



DECEMBER 2017

Volume 6 Issue 12

# VE3ERC-LUB

**President:** Joyce VA3WXU  
**Vice-President:** Brian VA3DXK  
**Secretary:** Tom VE3DXQ  
**Treasurer:** Paul VA3PDC  
**Trustee:** John VE3JXX  
**QSL Manager:** Judd VE3WXU  
**Repeater Manager & Maintenance:**  
 Carl VE3FEF  
**Website Admin:** Ted VE3TRQ  
**Lighthouse:** Bruce VE3QB  
**Maple Syrup Display:** Judd VE3WXU  
 Joyce VA3WXU

**Newsletter:** Bob VE3IXX

## ERC REPEATERS

UHF 444.700 TONE: 131.8  
 UHF 444.700 TONE: 123.0  
 VHF 147.390 + TONE: 123.0  
 EMERGENCY SIMPLEX: 147.51  
 UHF- IRLP node 2404  
 VHF- IRLP node 2403, ECHOLINK node  
 VE3ERC-R

In 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.



Radio Amateurs  
of Canada



# THE PREZ SEZ!

This club is Radio-ACTIVE

This club is Radio-ACTIVE

## President's Update for OCTOBER 2017

### A New View.....

#### The Best is Yet to Be!

The year of 2017 has been a busy and fun year for the Elmira club. It was because we have so many members that supported our club whenever they possibly could, in several different ways.

For example, many of us come to the meetings on a regular basis that help to make decisions with our votes. We often have large audiences at presentations like Pierre Fogal (VE3KTB) who gave a presentation on the Arctic, and Mike DeBoer (VE3OER) on emergencies in general, and Geoff Coulson on Canwarn Training. Several of our club members have also shared illuminating presentations on a variety of topics throughout the year. This year included Ted (VE3TRQ), Judd (VA3WXU), Brian (VA3DXK), Al (VA3TET), and Rich (VE3DCC).



Our club is supported by talented writers penning monthly articles in our newsletter. Rich writes the "Back-of-the-Napkin Eyeball" for our newsletter, as well as Bob(VE3IXX) our Editor. They continue to write and share articles for the newsletter that opens up our minds to new ideas. We also have other writers that add one or two articles throughout the year. They include, Judd(VE3WXU), Tom (VE3DXQ), Dan (KB6NU), Paul (VE3PVB), Brian (VA3DXK) and Tony (VE3DWI) which strongly enhance our newsletter as well.

We run daily and night Nets that are usually supported by several participants. We are lucky to have so many talented operators running the Nets. Even though some of the nets are categorized as rag chew, it is how we can practice on air and clean up our performance if needed. This year we have had two Nets meant for teaching purposes. Judd, ran the Digital net, and Brian ran our emergency communication tools. I thank all of our Controllers and all the other members who support them.

This year we participated in several special events. Participating in events makes our club stronger by having to work together in person. These are the events we did this year: The Maple Syrup Festival, The BBQ to celebrate Canada Day, The Hammond Radio Museum trip, Involvement with the South Central Ontario Ham-Fest, The Family Fun Day, The Dayton Hamvention, The Open House exhibition, Field Day, Point Clark LightHouse weekend, The Bill Graham Dinner, and our Christmas Party. Thank you to all that participated.

A very important thing happened to our club this year. A group of talented Hams from other places sought out membership in our club. They were Tony (VE3DWI) from Kitchener, Brian (VE3YBM) from Moorefield, Mike (VE3OER) from Palmerston, Allan (VE3AUS) from Harriston, and Wes (VE3ML) from Fergus. We warmly welcome you.

VE3ERC have had a very good year thanks to our members. There is no doubt that 2018 will carry the success of 2017, and then some.

