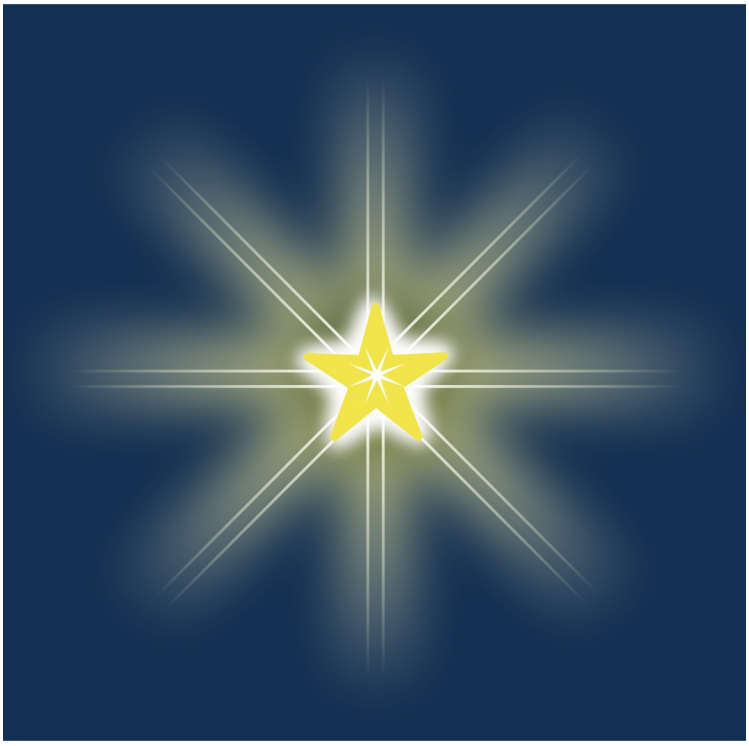
DECEMBER 2016 Volume 5 Issue 12

VE3ERC-LUB

President: Joycee VA3WXU
Vice-President: John VE3JXX
Secretary: Tom VE3DXQ
Treasurer: Reg VE3RVH
Trustee: Al VA3TET
QSL Manager: Judd VE3WXU
Repeater Manager & Maintenance: Carl VE3FEF
Website Admin: Ted VE3TRQ
Lighthouse: Bruce VE3QB
Maple Syrup Display: Judd VE3WXU
Joycee VA3WXU
Newsletter: Bob VE3IXX

ERC REPEATERS

UHF 444.700 TONE: 131.8
VHF 147.390 + TONE: 123.0
EMERGENCY SIMPLEX: 147.51



Emergency Reminder:
In the event of an emergency, tune into our repeaters,
UHF 444.700 or
VHF 147.390 or
HF 3.755 LSB or
Simplex 147.510
For coordination and assignments.

MERRY CHRISTMAS

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THE PREZ SEZ!

This club is Radio-ACTIVE

President's Update for September 2016

A New View.....

The "Power" of Goodwill

I love the Christmas season! It really is the best way to end the year. I love garnishing the tree, sending cards, and shopping in bustling crowds. I do prefer to have light snow falling down (the kind that is easily collected and put in a manageable pile. I also listen non-stop to Christmas carols, and re-watching classic Christmas movies. I love the family traditions Judd and I share. Most of all, I love the Peace and Goodwill on which this holiday is based and that feeds our souls for the next year.

The members of the Elmira Radio Club shared their goodwill in many ways this past year. They gave their time participating in several of our club's activities, demonstrations, and meetings. They also take part in several singular Ham Radio pursuits like raising a tower or an antenna and the building and fixing of antennas. There is also a constant daily stream of sharing materials, ideas, and knowledge amongst others. (Hmmm... that sounds more like friendship, than membership.)

