometry, and Trigonometry are just applications of Addition and Subtraction.

Our Advanced class will start with a refresher on basics. Through out the instruction we shall endevor to show short cuts and applications for that High Level Math and before you know it you will agree, numbers are nice people to work with.

Registration is open to any licensed Amateur Radio operator, Novice to Extra. The final date for registration will be meeting night August 5. A minimum number of 12 and maximum of 30 will be suffice and warrant holding classes this year.

Since our members belong to two clubs and both meet on Friday's, we suggest an alternate class night be chosen.
INTERESTED ? ? ? ?
Register with ye Secretary ASAP.

Are You Being Heard on On the Don Ameche

These head lines could be a bit confusing to our younger generation who can't recall the motion picture in which Don Ameche played the part of inventor of the Telephone. We all know that it was invented by Alexander Bell, hence we have the Tell Bellaphone.

Now, Are you being heard ? I'll bet a buck that some one in your neighborhood hears you on their telephone every time you exercise that FM or SSB phone transmitter. CW has very little effect on telephone circuits but today nearly all telephone manufacturers incorporate all kinds of bells, lights and buzzers which are built on printed circuit boards made up of transistors and I.C. chips to produce all those extras.

Now for the punch line and what prompted this article. Information received in a March ARRL bulletin stated the F.C.C. had released a report regarding Telephone Interference. It listed numerous manufacturers names and telephone model numbers that were extremely susceptible to R.F. interference. Believe it or not, they found that transmitter power as low as 3 to 5 watts were causing interference. It also noted that less than 20 % of the telephones sold to the public could have this interference reduced by means of some type filter.

Seldom do you get a confirmation so direct from F.C.C. They stated that the Amateur's station transmitters were not the cause for the interference, but it was the lack of proper engineering design of the telephone unit itself. Also stated, "Manufacturers could really produce better units if they just tried".

The survey also listed models that passed the RFI test, and a list of filters that could eliminate the interference. Cordless phones are a lost cause because they are a radio receiver to start with.

Now for your neighbor. When they complain about radio interference. You can have them complain to the FCC who will tell them out-right that it is all up to them to get a good telephone or have a filter installed at their telephone terminal.

Above all **NEVER, NEVER** touch his phone or even volunteer to install a filter. You are asking for more trouble than Carter has pills.

It's nice to be a Good Neighbor but don't cross the line.

F.C.C.'s final comment, The problem lies in the telephone unit itself and NOT in your transmitter.

This FCC bulletin is 22 pages of very interesting comments by the commission. Ye Society secretary sent for a copy and has made Xerox copies available to the members for a contribution to cover the copy work. Want a copy ? Let us know and we'll print them for you.



Ye Society Presidents Report

My early experience with Radio was primarily related to the investigative and law enforcement field. Two-way radio, tape recorders and miscellaneous telephone equipment etc.

It was in the early 1990's I took a more active interest in Ham Radio and attended a class initiated by Al Breiner Sr. under the auspices of the Tamaqua Transmitting Society. I was licensed as a Novice shortly after completing the course. Upgraded to Technician plus several months later and completed element 3b towards a General License shortly after that. I am now working to complete the 13 WPM requirement, element 1b, to finalize my General License which, hopefully, will be in the near future.

Getting to this point however, has been filled with questions, trial and error and making a bit of a nuisance of myself with my "Elmer" W3TI. I know at one point or another he will be happy to see me licensed fully and finally on the air and out of his hair.

I am looking toward continuing my education and experirence in Ham Radio and learning whatever I can from each of those with whom I am contact. A long process, I'm sure. KB3ATA.

** *** *** *** **

EDITORS NOTE - This is the first of "Member Profile" articles. Notice, it didn't hurt a bit.

Field Day - Cont'd.

True, socializing and partying does take place after all the work is done. The die-hards will operate and try to run up a score of two-way contacts. New members are urged to sit and log contacts. It is guaranteed that after June 26 your CW receiving speed will have increased drastically, but you must participate.

Sunday afternoon Field Day may be over but there is still the task of tearing down, packing up, and policing the area. We always leave the site in better condition than we received it. Above all, don't be afraid to ask questions. Someone will have the answers for you.

Walk - A - Thon

By WB2YVW

The sun rose bright and early on Saturday May 7. Members of the Society arrived at Maple Leaf Farm, Orwigsburg for the Annual Walk A Thon sponsored by American Red Cross.

WB2YVW and KA3FUL acted as control stations with the following members positioned at various check points, N3HHH, AA3CU, N3LBM, KB3AYY, WZ3D, N3BWA, and WA2PAC.