**73 Cheers      Joycee (VA3WXU)**

### **WEDNESDAY NITE NET CONTROLLERS**

**DECEMBER 13 - BRIAN VA3DXK**

**DECEMBER 20 - BOB VE3IXX**

**DECEMBER 22 - CHRISTMAS PARTY**

**DECEMBER 27 - TED VE3TRQ**

**2018 JANUARY 3 - AL VA3TET**

**JANUARY 10 - REG VE3RVH**

**JANUARY 17 - TOM VE3DXQ**

**JANUARY 24 - MEETING**

**JANUARY 31 - PAUL VE3PVB**

**FEBRUARY 7 - TRACY VA3TGY**



# ERC

## Chris★mas Party







Our Christmas party this year was wonderful. Mary, Jim. Reg, and Judd did a wonderful job setting up the room for our party. There were 39 people that came all together that made for a roomful of conversations and a variety of delicious food to taste. All in all, the cheerful, seasonal ambience made for a lovely night. Thank you for coming....

Christmas is the time of merry and goodwill. These two things are what makes the way to build togetherness among families, friends and strangers. It is the miracle of the Advent that streams love and kindness throughout this season. It is a state of peace and a

time of hope.

May you find peace and hope throughout the New Year.



**73 Joyce VA3WXU**  
**Merry Christmas !**



# Back-of-the-Napkin Eyeball

## QSO notes and stuff

by Rich, ve3DCC

### Here are some interesting threads that intersect.

My opening thought stretches back to the days of the TRS80 Model 1. In the late 70s and early 80s, a small group of computer enthusiasts formed a community TRS80 Users Club at Elmira High School. We also offered a night course on programming. One evening, a very talented fellow, VE3MAD, Gunther, demonstrated an assembler program that he had written. His program sampled the microphone on the cassette recorder (fooled by pressing the Record and Play keys together while pressing the cassette tab detector in and inserting a plug into the microphone out jack!!!) at the rate of 1K per second. On a 16 K machine, this did not record much; but, when he played the bit pattern out the "Cassette Out" port to the cassette speaker, a very grainy but recognizable 10 seconds of audio emerged. This was an early version of what is now digital audio. By sampling the wave form, and recording the "value" at the input port (0 to 255), a "digital" value could be stored in memory for later replay.

Fast Forward some 40 years. Today there are dedicated chips, vocoders and the like, that can sample in excess of 14,400 times per second. Musicians can now build a home recording studio around sound recording software and a computer. Even a mixer is optional as it is possible to buy an interface that can accept several instruments and microphones so the bits can be interlaced as the values are "played". The really exciting part of this is the ability to record separate tracks, sound on sound, and even "word process" wave forms by cutting and pasting the audio. Musicians can now by-pass the big studios and record, then post music and videos directly to the web. The mp3 "copies" are as good as the originals and easy to download for a reasonable cost. Sound has been made tangible and editable!

Item 2 is from a December 4, 2017 article in the Waterloo Region Record (page A8) titled: Are you 'suitably paranoid'?. The Internet of Things has created an ever-expanding universe of interconnected devices that function invisibly within our homes. Google has developed "smart home" technologies that include "Google Home", a device that responds to your voice commands to control home devices such as audio, lighting etc. Smart Televisions that can change channels via voice control, are clearly "listening" for your commands. The article points out that "security is often not a consideration at all" so "the smart technologies that include internet-enabled TVs, security cameras and major appliances could allow hackers, for example, to break into an everyday device to gather personal information or even hold it for ransom." Digital sampling has taken a nefarious turn and with the ability to route the audio payloads anywhere, there is a case for caution. (that is, Do not put a Smart Television in your bedroom!)

### Now for good news!

ITEM 3: The KW hams have started to experiment with DMR radios. A group of local hams have acquired Radioddity radios. The notion of sampling audio a la cassette port on the TRS80 and the natural "word processing" on audio files have now merged into a radio that is completely software-programmable and able to send digital information efficiently. Because these radios are built around a Motorola commercial standard, the software is able to modify the "personality" of the radio in many ways that Hams have not had access to in the past. In

the week since I acquired my handheld, a major software upgrade has expanded the features of my radio to include 1000 contact ids (from the original 256), scan list options from 16 to 64 and a world-wide ID database of over 50,000 registered users of the system. The modest price is a great investment in learning.

