THE DUMMY LOAD

Official Bulletin of The Cambridge A.R.C. (Swarc Inc)
serving the community since 1964

Issue No. 107 May 2010

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Meetings

Meetings held at 8:00pm on the second Monday of each month , Board Room Preston Arena (Bishop St at Hamilton St) No meetings in July or August. Visitors always welcome.

Club Net

on the
VE3SWR repeater 146.790 Mhz
every Wednesday
at 2100R

VE3SWA
DXCC HONOR ROLL
(332/332)
WAZ, WAC, WAS.

Next Meetings

Mon May 10th 2010
Mon Jun 14th 2010
Mon Sep 13th 2010
Mon Oct 18th 2010
Mon Nov 8th 2010
Mon Dec 13th 2010
usual location and time

CLUB NEWS

Good turnout for our April meeting with 11 members and a guest filling up all available space at the ever diminishing tables. Members present were : Tony VA3AVR, Calvin VA3CBE, Ken VA3CMN, Mike VA3MP, Scott VE3ANT, Dave VE3BHZ, Fraser VE3FC, Hugh VE3IHM, Steve VE3KVZ, Gerry VE3NXV, Robin VE3OAV . The guest in attendance was Jeff VA3WIF. After all in attendance had introduced themselves and the meeting log was signed Gerry our secretary read the minutes of the March meeting. There being no errors or omissions they were accepted as read. Fraser our treasurer then gave us a brief financial report which indicated we were well in the black. This report was also accepted as read. This being the Annual General Meeting and requiring election of officers, since there were no nominations received at our March meeting the floor was asked for any nominations. Being met with deathly silence and knowing the current executive were happy to continue it was assumed the membership was happy with the job being done so the current executive agreed to continue for another 2 years. The Ontario QSO Party was discussed and arrangements finalised. Results appear on page 7. Robin reminded the ARES members of the CANWARN meeting at Bingeman`s on Wed 21st. Fraser advised us that 12 had committed to attend the dinner and Scott agreed to notify the Golf Club. He also managed to pick up a few dollars from members (I forgot how much). Meeting adjourned to the usual coffee and doughnuts.

RECLAIMED SERVOMOTORS

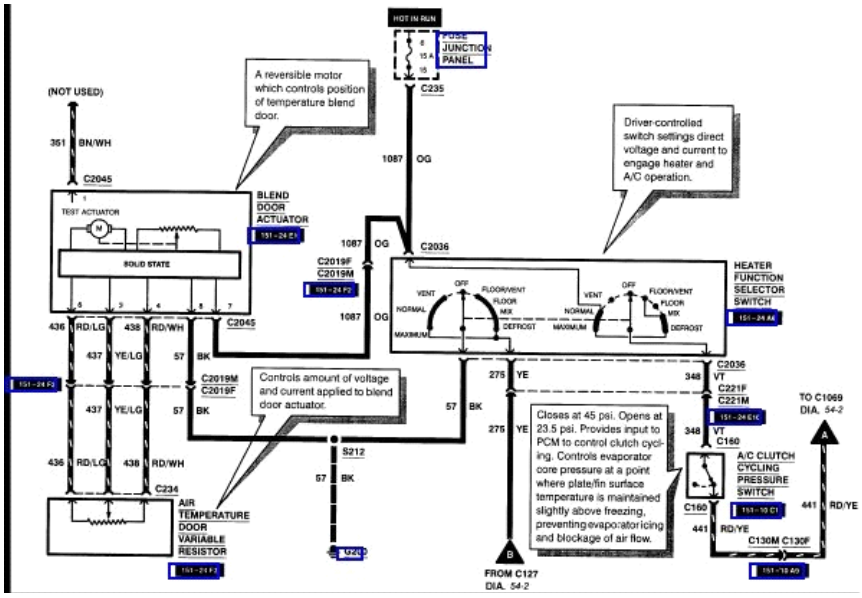
VA3CBE

One of the great things about being a ham are other hams. They have many different jobs and backgrounds so the pool of knowledge is quite diverse, as is the pool of sourcing out bits and pieces of usable parts and ideas.

