President's Ramblings

Happy New Year and best of the season and upcoming year to all !

Well, to mix it up a little, we tried a couple of new things for meetings last year, both of which I was a little concerned of the success with the ideas but both turned out to be great successes. I'm talking about the prior on-line auction of the donated Morse key and the member station tours by photos during the December meeting. The thing is, the ideas worked great but 5 minutes into the December meeting my computer froze. I made a quick call to Norm who carried the can for me while I rebooted my laptop. Turns out I left the computer unattended for a period of time prior to the meeting and during my absence, Microsoft performed an update I had been putting off for some time and that came back to bite me! I was back in about 5 minutes but thank you Norm for carrying on for me while I waited for the reboot to complete.

The idea of asking for photos of personal stations for broadcast during the meeting is something I thought some would be concerned about sharing over the internet but it turned out we had quite a number of photos to share individual station setups with the club. My worries of the success of the idea were all for nothing after all. We had an attendance of 59 on board and almost all stayed on to the end of the meeting while enjoying hearing about how others have set up their station.

There was another side benefit I never saw coming. After the meeting, I received a couple of emails from new hams commenting on how useful it was to see how a station from the simple to the full fledged operating position were actually set up! I think we'll have to do this again sometime in the future and at that time maybe concentrate on "portable stations". Food for thought.

Now on to another topic. Many hams have been confronted with the term "appliance operators". That is to say we are operating commercially built rigs and equipment, and the art of home brew is dead. Well, that is far from the truth. Remember Ron, VE3LBG's presentation on his home brew station at the January 2020 meeting we had at the Science and Tech Museum (remember those days!). Over the past few years, I have been promoting relatively easy, club subsidized projects that many in the club have taken advantage of and are home brewing maybe without even knowing it! Now, with the introduction of the popular Icom 7300, it turns *(Continued on page 4)*

Calendar

Notice of Meeting

Wednesday Jan 20th 2021
via **Zoom**

Check-in Time 6:45 to 7:15 P.M.

Members and invited guests will be sent an invitation email several days before meeting date with login and password. Guest please contact Norm at: VE3LC@rac.ca for invitation.

Agenda:

- Call to Order at 7:15 by Barry VE3NA;
- Greetings to Guests and New Members;
- Acceptance of December meeting minutes;
- Chairperson Reports;
- Feature presentation by Chris Rochefort, VE2MW on amateur **satellite communications**;
- Other business;
- Meeting adjourned; and
- Continued Rag Chew for those interested.

OVMRC Executive and Officers 2020-2021

President:
Barry Allison,VE3NA
ve3na@rac.ca

Vice-President:
Norm Rashleigh, VE3LC
ve3lc@rac.ca

Treasurer & Membership Records:
Nicole Boivin, VE3GIQ
nlboivin@sympatico.ca

Corporate Secretary:
Ron Smith, VE3LBU
rjs3.smith@gmail.com

The above four positions are "Directors" and officers in charge of running the Corporate affairs of the Ottawa Valley Mobile Radio Club Inc.

Standing Committees

Club Projects & Bulk Orders:
Barry Alison, VE3NA
ve3na@rac.ca

**Radio Course &
Accredited Examiner:**
Norm Rashleigh, VE3LC
ve3lc@rac.ca

Meeting Reception:
John McGowan, VA3JYK
john.mcgowan1314@gmail.com

Nets & Radio Operations:
Hugo Kneve, VE3KTN
ve3ktn@rac.ca
Nicole Boivin, VE3GIQ
nlboivin@sympatico.ca

Rambler Newsletter Production:
Norm Rashleigh, VE3LC
ve3lc@rac.ca
Robert Cherry, VA3AOD
cw527@ncf.ca
Bill Hall, VA3WMH
bmhall@rogers.com

Club Web Site & Social Media:
Darin Cowan, VE3OIJ
ve3oij@amsat.org

VE3TWO Repeater Keeper:
Norm Rashleigh, VE3LC
ve3lc@rac.ca

Special Events:
Roger Egan, VA3EGY
va3egy@gmail.com
John McGowan, VA3JYK
john.mcgowan1314@gmail.com

OVMRC Groups.io

Ongoing discussion Group at: https://ovmrc.groups.io/g/main/topics; if you are not a member please subscribe. All radio amateurs are welcome.