The intriguing aspect of this signalling mode is the radio repeater ability to "word process" digital radio signals so two "slots" or transmissions take place in the same physical wave. The digital signal is Time Division Multiplexed so a repeater can offer two separate communications on a single repeater. The terminology is a bit confusing--- there are talk groups, time slots, zones and more, but when you draw a parallel to our FM terminology, it starts to make sense. For example, "colour" is akin to a PL tone that allows admission to the channel you are talking on. The 27.5 ms frame that is transmitted is a total of 264 bits of information that includes a 108 bit "payload", 48 bits of addressing and a second 108 bit "payload". If you are intrigued, here is a nice document that lays out the essentials of this digital mode. There are several product variations on the digital theme, but it certainly seems like DMR is becoming very popular and pervasive. Here is the link:

[http://www.trbo.org/docs/Amateur\\_Radio\\_Guide\\_to\\_DMR.pdf](http://www.trbo.org/docs/Amateur_Radio_Guide_to_DMR.pdf)

**There are also services that monitor channel traffic; that is, your digital footprint and call sign, are recorded and available on the web. Like Hansel and Gretel, you are leaving permanent crumbs in the forest. This is like a permissible "hack" of your radio activity.**

**The three items that I have looked at today are bits of a bigger picture. Audio (and video) can be digitized and routed anywhere in the world. There is a track on everything digital. The devices are becoming pervasive in the home and elsewhere. While we enjoy the benefits, we also need to be wary and careful.**

**If this article is reaching your in-box prior to Santa's visit, there is no doubt time to send that letter to the jolly old elf asking for a wee radio gift. If not, the prices are amazingly low, and the new year, no doubt, will offer more digital opportunities. As always, as Hams, we need to be sensitive to the notion that everything we say is "out there" in the clear. We also need to be especially "paranoid" as the article suggests so we do not become careless in our casual use of this pervasive/intrusive technology. Perhaps, hams will be at the forefront of developing privacy-friendly signalling as we start to experiment. In the case of DMR, there is a user community that is developing the open-source software to address perceived needs. For example, it would be wonderful to have ARRL type forms on the radio so emergency traffic can be routed digitally rather than by oral repetition from station to station. Mind you, the more tech-dependent the system, the greater the risk of a total collapse of the network. Perhaps, a ham, on a radio, in the field, hooked to a wet piece of spaghetti might be the most survivable disaster scenario. Still, DMR and digital holds potential for great fun, and opportunity for learning.**

**I wish you the best for this festive Season and the New Year.**

**de Rich, ve3DCC**

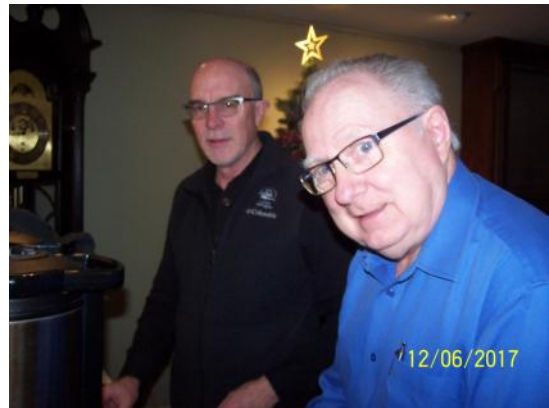


# COFFEE LUNCHEON

Every Wednesday morning from 9 to 10 am a group of dedicated hams meet at Luther Village in Waterloo for coffee and camaraderie. All are welcome to come.

As in the past, they finish off the year and the Christmas season with a luncheon. For the luncheon, spouses usually attend as well.

This year was no exception!







## **Distracted Driving in Canada: An Update Ontario Temporary Exemption has been Extended until January 1, 2021**

### **For immediate release: December 15, 2017**

Distracted driving regulations continue to be an area of interest for many Canadian Radio Amateurs. These regulations are made and enforced by provincial governments and can vary considerably from province to province and over time. In Ontario, RAC Directors Allan Boyd, VE3AJB (Ontario North/East) and Phil McBride, VA3QR (Ontario South) have been working hard on this issue.

On December 15, 2017, the Ontario Ministry of Transportation (MTO) announced that the current two-way radio exemption for "Amateur Radio operators and specified commercial, public transit, and public function drivers will be extended for a further three-years, effective January 1, 2018 until January 1, 2021."