The five mile walk began at 10 a.m. with 59 participants. N3ILC and W3TI acted as roving units and trouble shooters. WY3K showed up all decked out as Bicycle mobile and made the circuit a number of times.

Again, Amateur Radio came into the public eye and demonstrated the usefulness of a group of experienced volunteers. Kudos to all who assisted.

The T I Key

Solid State Electronic keying circuits were originally designed to assist in sending morse code with the least amount of effort. Key manufacturers, however, have not kept pace by decreasing the effort required to send continuously without having your arm or wrist tire out or cramp up for you.

Back in 1963 a keyer paddle construction article appeared in QST that used parts salvaged from a Vibro- plex bug. This gave ye editor the incentive to build a similar key but less the Vibro-plex parts.

This key has been in use in our station since then. Been on Field Day each year and numerous other contest operating. An hour long rag chew is no problem and your fist does not feel like you were working with a 5 pound hammer for two hours.

Ye editor is now manufacturing the TI Key and offering them for sale to the Amateur fraternity.

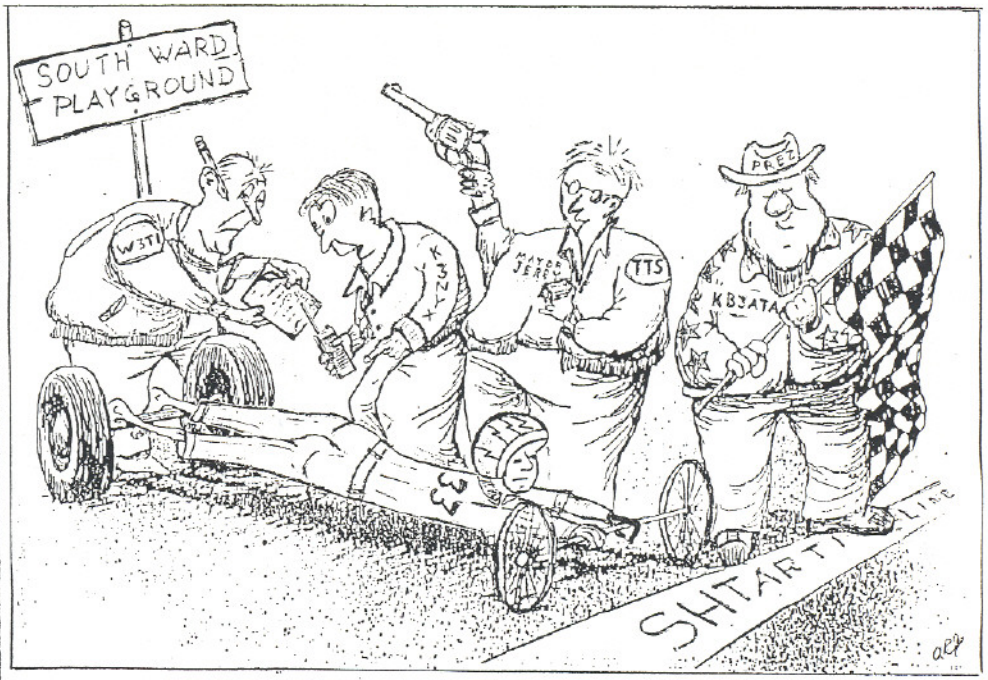
PLEASE NOTE ** Swap & Shop Commercials are printed FREE to members of the Society.

T. T. S. Officers for '94

Dave KB3ATA President
Amanda KA3YZF Vice Pres.
Al sr. W3TI Secy-Treas.
Al jr. K3NYX Activity Mgr.
Wayne KA3SID Chaplain



I THOUGHT THE "DOOR PRIZE" WAS SUPPOSED TO BE AN H.F. RADIO?



It is doubtful the action photo shown above needs too much explanation. It was taken during the time trials for the South Ward Playground's Annual Soap Box Derby Races.

The event will be a duplicate of last year. The Playground Association has again asked our Society to provide communications and also take over the function of running the whole operation like we had in the past.

Last year we experienced a few knot holes and shall try to plug them this year. A minimum of 4 operators will be required at the starting line and 3 at the finish line. A minimum of 2 to 4 as traffic control and another on stand-by emergency with the ambulance, total of ten or more. Additional details will be discussed at the regular meeting August 5 at the Tamaqua Italian Club.

THE CLOCK OF LIFE

The Clock of Life is Wound but Once
and no Man has the Power
To tell when the Hands will Stop
at Late or Early Hour.

Now is the only Time you own,
Live, Love, and Toil with Will.
And place no Faith in "Tomorrow"
for the Clock may then be still.