Ottawa Valley Mobile Radio Club, Incorporated
PO Box 41145
Ottawa, ON K1G 5K9

www.ovmrc.on.ca

OVMRC Life Members

Ernie Jury, VE3EJJ

Maurice-André Vigneault, VE3VIG

Ralph Cameron, VE3BBM

Doug Carswell, VE3ATY

Doreen Morgan, VE3CGO

OVMRC Repeater

VE3TWO

147.300 Mhz (+) 100 Hz tone
FM & Yaesu System Fusion Digital Operation

OVMRC Call Signs
VE3JW
VE3RAM

The Rambler is the official newsletter of the Ottawa Valley Mobile Radio Club Incorporated and is published 10 times a year (monthly, except for July and August). Opinions expressed in the Rambler are those of the authors and not necessarily those of the OVMRC, its officers or its members. Permission is granted to republish the contents in whole or in part, providing the source is acknowledged. Commercial use of the contents is expressly prohibited.

Submit articles and notices to:

Norm at ve3lc@rac.ca

OVMRC Affiliations

The Wednesday evening Cross Canada Weekly C4FM is again hosted on VE3TWO

OVMRC members can again check into the Wednesday evening Cross Canada C4FM net on Club repeater VE3TWO 147.300 (+ offset) thanks to a remote Wires X connection provided by Steve VA3MPS. Steve will be engaging his node station onto the repeater Wednesday Evenings at 9:00 PM. All check-ins are welcome using the Yaesu C4FM digital voice mode.

Emergency Measures Radio Group: (EMRG)

Monthly Repeater Tests are conducted by Dave VE3KMV on the first Wednesday of each month at 8 PM on VE3OCE 146.880 MHz – (136.5 Hz tone). From initial contact on VE3OCE, you'll be asked to test VE3EMV/East 146.985 MHz – (100 Hz@ tone), VE3EMV/West 145.210 MHz – (123.0 Hz tone), VE3OFS 146.670 MHz – (136.5 Hz tone), VE3OCE 443.8000 MHz + 5 (136.5 Hz tone) and VE3EMU 444.9500 + 5 (136.5 Hz tone).
It is advisable that all the EMRG frequencies be programmed into your radio. All check ins are welcome.
See: http://www.emrg.ca/repeaters.htm

Informal Amateur Radio Restaurant Gatherings
(All Cancelled until Further Notice)

• **QCWA Chapter 70** breakfast gathering every **Tuesday** morning at 7:30 to 10:00 AM, Summerhays Grill, 1972 Baseline Rd., Nepean

• **Orleans Coffee gathering** every **Friday** morning at 9:00 AM, McDonalds, 2643 St. Joseph Blvd, Orleans

• QRP **Group Dinner** meeting, **2nd Wednesday** every month, 5 PM, Newport Restaurant, 322 Churchill Ave N., Ottawa

• **Phoenix Net monthly Breakfast** gathering, usually the **second Saturday** every month at 9 AM, T-Basil Restaurant, 2440 St Joseph Blvd, Orleans. (get on Pete VE3XEM's mailing list for monthly reminder VE3XEM@RAC.CA)

OVMRC Repeater VE3TWO :

147.300 MHz +600 kHz, 100 Hz Tone and Yaesu C4FM Digital Voice

OVMRC VE3TWO Weekly Net:

• **Thursday Evenings, 8 PM**, Club Net on FM conducted by Hugo, VE3KTN.