The update to the regulation can be found at <https://www.ontario.ca/laws/regulation/r17475>.

While we were hoping for a permanent exemption, this decision by the MTO ensures our continued ability to operate Amateur Radio apparatus while mobile. RAC will continue to press for a permanent exemption going forward.

For more information visit our Distracted Driving webpage at: <http://wp.rac.ca/distracted-driving/>

#### **Alan Griffin**

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[racomms@gmail.com](mailto:racomms@gmail.com)

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**FOR LOADS OF INFORMATION  
CHECK OUT THE ELMIRA CLUB WEBSITE**

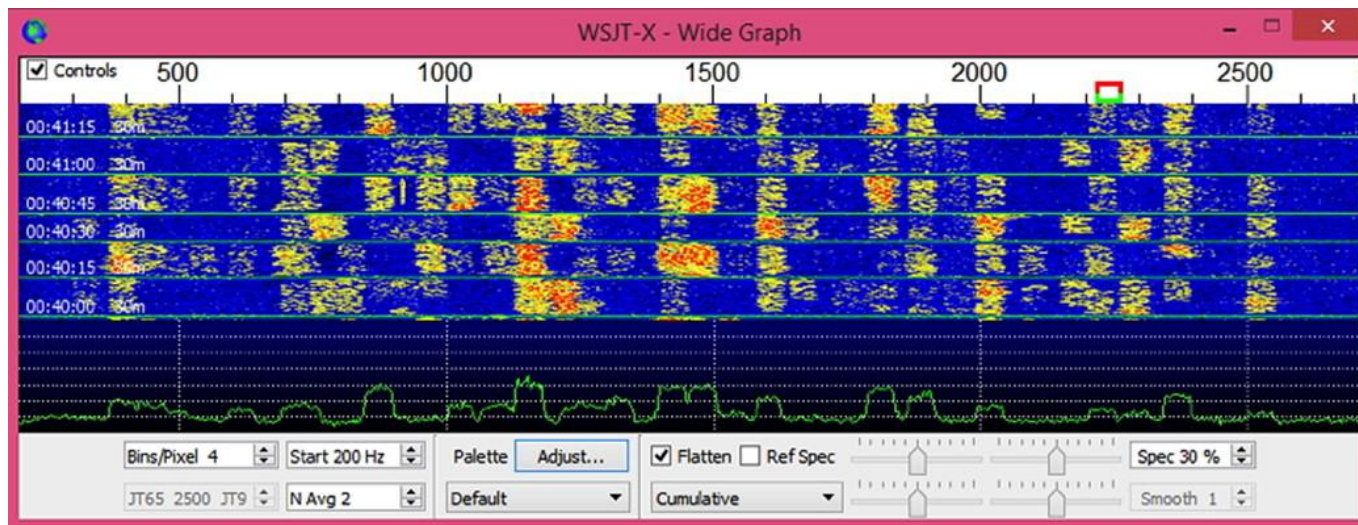
**AT**

**[www.ve3erc.ca](http://www.ve3erc.ca)**

## FT-8: I'm not really feeling the magic

By Dan Romanchik, KB6NU

Partly out of curiosity and partly because Jeff, KE9V, shamed me into it, I setup my Signalink interface, downloaded WSJT-X from <https://physics.princeton.edu/pulsar/k1jt/wsjsx.html>, and started operating FT-8, the latest “shiny object” (as the ARRL dubbed it) from the K1JT team. As you probably know, this mode has really caught on with the digital crowd, and the waterfall is chock full of FT-8 signals. Part of the reason for this is that it has some of the characteristics of JT-65, but is not as excruciatingly slow.