It is with deep regrets we record the passing of Dan Reese, K3PKG who became a Silent Key on May 22, 1994. A lifelong resident of Lansford. Dan was a very active member of the Society till a few years ago when his health began to fail. An active C.W. operator and asset to the Society on Field Day. He will be greatly missed by the Amateur Fraternity. 30.

SOCIETY MEETINGS

The regular business meeting is held the first Friday of every month at the Tamaqua Italian Club in Tamaqua, Pa. at 8 p.m. Committee and technical meetings every Wednesday evening. All interested parties are invited to attend.



Our Society's Annual Family Picnic will be held Sunday August 21, rain date the 28th. As previous years, this event is for members and family. It is our way of showing appreciation to the wives and girl friends who have suffered thru-out the past year from lack of companionship whilst your Ham husband or friend was busy attending to Society activities.

Pack a picnic lunch or full course dinner and head for New England Valley for the day. There is plenty of room for the harmonics to romp and Horse shoe pitchin' for the Grumps, and if you think of it wrap up a gift or gimmic ($ 1.00 or less) for the dice game. "Don't forget to bring my Boomerang back."

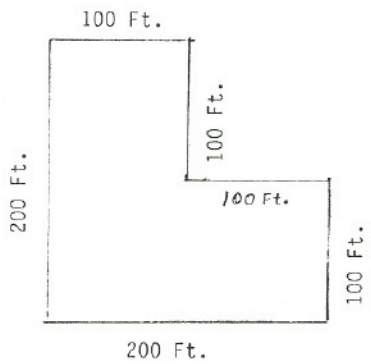
Corn on the cob, soda pop, and amber fluid will be supplied by the Society. Charcoal cookers are available for you to scorch your burgers or dawgs. If there is anything else you wish to contribute toward the days activity, feel free to do so.

Races and Air Shows

Many of you spent the long Memorial week-end celebrating in one way or another, had back yard cook-outs, scorched a few burgers and dawgs, a short camping trip, plus a few unscheduled activities on Sunday 29th. The Tuscarora Radio Controlled Flying club held their Annual Flying show at the Tuscarora State Park. The Radio Transmitter Impound operated under the leadership of K3NYX, and managed by KA3WGF, KB3ATA, and W3TI. Moral support was supplied by N3FXG. A two meter link was established in the event Medics were needed. The only mishap was one mid-air collision of two model planes. Both control pilots walked away without a scratch.

While the Air Show was in progress, members of the Schuylkill Amateur Repeater Asso. and the Tamaqua Transmitting Society assisted with the Annual Reading Off-Road Riders motor cycle Enduro. The weather participated with temperatures in the 80's and the operators were treated with breakfast and lunch by Hess catering service.
The following two meter mobiles were located at strategic points along the route of the Enduro.
AA3CU KA3FUL N3HHH N3ILC N3LBM WB2YVW WY3K KA3TNC KA3YXZ KB3AGZ N3POC and WA2PAC. Ambulance crews stood by but fortunately no serious injury occurred.
The quick response by KA3TNC prevented a small brush fire, along the Burma Road, from becoming a major forest fire. A call on the Radio soon brought the local fire department into action. Again, Amateur Radio came to the fore and prevented what could have been, a disastrous forest fire and loss of some of our area woodlands. Lest we forget, Amateur Radio exists because of the Service it Renders.

Please Help Us



The Tamaqua Planning Commission needs your help. A property owner wants to sell the proposed property (shown above) but wants to cut it into 4 properties. In order that a Sub-division can be processed the main plot must be divided into 4 equal lots. Each lot the same shape and same square foot area. Can you help them out ? Contact K3NYX Tamaqua Zoning Officer.

Special Event Station

By N3ILC

The 1994 Schuylkill County Fair will have an exhibit of a different type this year. The Svhuylkill Amateur Repeater Asso. assisted by other area Radio club groups will be host for a Special Event Station and a series of unique activities during the week of the Fair. The Fair will officially start Sunday, August 7 at 1 p.m. and continue thru 11 p.m. Saturday August 13.
The Special Event station will be operational on both CW and SSB in the General and Novice sub-bands. Announcements have been sent to QST, CQ, 73, World Radio, Nuts & Volts, and Communicator.
More than 70,000 attended last year so we decided this would be a good opportunity to allow non-hams to get a closer look at our hobby and see Amateur Radio in action. Also explain to the public how we get involved during National emergencies such as Earth Quakes, Floods, Hurricanes etc.
The regular Tuesday evening ARES traffic and emergency net will operate from the Fair, in addition to numerous other activities being planned to show Amateur Radio to the public.
Here we have the opportunity to share our skills and ideas with other Amateurs as well as the public during Fair week. If you should have a few hours to spare during that week please contact me, N3ILC. Or any ideas that would be an asset to this activity don't be bashful, give us a jingle on the repeater or via 717-622-2107.
Any help will be greatly appreciated.