Other Local 2 Metre Repeater & Simplex Nets: *(all check-ins welcome)*

• **Rubber Boot Net**, VE3MPC 147.150 ++, (100 Hz tone) mornings at 7:30 AM conducted by Roger, VE3NPO

• **Phoenix Net**, VE3MPC 147.150 Mhz +, (100 Hz tone), Tuesday evenings at 8:00 PM conducted by Pete, VE3XEM

• **QCWA Chapter 70 Net**, VE3MPC 147.150 MHz +(100 Hz tone), Monday evenings at 7:30 PM conducted by John, VE3ZOV

• **Capital City FM Net**,VE2CRA 146.940 MHz -, (100 Hz tone), Monday evenings at 8:00 PM.

• **Champlain Mini Net**, VE3STP 147.060 MHz -, (114.8 Hz tone), every evening at 6:45 PM.

• **Upper Frequency Net**, Simplex 144.250 MHz using USB, Tuesday evenings at 9:00 PM conducted by Glenn, VE3XRA. Following check in on 2 m you can check your radios on 6 m at 50.150 MHz and 70 cm on 432.150 MHz as well using USB. All check ins are welcome.

• **DEXNET (Digital Experimental Net)**, Simplex 144.210 MHz, USB, vertical polarization. Check the schedule on groups.io for digital mode used each week.

OVMRC HF Nets

• **Pot Hole SSB Net,** 3760 kHz, every Sunday morning at 10:00 AM conducted by Ernie, VE3EJJ, or Glenn, VE3XRA..

• **Pot Lid Slow Speed CW Net**, 3620 kHz, every Sunday morning at 11 AM conducted by Roger, VE3XRR.

out there is one slightly annoying issue encountered during tune up. Right away, SOTABeams (www.sotabeams.co.uk) came up with a product to resolve the issue, but why stop there? I refer you to Norm's article on page 9 where he came up with his own idea to solve the issue and found others have done the same. Well done Norm! I assure you home brew over a broad range of complexity is far from dead!

The December meeting draw prize winners are listed in the December meeting minutes so I won't repeat them here but suffice it to say 6 lucky winners walked away with worthwhile additions to their station complement of gear. Also don't forget each meeting you attend buys you another free ticket entry to the yearend door prize draw.

Stay tuned for the January presentation speaker Chris, VE2MW. Chris will be talking about satellite communications over FM and linear satellites. We haven't decided yet but the presentation is quite detailed and if we think it will run long, rather than cut it short, maybe we could invite Chris back for part two as there seems to be an appropriate place to divide it up. We'll have to see how it goes.

I could ramble on but instead, I invite all to join in on the club January Zoom meeting Wednesday January 20. Check in will start at ~ 6:45 PM with a planned start time as close to 7:15 PM as practical. Anyone not receiving the check in credentials can do so by sending an email to Norm (Zoom custodian) VE3LC@rac.ca.

Stay safe!

73
Barry, VE3NA

Droid-Star

One way on getting in on the DMR action (and other Digital voice modes as well) is to download and use Droid-Star. Droid-Star is an application available via the Google "Play Store" for Android phones and tablets. It is a freeware development by Doug McLain AD8DP that provides the basic Push to Talk and listen functionality similar to Echo-Link used to link FM repeaters and users but does it for various digital voice formats used in amateur radio today. Droid-Star does this by connecting to one of more than a 1000 selectable network reflectors and servers that support connectivity to DMR, Yaesu System Fusion (YSF), P25, NXDN, AllStar, and D-Star repeaters, nodes and individual hot-spots world-wide. At the present time in the development,

this app is a beta work in progress and one of the present limitations is that it can only receive D-Star from D-Star reflectors and therefore the D-Star transmit functionality has been disabled because, at the current state of development, the simulated AMBE vocoder for D-Star doesn't work well. However, all other modes seem to have good talk and listen quality. Droid-Star, according to the developer, uses an open-source vocoder software for all digital modes; this is obviously compatible to a high degree with the DVSI proprietary AMBE + 2 vocoder technology used in DMR,

Fusion and most other digital voice radios.