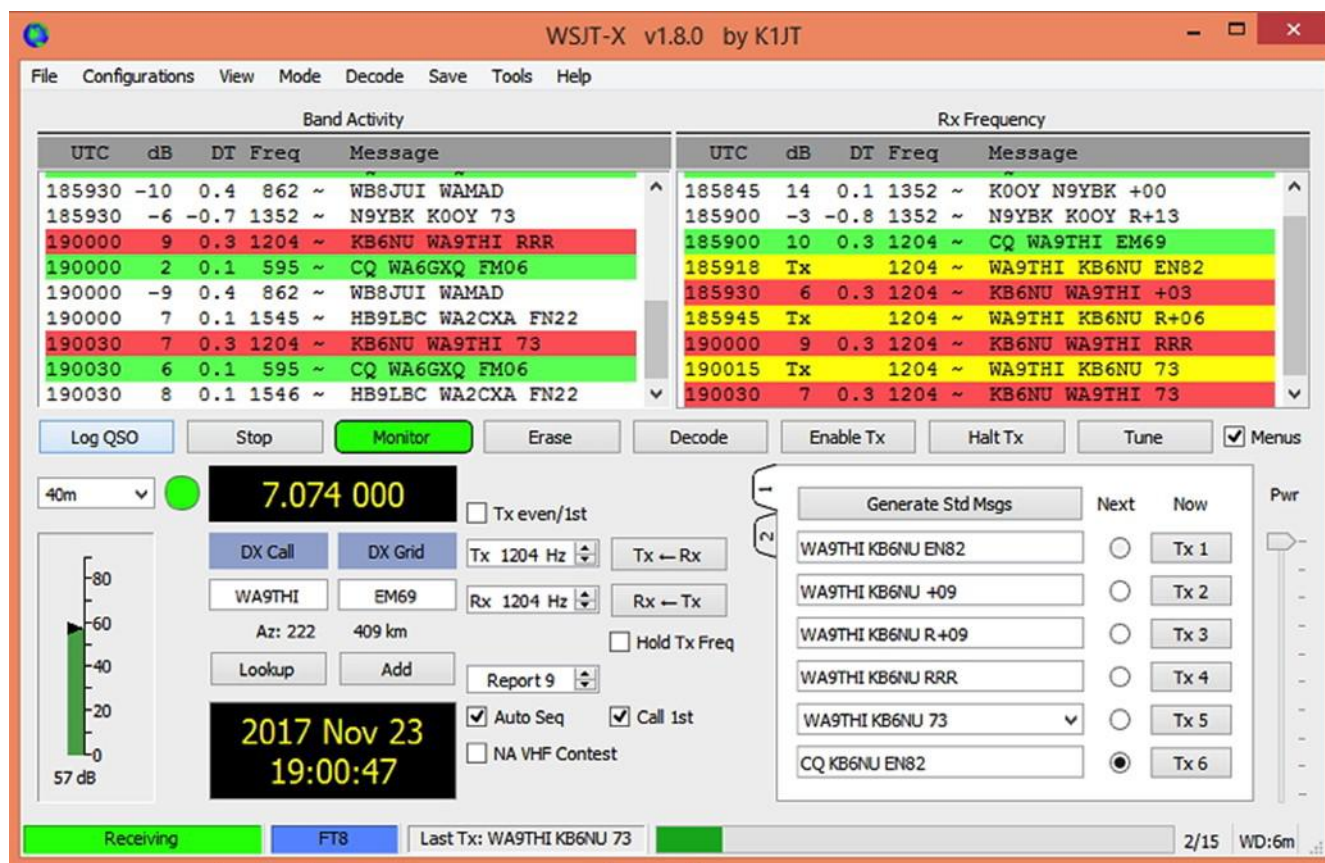
***A waterfall display generated by WSJT-X at 7:30 pm, 11/23/17.***

Over the past couple of days, I've made 32 QSOs, including a couple of DX contacts. It's been fun to try something new, but to be honest, I'm not really feeling the magic.

Part of it is that I don't feel like I'm really doing anything. I downloaded the software, plugged in my digital interface, fooled around with the settings a bit, and then, the computer started making contacts. I have to click a few on-screen controls to make contacts, but even that's a step that could be easily programmed in by the WSJT-X developers. (In fact, I wonder why they haven't done that already!)

Take a look at the screenshot on the next page to see how a typical contact happens. When a CQ appears in the “Band Activity” window, you double click on it. When you do this, the software begins listening for signals on that frequency. In this case, I double-clicked on the CQ by WA9THI. When I double-clicked on the CQ, the program began decoding signals on that frequency and display the transmissions in the “Rx Frequency” window.