On behalf of the club, I want to thank Reg (VE3RVH) our treasurer who pays the bills and keeps us competently solvent. Our Vice-President, John (VE3JXX) has the President's back and he often fixes our antennae and repeaters. Our Secretary, Tom (VE3DXQ), makes sense out of the "reverie" from our meetings. Writing the minutes takes nearly a whole day to accomplish. He also keeps us on track of where we are headed. Our Trustee, Al (VA3TET) who I see as the club "historian", safely keeps our historical events. He is also a "champion" that helps to keep "noisy meanies" in their place and out of my face. My "back-up", Rich, (VE3DCC") is the navigator I go to when I need direction. Believe you me, I need him a lot. Our Editor of the newsletter, Bob (VE3IXX), spends many, many hours "sewing" our articles together along with photos and sketches he draws himself. He makes everyone aware of what we have been doing. The "Sky Walkers" who maintain our repeaters are Carl (VE3FEF), Jim (VE3JMU) and John (VE3JXX). We would be literally in a silent spot, if not for them.

All of these people play an important role in our club. We appreciate your gifts of your talents and we acknowledge your goodwill.

The last group I want to thank is everybody else. You are the club!

Have a Merry, Merry Christmas to you all!

In Goodwill, 73 Joycee

ERC CHRISTMAS PARTY

The 2016 Christmas Party began with the crew of hard-working volunteers (Jim VE3JMU, Paul VA3PDC, Rich VE3DCC, Judd VE3WXU and Reg VE3RVH) who arrived at 1 pm in the afternoon. They cleaned the hall and prepared all the tables and decorations.

In spite of the nasty weather a good crowd arrived at 7 pm in the evening and the raging storm outside did not dampen the festive cheer inside. The food by all accounts was delicious and enjoyed by all.

The participants were treated to a slide show of pictures from club activities during 2015 and 2016. A number of the photos were the answers to a game of "ID The Hamsters" which immediately followed. Amazingly, twelve winners won the game.

Then all the partyers had to phonetically write out their call signs using Christmas words. This added to the fun and merriment of all.

A bowl of pearls was brought out and everyone was given an opportunity to guess the number.

Then each person was given a gift of two ornaments, one had pearls in it, and the second was their call sign.

Finally Santa arrived and ended the evening handing out candy canes.

It was widely reported that the ride home was treacherous and lengthy but everyone made it safely– a great ending to a joyous and happy party.

Merry Christmas to all!

Back-of-the-Napkin Eyeball

QSO notes and stuff

by Rich, ve3DCC

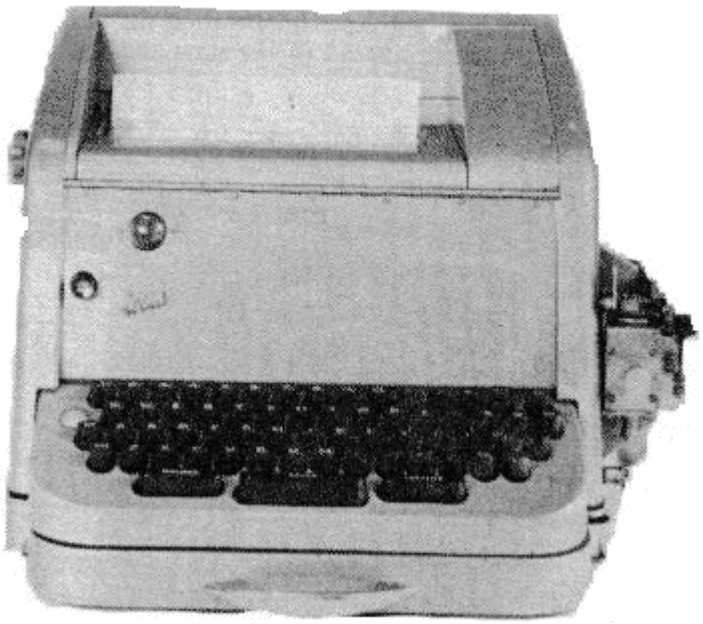
The November presentation by Judd ,ve3WXU, and Ted , ve3TRQ ,was fascinating. Their demo brought back deja-vu memories of the early days of K-W packet. The summary in last month's newsletter will give you the highlights and the detail you need to get onto these digital modes. The warble you will hear as you tune across the bands is a transmission of tones that are generated and "decoded" by software rather than the "black" boxes needed in time of yore.--dare I say, last century. But the humble roots of those warbles go back to the advent of microcomputers in Waterloo Region in the 1970s.