I am always thinking of future projects and one of them was perhaps to build a small receiving loop for the lower broadcast bands. My shack is in the basement and obviously not the place for an antenna so remote control of the loops tuning and rotation is a “must have” (however the exercise up and down the stairs does have its benefits HI!)

As a motor vehicle mechanic I see many parts that can be of use to the average ham. Many cars have servomotors, which control the ductwork and temperature blend doors. Some doors are vacuum controlled however many are electrically operated. Ford passenger cars and light trucks use a self-contained unit, which has an IC containing an error amplifier, H-block driver, and over current protection similar to the Motorola MC33030 chip. Just dial in the knob where you want the control to end up and let the IC do the rest! (Please note the MC33030 datasheet has an abundance of useful information)

Some actuators do not contain such components but do have a pot coupled to the output shaft, which can be used to drive a small panel meter or a driver circuit for an LED bank allowing an indication of direction or position. Those units, which utilize external control, can easily driven using a double pole double throw momentary switch with two minor wire connections allowing the motor to be driven both directions. One thing to note is that these little gearboxes use a worm type drive which have a inherent braking ability meaning that when the motor is not powered the shaft will hold it’s position, great for QRP sized rotor control.



The diagram, as shown above is taken from an auto repair manual for a 1999 ford Taurus. The system is quite simple. The module receives battery voltage and the actuator shaft will mimic the placement of the control pot, pretty simple eh? If you ever wondered why these days it does not take much effort to turn the heat up or down now you know.

Ask your local garage if they have any old Junkers you can rob parts from, if you need any “pinouts” or schematics just get in touch with me through the bulletin editor and I will be happy to forward any information I am able to provide

73 de va3cbe

Plasma Physics for the Radio Amateur (1)

Eric P. Nichols, KL7AJ

source e-Ham

In this article, we're going to take quite a departure in thinking from “SWR Meters Make You Stupid.” In that former tome, we discussed only those principles you can actually demonstrate in your ham shack. (Well, that is, if you disregard the INFINITE LENGTH transmission line. Although we had to resort to a “thought experiment” to describe this concept, we actually received VERY little controversy about this. In fact, I don't think anyone even raised an objection the basic premise of the LADDER LINE to ETERNITY.

Now, whether you know it or not, if you do any H.F. operating at all, you are somewhat involved in the field of Plasma Physics. Please DON'T be daunted by the term. Although it sounds academic, esoteric, and at times, just plain WEIRD, the term PLASMA describes MOST of the universe.

What makes ionospheric physics, or what we sometimes call “uncontained” plasma physics different from transmission line theory, for example, is the fact that we have to indirectly INFER the results from rather remote observations. You can't just put an ionosphere in a jar on your kitchen counter and poke at it. Well, actually at the UCLA plasma lab, we did JUST that...but it was a BIG jar. And a fairly expensive one!

In this series of articles, we will not only remove a lot of the mystery of the ionosphere, but also present examples of how YOU, Joe Average Ham, can actually make a real contribution to scientific knowledge. YES...in the 21st century, it's STILL possible for hams to “advance the state of the radio art” without a billion dollar government grant! Ionospheric research is just such an area...there's still a lot we need to learn...even though there's a lot we know. If you're an experimentally-inclined ham, PLEASE read this entire series!

Are you ready? Great. This will be a fun trip. It will be FUN. And it will be a TRIP! Guaranteed.

Almost Nothing At All

In order to fully appreciate the wonder of the Ionosphere, you really have to realize how LITTLE of it there actually is. Some fine folks at Eiscat research facility in Tromso, Norway, (where folks have time to figure out this sort of thing), calculated the mass of the ENTIRE IONOSPHERE...that is, the entire region of the atmosphere that has any measurable effect on H.F. radio signals. The “final answer” came out to be LESS THAN ONE METRIC TON! In other words, you could take EVERY particle surrounding the Earth that has a measurable effect on radio propagation, and scoot it around with a one-man pallet truck! I was floored when I read this figure, as you should be too! How can this thing we call an ionosphere, which has little more substance than a fleeting THOUGHT have such a profound effect on radio as we know it?