Then, I clicked on “Enable TX” and the program began the contact sequence, sending “WA9THI KB6NU EN82.” EN82 is my grid designator. This is shown as the first yellow line in the Rx Frequency window. The transmissions that I sent are highlighted in yellow. The transmissions sent by WA9THI are highlighted in red.



**WSJT-X screenshot. The sequence of transmissions in the Rx Frequency window comprises a contact.**

The sequence of transmissions shown there comprise a complete contact, and that whole process takes less than two minutes. And, once WA9THI received my first transmission, the sequence is all automatic. You just sit there and watch the two computers talk to one another.

While I can certainly appreciate the thought and the work that went into the design of the protocol and programming to implement it, sitting and watching the computers talk to one another just doesn't excite me. On the other hand, if you're one of those guys who wants to make contacts, but doesn't really want to talk to anyone, than this is the mode for you!

### Here are a few more notes about FT-8 operation:

- Not surprisingly, synchronizing your computer with the other stations computer is very important. To do that, you need to get your computer to use the network time protocol (NTP). I failed to do this when I first installed WSJT-X, and while my waterfall was full of FT-8 signals, WSJT-X just wouldn't decode them.
- I got my PC laptop to talk ntp by installing Meinberg NTP software (<http://www.ntp.org/ntpfaq/NTP-s-def.htm>). Once I did that, WSJT-X magically started decoding transmissions.
- Most of the cool guys seem to be using Meinberg NTP, but there are other options. One of the guys in our club is using a program called Dimension 4, for example.



- Apparently, you don't have to limit your power output as you would with PSK-31. At first, I set my output power to 10 W. I had a bit of success at 10 W, but I expected more. When I asked on Twitter how much power other guys were using, most of them said that they were using more than that.
- For the last couple of sessions, I've been setting my output power to 25 W, and I've been having more success. I've now worked several Europeans on 30m.
- Even at 25 W, my signal reports are more often than not, not as good as the signal reports I'm handing out. I haven't figured this one out yet. This doesn't happen to me when I'm operating CW, so I don't think it's my antenna.
- When I'm operating, I write down the calls of stations I've contacted. The reason for this is that while WSJT-X does have a logging function, it doesn't have a log window, so unless you have a great memory, you could end up working guys two or three times a session. That's probably not a big deal since contacts are so quick, but I'd rather avoid doing that if I can.
- WSJT-X works "split." While most contacts take place on the same frequency, a station can call you anywhere in the passband of your receiver and WSJT-X will decode the signal and begin a contact. This threw me the first time or two that this happened, and I tried to change my transmit frequency to match the other station's. In doing so, I messed up the sequence. I now just let the contact proceed normally, and it works out great.
- When I work the other digital modes, I set my IC-746PRO to the USB-D mode. In this mode, the receive passband is narrower than for working phone. When operating FT-8, however, you don't want to limit that passband. Signals will appear across the entire 2.6 kHz of the USB signal, and if you narrow the passband, you won't be able to work those stations.
- WSJT-X checks the validity of call signs. This afternoon, there was a guy who had typed in his call as "WAMAD" and was calling CQ. WSJT-X wouldn't let me answer that CQ.
- Operating this mode opens up the possibility of working more stations whose callsigns spell words and adding those QSL cards to my collection. I have, for example, already worked K1GUY, N4HER, and N5SLY. I'm guessing that these guys don't operate CW.

All told, I've found this to be an interesting foray into a new digital mode. While I'm not feeling the magic that some others seem to be feeling when operating FT-8, it certainly will be a change of pace to operate this mode from time to time. Give it a shot and tell me what you think.