In 1977, local operators were experimenting with early digital—indeed, very simple early digital. Many Hams, including a younger ve3DCC, ordered brand new TRS80 microcomputers from the Elmira Home Hardware dealer who also happened to be a HAM (John Pettie son of local radio pioneer, Wayne Pettie). We were able to order just the keyboard/computer without the monitor etc. The keyboard had a Z80 CPU, 4K (yes, 4000 humble bytes) of memory and Level 1 (one letter commands) BASIC. (see photo below). There were no printers or disk drives at the onset of this tech revolution so programs and data were labouriously saved onto cassette tape. Paul Cassel (VE3AVY then VE3SY now SK) experimented with taking the output of the tape save (using the "Csave" command) and feeding that signal into the microphone circuit of VHF radios. Similarly, the speaker output was fed into the input jack of the microcomputer ("Cload"). In some cases this was routed thru the actual cassette recorder as those early units seemed to be able to pass-thru the audio signals. In effect, the TRS80 thought it was saving to a cassette when, in fact, it was transmitting and it thought it was reading a tape when it was really receiving a "digital" radio message. The text was prefixed with line numbers to fool the micro into thinking it was a program (with a whole lot of syntax errors, eh). You were elegant indeed if you prefixed each line with a "rem" so the "program" consisted of no code—just the "remarks" which ,of course, was the message to be sent.

My TRS80 model 1, grand forefather of K-W digi. Can You identify the parts: CPU, Monitor, Power Supply, Cassette storage and Manual?

At about this time, local hams were modifying Selectric typewriters and model 19/75 teleprinters to print (in all CAPS) to rolls of teletype paper. Again, Paul Cassel was at the fore-

front of developing Ham Field Day Logging software in TRS80 BASIC. I was able to successfully interface a Creed Model 75 Baudot (5 bit serial) to the TRS80 8 bit parallel bus to create a printing solution that we tested on Field Day in 1978. The Creed 75 is shown below. It pounded the platen and peaked at 75 wpm. KA-Chunk (a big carriage return!)



My Model 75 (TRS80) printer

Now FAST FORWARD to 2016. Dennis, Paul, Bob, Judd, Ted et al. have successfully re-ignited that same excitement with a pragmatic twist. It started with the MESH demonstration in October, when we hosted the Woolwich Fire Chief, Rick Pedersen and Ron Koniuch, Co-chair of CAER, the Elmira Emergency Communications Team. They were very impressed with the potential of MESH and HAM radio. Now, we can add the possibilities that digital transmission of messages in lieu of verbal passing of ARRL format written messages (albeit at low baud) offer to our emergency message-handling capability.

Best of all, there is an elegant simplicity here, as there was in the old TRS80 days.

The interfaces can be simple or elegant. For example, mine is "sub" elegant. I use "Vox in a box"—literally, my HF radio microphone sits in a CD disk box with a sensitive VOX (voice operated transmit) setting next to a speaker output from my slow Toshiba Netlap. Yes, it is a crude acoustic coupling. The speaker output from my Kenwood 430 feeds into the "audio in" jack on the Netlap and using the software Judd recommended, FLdigi, I successfully exchanged short messages with several members on VHF and HF. I also used the same "acoustic couple" approach to utilize my handheld, Yaesu DX6, to send BPSK31.