The Air Up There

The density of atoms (of any kind) at 450 miles altitude...the outer reaches of the ionosphere, about the highest altitude where ionospheric radio effects can be detected, is approximately 1 12- trillionth the atomic density at sea level. That's a lot of zeroes. Or decimal places, depending on which direction you're going.

How can it get so thin so fast? Remember, air is COMPRESSIBLE. I won't agonize you by reminding you of all those gas pressure laws you ignored in high school chemistry class, except to remind you that EVERYTHING you ever learned, or didn't learn, in high school, WILL come back to haunt you. This is one of those times. Dig out your chemistry book and re-read all that boring stuff about partial pressures and such. I won't waste “ink” doing it here.

Billiard Balls and Isaac Newton

When non-scientific people think of particle physics, they think about all sorts of inscrutable things like

Relativity and Anti-matter, and really scary and complicated math. The good news is, ionospheric physics, as it pertains to radio, is actually LOW ENERGY PHYSICS. In reality, we can describe almost ANYTHING we care about in terms of plain old NEWTONIAN MECHANICS...you know, that old Force equals Mass times Acceleration stuff you ignored in high school PHYSICS class. Relativity actually has a VERY minor role in anything we care about in this regard. The only time you deal with HIGH ENERGY physics is in the actual CREATION of the ionosphere, where you indeed have lots of ultraviolet happening. But this has very little to do with the subsequent ionospheric mechanics we USE as radio amateurs. Almost anything we observe can be modeled with billiard balls rattling around in the sky. Or at least statically charged billiard balls. We don't want to simplify this TOO much!

People are quite amazed when I describe HAARP and other similar related Ionospheric research facilities as being LOW ENERGY. “How can you call a BILLION WATTS of raw CW low energy?!” they ask incredulously.

It's simple. HAARP cannot move a SINGLE ATOM around that hasn't already been ionized! A non-ionized (neutral) particle has NO interaction with radio waves (at least H.F. radio waves) whatsoever. There's nothing there to even RESPOND to a radio wave. Neutrals are INVISIBLE to R.F. So, in order for HAARP (or a ham radio transmitter) to do any “nefarious” deeds, it has to have something to “nefariate” against. Non-ionized particles don't qualify.

Walking the Planck

How do we, then, define the difference between high energy and low energy physics? Certainly, it can't be based on power consumption alone! HAARP, for instance, definitely uses as much power as many atom smashers. In fact, it creates as much R.F. power as many atom smashers. But it smashes no atoms, whatsoever. It can't even deprive them of an electron!

It comes down to a little number called Planck's Constant. Again, avoiding any scary math, Planck's constant tells us the relationship between FREQUENCY and ENERGY levels. But this only applies at wavelengths approaching the size of an atomic particle. Plank's constant has meaning when you're comparing cosmic rays to X-rays, or ultraviolet. It is utterly meaningless when you're dealing with wavelengths a trillion times longer than those necessary for atomic resonance.

So, we may loosely differentiate high energy physics from low energy physics by applying this test: Does Planck's Constant fit into the equation? If so, it's high energy physics. If no, it's low energy physics.

For ANY behavior you will observe as a radio amateur, the answer is a decisive NO.

Weather or Not

Not surprisingly, the Ionosphere has weather. Why shouldn't it? It's part of the atmosphere. The atmosphere is FULL of weather. We know that weather has all sorts of wrinkles and valleys and holes hurricanes and tornadoes. Is it reasonable to expect that the ionosphere wouldn't have such disturbances? Not to mention that the Ionosphere is, on top of all that, profoundly affected by something that has NO effect on “normal” weather whatsoever...magnetic fields. These magnetic fields produce SERIOUS wrinkles in the sky.

Why do so many hams actually seem offended that the ionosphere doesn't behave like it's a spherical mirror? The fact that the ionosphere is ever STABLE enough to reflect a coherent radio signal at all is nothing short of miraculous! In the grand scale of things, if you've EVER received a stable H.F. radio signal, for even a fraction of a second, you're just plain SPOILED!

Stay tuned for part two.....