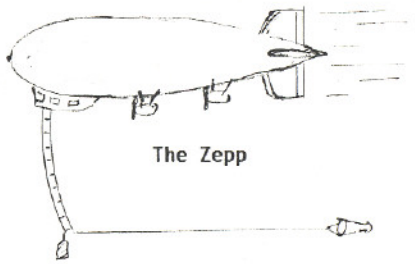
NOTICE Field Day NOTICE

Mmembers who volunteered to assist at the Field Day work party are hereby notified. Clean-up will be Wednesday evening of the 15 th. at 6 p.m. We need lawn mowers, brooms, grass rakes, shovels, and above all, manpower to operate the preceding mentioned machines.
Sig. K3NYX Activity Mgr.

Member Profile

By ? ? ?

This space had been alloted for YOU the member and information about YOU. As you can see we got nothing so we can print nothing. Only YOU can fill this spot in your next issue of SPLATTER.



The Zepp

The Zepp Antenna used by many of our Society members for years, but do you know of its origin ? It was always assumed that it made its debut when Germany designed and flew their gas filled Zepplin aircraft.

It was invented of necessity by Heinz Beggerow and lowered below the craft during flight. His idea was to keep the high voltage R.F. as far away from the highly explosive hydrogen gas. The open-wire feeders were hung below and weighted down by a sand bag with the antenna trailing.

The feed line and trailing antenna had to be reeled in prior to making a landing. Contrary to belief the Zepp was not strung from front to rear inside the Zepplin.

Heindrick Hertz modified this antenna by relocating the feed line to the center of the radiating wire. Some antenna manuals call this a center fed Zepp, when it is actually a center fed Hertz and not a Zepp.

Information about the Zepp antenna was gleaned from the ARNS news bulletin.

Your Evaluation of SPLATTER

In a recent issue of your bulletin only 60 % made reply. We now have some idea what to, and what NOT to print in future issues. Listed in preference 1 to 5 with 5 at the top.

5. Future Activities
4. Technical Articles
3. From Where We Sit
2. FCC Rule Changes
1. Old Time Radio

Only 53 % of you are interested in "Problems & Puzzles" evidently half of our Society don't care to exercise the gray matter from time to time. Matter of fact, most of the problems we printed were taken from 9th grade lab-teck project magazines.
There are a number of members that are well learned and educated, perhaps better than ye editor. In recent issues we had printed articles by them. Our staff is always on the lookout for new ideas and subject matter. It is also so noted in our Society Constitution under "Specific Objectives" item 4. If you have something interesting to write about, we'll print it.

CLUB SWAP BULLETINS You have our permission to reprint our articles. Say you swiped it from The Tamaqua Transmitting Society's SPLATTER.

How Good is Your Grounding System

By W3TI

What is a good Ground for those rigs in your shack ? Contrary to belief grounds or grounding systems are not all the same. Some are good, some are mediocre or average, and there are some areas that afford very poor grounding for your radio equipment.

Then we ask, why should you be so concerned about having a good ground system anyway ? All to often you hear a conversation on the air that goes like this, "Every thing I touch in the shack is hot with R.F.". Having a high SWR is not the only cause, a good ground would alleviate most of that extra R.F. floating around the shack, in addition to getting an acceptable SWR to boot.

Lightning, however, should be our number one reason for having a good ground system. True, a direct strike will cause damage but a good ground could help reduce the amount of destruction by bleeding off part of the lightning bolt into the ground outside. Then there are those A.C. power line glitches that have a habit of showing up any time, any where.

So how does one find out how good our grounding system happens to be ? To begin, we are talking about an earth ground and the various types of earth or dirt exhibit a form of resistance similar to that of a carbon resistor. Carbon resistors are measured in ohms, and earth ground is also measured in ohms.

CAUTION - This part of the test uses the 120 volt A.C. house current.

Be sure to disconnect the A.C. plug between each procedural step.

Before making any tests disconnect every thing from the ground rod that is to be tested. Disconnect the shack ground, lightning arrester, and all the radials. Only the test wires are to be connected to the ground stake.

After plugging the extension cord in a suitable wall outlet, you must determine which wire of the cord is the Hot or 117 volt wire. The other is known as neutral.