This is very cool stuff and worth trying, given the generous expertise available within our ve3ERC group. Talk to Judd or Ted or Dennis to kick-start your experiments.

de ve3DCC

[RAC-Bulletin] News Release: ISED revises RIC-3 Version 4 and CEPT permit

December 13, 2016 – For immediate release

Innovation, Science and Economic Development Canada (ISED), formerly Industry Canada, has issued a revised version of ***RIC-3, Information on the Amateur Radio Service***. It replaces RIC-3 Version 3 that was released in July 2005. Radio Amateurs of Canada welcomes the change as it addresses several long-standing issues pointed out by RAC in the past where the document required updating to address changes in technologies and practices, notably the decision by many administrations to remove the requirement for Morse code qualification for new Radio Amateurs. The new version of RIC-3 can be found online at: http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01008.html

The new document contains several editorial changes (such as the change in the name of the Department) and clarifications regarding the operating privileges granted to holders of the Basic qualifications. Over recent years there have been questions about which qualification is required by Canadian Radio Amateurs to modify a commercial transceiver to operate on Amateur bands. Those with Advanced certification could certainly make any sort of modification as they are allowed to design and build transmitters. The new RIC-3 makes it clear that the privileges of those holding Basic certifications includes:

"re-programming of radio equipment to operate in the Amateur Bands if this can be done by a computer program. **Note:** No physical modifications to the circuitry of the radio are permitted."

RAC had urged that the limitation of the restriction of remote control of Amateur Radio stations to those with Advanced qualification be relaxed as changes in transceiver design have made remote control over the Internet much simpler than in the past and so the higher technical qualification of Advanced was not essential. We believe that those with Basic should have this privilege but ISED has not yet agreed. Dealing with regulations and their interpretation is an ongoing activity where several rounds of discussion are often required to achieve results.

The document also drops the outdated requirement for visiting American Radio Amateurs to have demonstrated CW proficiency to be able to operate HF phone in Canada. The World Radiocommunication Conference of 2003 agreed that CW need not be required for Amateur Radio licensing and the USA dropped the CW requirement for Amateur Radio licences in 2007 after the previous RIC-3 was published.

The major change to the document relates to reciprocal operating privileges, in particular those provided in a European intergovernmental agreement developed through a European telecommunications committee (referred to by its French acronym CEPT) that has grown to include several non-European countries.

Canada is a signatory to the CEPT T/R 61-01 reciprocal operating agreement, under which Canadian Amateurs who have a CEPT permit issued in Canada may operate in European countries during temporary visits. This agreement has undergone various revisions over the years notably to acknowledge the removal of CW qualification as a requirement for Amateur Radio authorization in many countries, and after negotiations between ISED and CEPT, the rules for Canadian participation have been updated to follow suit. There have been two major changes as a result: (1) There will no longer be two classes of CEPT permit depending on the holding of

a Morse code qualification. Although Morse code is no longer a requirement for the CEPT permit, any such qualifications will still be noted on the permit for use in countries that still require Morse code for access to HF; (2) After conducting a comparison study of the syllabus for Canadian and CEPT examinations, CEPT has determined that only Canadian Amateurs who hold an Advanced qualification will be eligible for reciprocal operating privileges under CEPT T/R 61-01. Therefore, effective immediately, and as described in RIC-3, CEPT permits will only be issued to Amateurs with an Advanced qualification. Canadian Amateurs who have the requisite qualifications may submit requests for CEPT permits to RAC as described at: http://wp.rac.ca/study-guides-2/regulatory-info/cept-permits/

Canada is a party to another intergovernmental agreement, the Inter-American Convention on an International Amateur Radio Permit that provides reciprocal operating privileges to Radio Amateurs of one country that signs on to this agreement when they visit other countries that have also joined the agreement. At the meeting of national Amateur Radio organizations in Chile in October, Radio Amateurs of Canada and other similar organizations in our hemisphere agreed to encourage their governments to update this agreement. At last week's meeting of the Canadian Amateur Radio Advisory Board (CARAB), RAC was told that at a recent meeting of representatives of governments of the Americas, the Inter-American Telecommunication Commission (CITEL), delegates agreed to update the agreement. We expect this will be done in the summer of 2017.