I installed the Droid-Star app (beta version release Dec 29, 2020) on my Asus smart phone and successfully connected to the DMR "Brandmeister Canada" master server. By selecting the "Host" server as "BM_Canada_3021" and specifying a Talk Group ID (for example "91" is the common World-Wide channel for short international QSOs) and then doing the "Connect" function, the app should display its connection status to the server by showing host IP address. After connection to the host server, a brief TX on the PTT touch-screen button is required to open up the channel for listening and transmitting. I have selected several different DMR Brandmeister Talks Group IDs and had several QSO's with different hams world-wide this way using this app. The entire list of Brandmeister TGs can be seen at: Canada - BrandMeister

I have also tried Droid Star on Yaesu System Fusion by selecting the "YSF" mode and, for example, reflector "FCS00319 – CQ Canada – Wednesday" as "Host" server from the app's large scrolling list of Fusion reflectors available. Connection to the FCS00319 reflector (provided and managed by Don VE3IGN) allows you to listen and check into the Cross-Canadian C4FM net that is active on Wednesday evenings starting at 9 pm; this Yaesu C4FM net is also active on VE3TWO linked on the Yaesu Wires-X network (Room 40678) by Steve VA3MPS. Using Droid-Star, I checked into the net and was given a good quality audio report by net control operator Bert, VE9PIN in Edmundston, NB.

Following are some screen shots of the Droid-Star App on my smart phone:

Give Droid-Star a try and join the world of DMR and Fusion Digital Networked Radio.

Feed back and questions appreciated:

73 Norm VE3LC@rac.ca
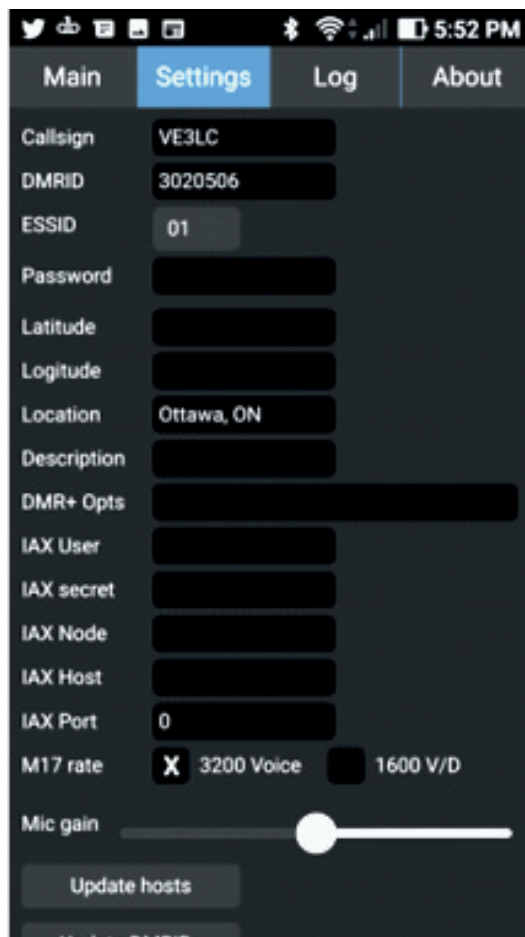
This is the Setup Tab of Droid Star. These are the only elements of information I entered. It includes my call sign, my DMR registration number and an ESSID of 01. I'm not sure the latter is required. I also entered my location as Ottawa. I tried to enter my Lat. & Long.; however, my phone entry pad for these fields was only for numeric entry and did not provide for dots or minus signs. Other Android devices may differ.