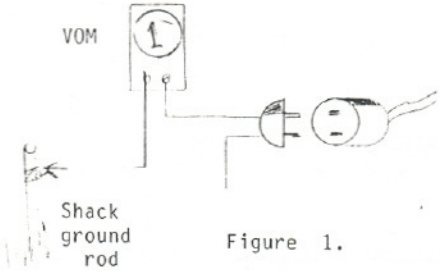


Figure 1.

Set the VOM to measure A.C. voltage. Connect one test lead to the ground rod. Insert the other test lead into the end of the extension cord as shown in figure 1. You should read your line voltage (around 117 volts). If you get no reading insert the test lead into the other connection. If you don't get any reading, then check the extension cords for a break. After you determine which is the hot connection on the extension cord mark that terminal with a piece of masking tape. At the same time determine which is the mating terminal on the plug at the end of that ten foot zip cord. Mark it also with masking tape.

Set this aside for the time being and drive the additional ground rod into the soil about ten feet from the shack ground rod. Connect the 100 watt light bulb as shown in figure 2. and connect the remaining zip cord wire to the other ground rod. Double check your connections before proceeding.

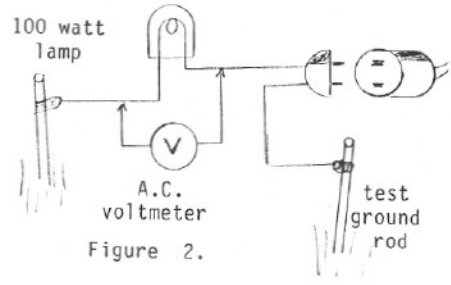


Figure 2.

Plug the zip cord into the extension cord socket. Make certain you have it plugged in the right way or you will be replacing a fuse or resetting the breaker on the main power panel. Having passed that part of the test, connect the A.C. voltmeter (VOM) across the two terminals of the light bulb and record the voltage shown. For example, let us say it is 52 volts. Disconnect the zip plug from the extension socket before going on to the final step.

Set the VOM for A.C. Amperes and connect it in series with the 100 watt lamp as shown in figure 3. Measure and record the current. For example, let us say it is 0.45 amperes. Disconnect the zip PL from the extension SO. This completes the measurements portion. The steps just taken are shown in the schematic figure 4.

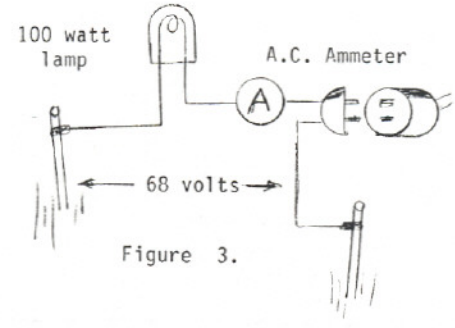


Figure 3.

The line voltage in my shack seldom goes below 120 volts. Use the line voltage you recorded back in figure 1. In the examples given there was an IR drop of 52 volts across the 100 watt lamp. Therefore, the remaining 68 volts is taken up between the two test ground rods. That voltage cannot be measured but calculated as (120 - 52 = 68 volts.)

By use of our famous Ohms Law we find that our ground resistance is 151.1 ohms.

$$R_g = \frac{E}{I} = \frac{52}{0.45} = 151.1 \text{ ohms}$$

To obtain a better picture of your ground system take at least three more tests by placing the test ground rod at various locations and then take the average of all three tests.

It is doubtful if you ever get a ground with zero ohms. Moisture and elements in the soil will have cause and effect on the resistance readings. Anything lower than 100 ohms can be considered good. 30 to 50 is excellent but don't pull your hair out if it is higher. While you're at it, move the test equipment around to your tower and test just how good your tower ground is.

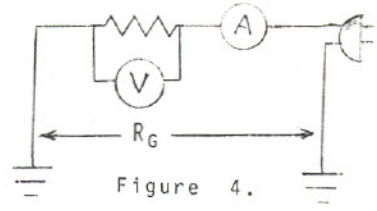


Figure 4.

For Safety sake, it is suggested that you do not attempt making these tests alone. Always have someone with you. One does the hook-up and testing while the other observes. FIRST AID always comes last but let's always think SAFETY FIRST.

The origin of this article was fostered by a presentation given at the local Radio club by Bert Rex W3OWP. Ye editor/writer just added his own comment and put it into print.

Parts list

Volt-Ohm-Milliameter	Test ground rod
10 foot zip cord	100 watt lamp
1. male line plug	masking tape



THINK ABOUT IT

AVERAGE is as close to the bottom as it is to the top.