Any questions regarding these changes may be directed to Richard Ferch, VE3IAY/VE3KI, RAC Regulatory Affairs Officer at regulatory@rac.ca.

Richard Ferch, VE3IAY/VE3KI
RAC Regulatory Affairs Officer

Digital and the Magic Band

By Judd Hodge VE3WXU

One of my future goals for the hobby is to setup a meager portable 2m EME station using digital as the mode. My tower project has delayed any real attention to that for this year.

While watching the various DX spotting sights on the web, a new mode caught my eye. It was MSK-144. The software can be found in WSIT-X beta. I have been watching this activity on 6 meters for a few months, did some research and finally decoded signals on Monday, December the 12th. This looked interesting and promising. I did more research on Tuesday the 13th. Even more signals were decoded and more postings on the web of QSO's using this elusive mode. What the heck! A few checks completed, modest pwr level set, beam selected, direction set in, a good tune of the TS-570S, I enabled the 15 sec transmit / receive cycle and within 2 to 3 cycles I saw a reply to my CQ...unfortunately the QSO was not complete. To my amazement, I decoded a familiar callsign a few minutes later. VE3JVG - Jason, who is also a big fan of the "magic band", had established a contact, and completed it. It was his first contact for this mode. Congratulations to Jason. I am certain there will be many more.

Here is how I see it. Using MSK-144 is very much like EME in a way. MSK-144 is sending and looking for reflected signals from the ionized trail of iron meteors, passing within our atmosphere at a distance of 100-150 miles of the surface, allowing brief contacts with stations at distances up to 1400 miles. Not bad for VHF! Unfortunately, I hadn't found the most critical information that I needed before the 13th... the knowledge of the meteor events. The greatest activity is during a meteor shower event, as was happening from December 7 to December 14. Don't worry, there will be others (4 or 5 annually). Now is the time to prepare for them. It's not that there isn't activity or meteors throughout the year, the above events occur as the earth makes its annual pass through the lingering debris left by comets that have passed through our solar system.

As with EME, a high gain directional antenna is recommended and contrary to digital mode philosophy, QRO is more effective. The 6 meter calling frequency is 50.280 and activity can be tracked on the web using **DXMAPS.COM**. Watch for **W4IMD-Peter from Atlanta, Ga**. If the band and mode is open, Peter will be there and posting. If you decide to give it a try, send a CQ or two, you might not get a reply but you may get spotted on HAMSPOTS.NET.

Hamspots is a great tool to check your propagation.

Great DXing whatever mode or band you choose

73 Judd VE3WXU

WEDNESDAY NITE NET CONTROLLERS

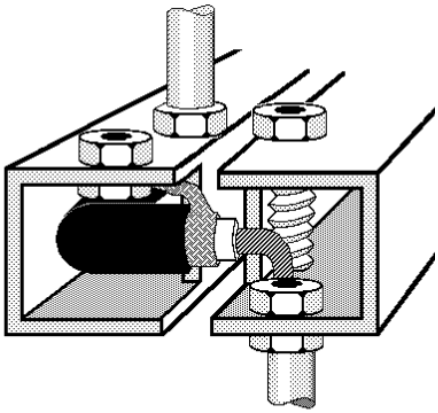
DECEMBER 7 - BRIAN VA3DXK
DECEMBER 14 - CHRISTMAS PARTY
DECEMBER 21 - BOB VE3IXX
DECEMBER 28 - JUDD VE3WXU
JANUARY 4 - TED VE3TRQ
JANUARY 11 - AL VA3TET
JANUARY 18 - REG VE3RVH
JANUARY 25 - M E E T I N G
FEBRUARY 1 - TOM VE3DXQ
FEBRUARY 8 - PAUL VE3PVB
FEBRUARY 15 - TRACY (VE3JVG)
FEBRUARY 22 - M E E T I N G