ANNOUNCED DXPEDITIONS

May 2 to 14
Ogasawara
JD1BMH
40 - 10M all modes
QSL via JG7PSJ direct or bureau

May 12 to 16
Corsica
TK/Home Call
40-12M CW & SSB
QSL home call direct or bureau

May 13 to 16
New Caledonia
FK/W3HQ
40,30,20 CW only
QSL W3HQ direct or bureau

May 15 to 28
Aland Island
OH0-HC
All bands and modes
QSL Home calls direct or bureau

May 21 to 31
Lord Howe Island
VK9CLH (Web site)
160 & 80 CW only
QSL VK2CCC see web site for instructions

May 22 to Jun 1
Central Kiribati
T31X
Large operation all bands and modes
QSL UR3HR direct or bureau

May 21 to Jun 2
Mongolia
JT9YW
All bands and modes
QSL RW9YW

May 28 to Jun 6
Palestine
E4X (Web site)
All bands and modes
QSL EA5RM direct or bureau

HYDRO-GROUND ROD INSTALLATION

George, "Geo" (K0FF)

on Eham April 20, 2010

Driving ground rods can be a pain. This method is easy, although if you have never tried it or seen it done, it is OK to be doubtful. It does work though, we have used it with good results.

If your soil is not too rocky, no hammer needed.

Dig a small pit, about the size of a soda can in the location where the ground rod is to be planted. Fill this hole with water. Insert the ground rod into the center of the hole. Work the ground rod up and down, easy with no force. After a few strokes there will be a noticeable hole into which the rod will go down. It is important to pull the ground rod out of the hole completely each time, letting the hole fill up again with water. It is the water making the hole, not so much the ground rod.

After a few more strokes, more water will need to be added to the hole. Pretty soon the ground rod will go way into the earth. Small pebbles are no problem. he very last stroke should drive the ground rod below the level of the earth, which is where it needs to be, completely underground (by code).

When the hole is dry again, clamp the ground wire or strap to the top of the rod, cover the connection with grease, cover that with an aluminum can for protection and bury it. A bit of salt in the water will improve the ground's usefulness, also ground up charcoal is good for that.

Usually 8 foot rods go in without a hammer.

I was introduced to this method by my friend Al, W0DYI (SK) a long time ago. He was an electrician and told me they often used this method.

I added one more step, since ground rods are expensive but copper water pipe is cheap, a ground rod will just fit inside the waterpipe, let the water pipe go along for the ride, remove the rod, leave the water pipe in the ground. No hammer damage to the pipe this way.

I know, you think it is a joke. It is not a joke, it works!

Geo, K0FF

ONTARIO QSO PARTY

As is usually the case , the club took part in the Ontario QSO Party again this year , Calvin VA3CBE, Dave VE3BHZ and Robin VE3OAV operating as VE3SWA covering all bands using both CW and SSB. Together we made 183 QSOs on CW, 79 on SSB which included 7 QSOs with the special 10 point stations RAC, ODX, CCO for a total 269 QSOs and 515 QSO points. With 134 multipliers our points total was 69.010. Last year our points totalled 80100 but we had an additional operator Mike VA3MP and as far as I recall, conditions were somewhat better. I don't expect we will win any trophy but at least we "showed the flag" and had some fun. As a bonus, the logs joined together this year without a hitch as opposed to previous years when Murphy was present when it came time to join the logs for final summary and scoring. I have seen some scores posted on the OQP reflector and so far we have nothing to be ashamed of

ANNUAL DINNER

Turnout this year was a little disappointing, only 12 had committed to attending and this number was reduced by one when Gerry's wife Marilyn became ill and was unable to attend. We had the following smiling faces seated around the dinner table. Fraser and Jill, Calvin and Helen, Robin and Judy, Tom and Vivian, Gerry, Scott and Dave. The food as usual was excellent , roast beef, rolled ribs, chicken breasts, mixed vegetables and mashed potatoes with way too much of everything, probably enough for twice our number which resulted in plenty left over. I only hope it wasn't wasted. As Fraser suggested it would have made a delicious stew or soup rather than just throwing it away. Dessert consisted of cheesecake, and various cakes and of course coffee to wash it all down. When the eating was over Dave presented the DX trrophy to VE3OAV Robin who worked the most DX during 2009. The winner of the Activity trophy was not present so that will be presented at the May meeting. Hopefully next year we will get back to normal attendance and the missing members will not be otherwise importantly engaged. We missed the Baileys, Bert and Marg and Mike and Ibi. Hope by the time you read this Ibi you are dancing up a storm and your new knee is working perfectly.