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**Dan, KB6NU, is the author of the "No Nonsense" amateur radio license study guides and blogs about amateur radio at KB6NU.Com. When he's not working FT-8, he teaches ham radio classes and operates CW on the HF bands. You can email him at [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com).**

## NEW PRODUCTS by Paul VE3PVB

### Transceivers - QRPver-1 v.3 HF Mono band mini QRP transceiver ( SSB / CW / JT65 / PSK / BPSK / FSQ )

• \$190.00



*New Ukranian QRP transceiver.*

Our new mini HF Mono Band QRP transceiver to any one amateur band from 1 to 30 MHz. ( SSB / CW / JT65 / PSK / BPSK / FSQ & Old Digi mode)

The transceiver is built on the scheme with a single superheterodyne frequency conversion and four Crystal quartz filter.

The device is controlled by a microcontroller. The frequency synthesizer used as a local oscillator on-chip SI5351

The transceiver is designed to operate in the lower (LSB) / upper (USB) sideband as a phone (ssb) and CW. It is possible to work in digital modes.

#### Brief specifications:

Power supply in the 10-14 (13.8 Nominal)

Current consumption in receive mode with an average volume of 100 mA

600-800 mA in transmission mode (mean 700)

Receiver sensitivity better than 0.4 Microvolts

Transmitter Output Power 3 W nominal. (Max 4 W)

Low-pass amplifier Output Power 0.7 W

Intermediate Frequency 6 MHz

Band crystal filter bandwidth 2.9 kHz at -6dB

Switchable LP filter (**400-2900** Hz) with a fairly steep slope.

Carrier suppression more than 50dB

Suppression of non-operating side, more than 45 dB

*The output power of the transceiver can vary from 1-10 Mhz 2,5 - 4 Watts, 14-30 Mhz 1,5 - 3 Watts, but not worse*

**Functional:**

LSB / USB

CW / SSB / DIGI

Two AGC mode (Fast / Low)

Signal strength indicator (S-Meter)

Vertical / semi-automatic keyer

Turn on / off key for CW transmission

Enable / disable the transmission of AF signal at the input. For digital modes (DIGI-VOX)

The offset frequency for CW

Self-control for CW

Lock encoder

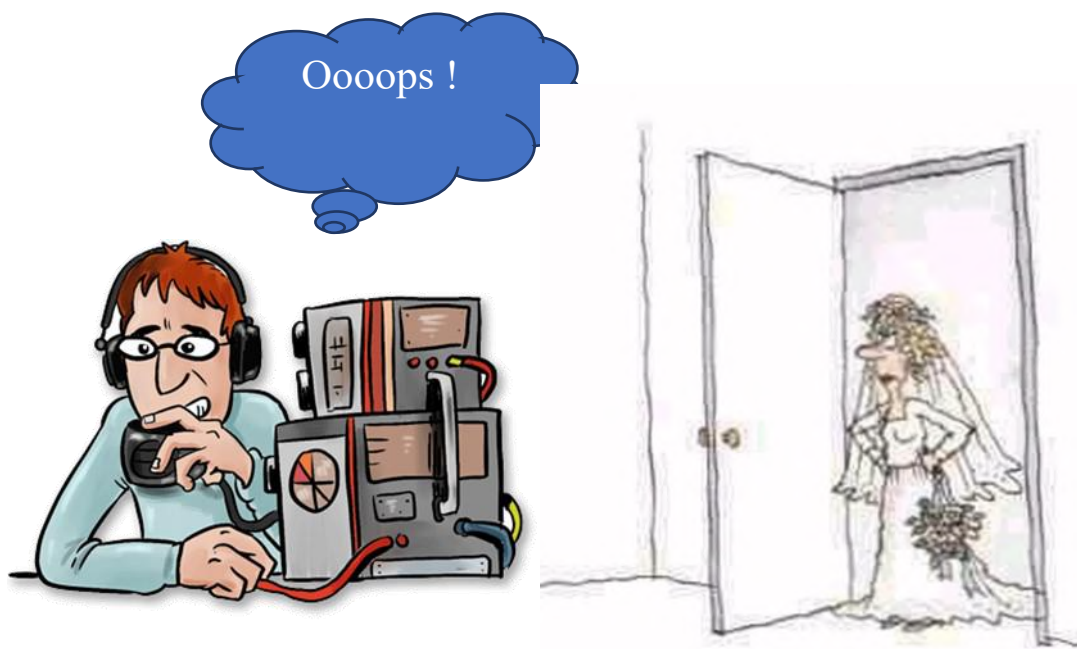
Indication of low voltage

**Additionally:**

- Volume control
- Encoder
- Built-in speaker

Includes power cord length of 60 cm. 1,3mm x 3,5mm DC Plug

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**CONTRIBUTIONS TO VE3ERC-CLUB NEWSLETTER**

**Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?**

**Perhaps you'd like to share a photo of your shack, a special project you are working on or a special interest!**

**SEND THEM TO:**

**Bob [bobve3ixx@gmail.com](mailto:bobve3ixx@gmail.com) (519-787-2279) or**

**To Joycee [va3wxu@gmail.com](mailto:va3wxu@gmail.com) (519-741-9032)**



## **WINTER FIELD DAY IS STARTING TO CATCH ON!**

### **2018 Winter Field Day (WFD) Rules**

**Purpose:** To foster Ham camaraderie, field operation, emergency operating preparedness, and just plain on the air, outdoor fun in the midst of winter for American, Canadian and DX Amateurs. Don't let those winter doldrums keep you locked up in the house... get out and play some radio!!

**When:** Winter Field Day runs for 24 hours during the last full weekend in January each year from 1900 UTC (2pm EST) Saturday to 1900 UTC (2pm EST) Sunday. For 2018, the dates are January 27th and 28th. Station set-up may commence no earlier than 1900 UTC (2pm EST) on Friday, January 26th. Station setup may consume no more than 12 hours total. How & when you schedule/spend those 12 hours is up to you.

**Bands:** All Amateur bands, HF, VHF, & UHF except 12, 17, 30 and 60 meters.

**Modes:** Any mode... CW, SSB, AM, FM, DStar, C4FM, DMR, Packet, PSK, SSTV, RTTY, Olivia, Satellite, etc...

**Suggested Frequencies:** (to make it easier for entrants to find each other)

HF CW – 1810-1820, 3.530-3.550, 7.030-7.050, 14.035-14.055, 21.030-21.050, 28.030-28.040

HF SSB – lowest 30 kHz of the US General Class Phone bands (160m- 15m), 28.400-28.425MHz (10m) 6m/VHF/UHF – adjacent to, but not on, nationally recognized simplex calling channels.

**Entry categories:** (..if operating as a group under one call, **all** stations in your entry must fit the category you choose. Also see further clarification in "definitions" below)

**Indoor:** Operation from inside a **remote**, **insulated**, heated (or cooled, depending on your local weather), and weather-protected structure where an Amateur station is normally not available. (Park buildings/cabins, community center, EOC, senior center, club shack, etc).

**Outdoor:** Operation from a location partly or fully exposed to the elements and at least 30 feet away from your normal station location and not using any part of a previously erected antenna system or ham station. A campground, park pavilion, canopy, picnic table, tent, pop-up camper, or a backyard shed/tent/deck, etc may be used. Operation from a non-insulated car/truck/van/boat (mobile or not) is considered "outdoor".

**Home:** Operation from inside a home or inside another structure attached to a home that could or would be the usual location of an Amateur station (garage, sunroom, etc), generally using a previously erected antenna system. A "Home" entrant may still be eligible to claim the "alternate power" bonus if not using commercial power. Use of any pre-existing (on site) or permanently installed antenna system or station components renders your station a "Home" station.

**Entry Class:** your entry "**class**" is a number designated by the number of stations in your entry that are capable of simultaneous transmission. (Explained further in summary below)

**Exchange:** Your WFD exchange will be a combination of your "class" and "category" and your ARRL section as described below, using an appropriate letter designator or phonetics (examples: 1I, 2H, 5I, 6O, 3H, 9I, etc) In short: Call sign, Class + Category, ARRL Section.

**Example:** K4YM this is KB8X, we are Two Hotel, Ohio ..or in CW: K4YM de KB8X TU 2H OH...

KB8X this is K4YM, thank you, we are Twelve India, West Central Florida ..or in CW: KB8X TU 12I WCF

FOR MORE INFORMATION GO TO: [\*\*https://www.winterfieldday.com/rules\*\*](https://www.winterfieldday.com/rules)