Digital @ VE3ERC

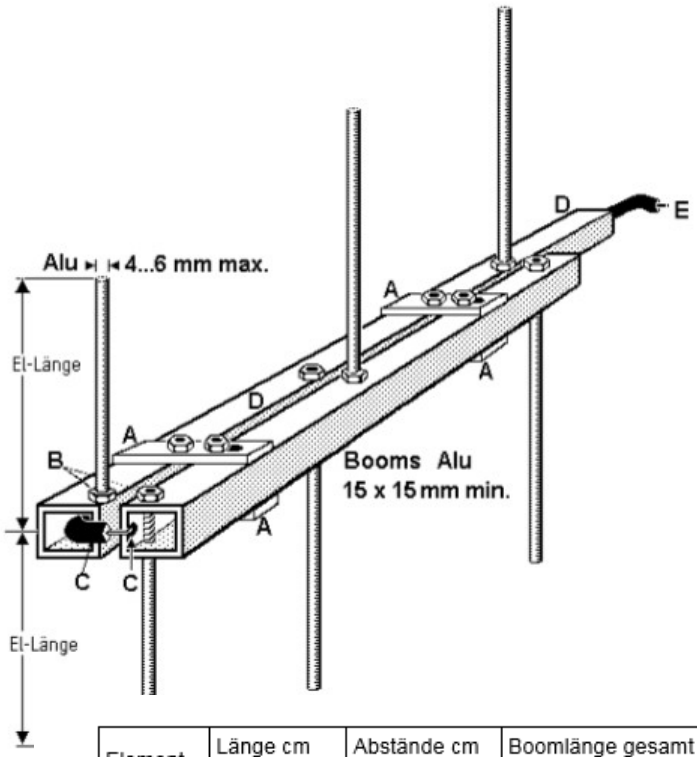
November's trial run at a "Digital New" has been deemed a success. With 10 check-ins, and lots of interest our first attempt was quite promising. Within the last weeks several have ventured on to equip and set up their stations for further exploration of the digital modes. Of all the rewards of the hobby, the learning part to me might be the most rewarding. The next scheduled Net, is slated for the 5th Wednesday in March. This seems like a long way off, but it is really just around the corner. Remember our Net purpose is to have cohesive communication in time of need, and there are a few standards all participants should adhere to. FLDIGI is the preferred software package, along with its companion package FLMSG. On air, references to other modes, software and personal preferences were made know by a few. We must remember the purpose here and we should practice our best Net protocol. In these first Nets, we referred to them as training Nets. Later on the Net will be a quick test and polish of our Team for future deployment if needed. Between these times, we should be enjoying the new skills acquired and dive further into our hobby's vast assortment of digital modes.

Judd VE3WXU

Homebrew log. Periodic Antenna for 2m/70cm



Coax mounting: the shielding end exactly in the middle of the booms. So the length of the lines is the same. You may protect the feeding construction with two component glue.



A- Boom spacer made of epoxy-board material. One side with long hole

B- Elements with thread... VA-nuts at the top and bottom

C- Feedline connection

D- Cold boom, the supply cable. The external conductor is connected to him... and he is with mast installation so that the longer the mast approx. 1/8 Lambda behind the longest element as an additional reflector is effective.

E- Power supply cable is not too close to the pass elements.

The element lengths are from the middle of the boom to the calculated Element-End

Element	Länge cm Length in cm	Abstände cm Distance in cm	Boomlänge gesamt cm Boomlength in cm
Element 1	53,0	0	0
Element 2	50,9	12,3	12,3
Element 3	48,9	12,1	24,3
Element 4	46,9	11,9	36,2
Element 5	45,0	11,7	47,9
Element 6	43,2	11,5	59,5
Element 7	41,5	11,4	70,8
Element 8	39,8	11,2	82,0
Element	38,2	11,0	93,0

For more detailed information visit Michael OE3MZC's website at

http://radio-foto.eu/radio/lpdadual.pdf

Note: I had to translate some of the German into English as best as able.

Editor ve3ixx