Two Middle Eastern mothers are sitting in a cafe chatting over a plate of tabouli and a pint of goat's milk. The older of the two pulls a bag out of her purse and starts flipping through photos, and they start reminisc-ing.
This is my oldest son, Mujibar. He would have been 24 years old now.'
Yes, I remember him as a baby,' says the other mother cheerfully.
'He's a martyr now though,' the mother confides.
Oh, so sad dear,' says the other.

And this is my second son, Khalid. He would have been 21.'
Oh, I remember him,' says the other happily, 'he had such curly hair when he was born.'
He's a martyr too,' says the mother quietly.
Oh, gracious me . . . ,' says the other.

And this is my third son. My baby. My beautiful Ahmed. He would have been 18,' she whispers.
Yes,' says the friend enthusiastically, 'I remember when he first started school.'
He's a martyr also,' says the mother, with tears in her eyes.

After a pause and a deep sigh, the second Muslim mother looks wistfully at the photographs and, searching for the right words, says . . . "They blow up so fast, don't they? "

THE HILLS ARE ALIVE WITH.....HAGGIS

Irene Thomas Sun Newspaper

One in five Britons believes haggis—- the traditional Scottish dish made with a sheeps heart liver and lung—- is a hilltop dwelling animal, according to a survey released Friday. Another 15% replied Haggis was a musical instrument and 4% said it was a Harry Potter character.

More than 1,600 people were polled in the survey sponsored by a British takeout service. About half of those polled were Scottish

"We thought it would be interesting to see just how much people knew about Haggis across the UK. It turns out not a lot —- but everyone seems open minded", a Just-Eat.co.uk spokesman told *The Scotsman* .

I wonder if anyone considered that the responses were a bit tongue-in-cheek. If someone came to me all serious like with this poll I might've also said that Haggis was a musical instrument. Surely, it's not as ridiculous as the Bagpipes

I guess you could eat a set of bagpipes if you cooked them long enough Hi dunno about that hilltop dweller though.

Ham Personal Glimpse

Fraser Cooper VE3FC

Way back when, when I was just a tender lad, there was a gentleman who was a bit of a fixture on 75 metres. I didn't have a 'phone license (hadn't got up to 15 w/min, yet) but I could operate an AM station at the Guelph ARC Field Day. This was shortly before hams started using the much more efficient Single Sideband Suppressed Carrier system (SSB-SC) that we all (well, most) use today.

There was a ham who lived in the Buffalo area by the name of Myron Premus. His callsign, at that time, was W2OY. He was one of the old timers who 'owned' a frequency on a given ham band and his frequency of choice was 3810 kc/s (this was before kHz, remember). This was just 10 kHz up from the bottom of the American Phone Band, as we called it. His VFO tuning shaft was frozen to that spot, or he might have even been crystal-controlled for all I know! Remember this was AM, so there was always a lot of whistles of various pitches up and down the band from all the carriers beating together, particularly when the band was busy on Field Day.

W2OY would come on to 'his' frequency, fire up his kilowatt and call
'CQ CQ CQ 75, no LIDs, no kids, no space cadets, class A number one operators only, CQ CQ CQ……'
Myron hated the use of phonetics, even the correct ones (Able Baker Charlie Dog… in those days). He'd sometime deliver a long monologue deriding anyone who used phonetics or in any other way didn't meet his idea of 'proper' operating practice. The usual answer to his CQs was a cacophony of whistles from several carriers. When I had the chnace on Field Day, I'd try to call him 'Whiskey Two Old Yokel'. Just for the fun of it. Never got an answer that I remember.

Myron was born in 1902 and was first licenced as 8AHQ in 1919. He got 8MU and then W2OY in 1947. He ran an appliance business and was well thought-of by his customers. He actually liked children! Myron died of a heart attack while working on his antenna in 1967.

You can read more about W2OY at several websites. www.hamgallery.com/tribute/w2oy even has sound clips of Myrons operating quirks.