For those wanting to do DMR, an amateur radio DMR ID is required and obtained from "radioid.net"

Notice the Mic gain slider at the bottom of the screen. I left it were it was by default. It obviously adjusts microphone sensitivity.
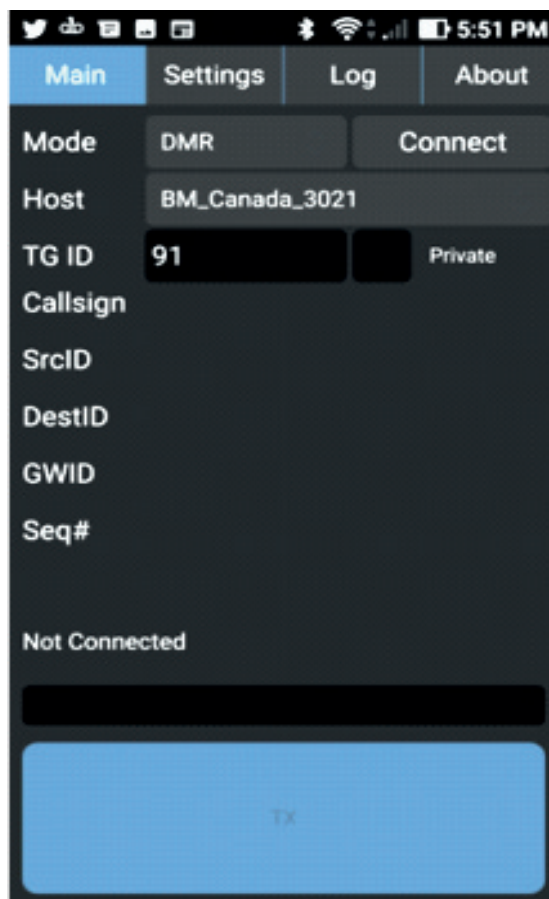
This "main" page is for selecting the mode (from a drop-down list) that includes DMR, YSF, P25, & NXDN. The "Host" is selected from a massive scrolling list with hundreds and hundreds of entries for servers and reflectors world-wide. Shown selected is the DMR Brandmeister Canada Master Server. The 91 shown for TG ID is the DMR Talk Group for World Wide calls and short QSOs.
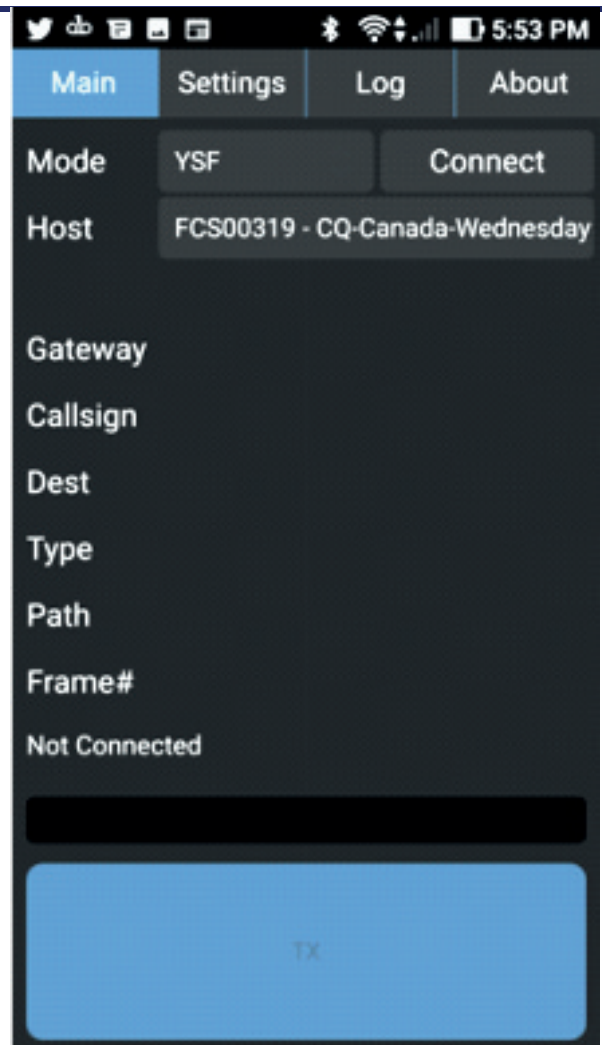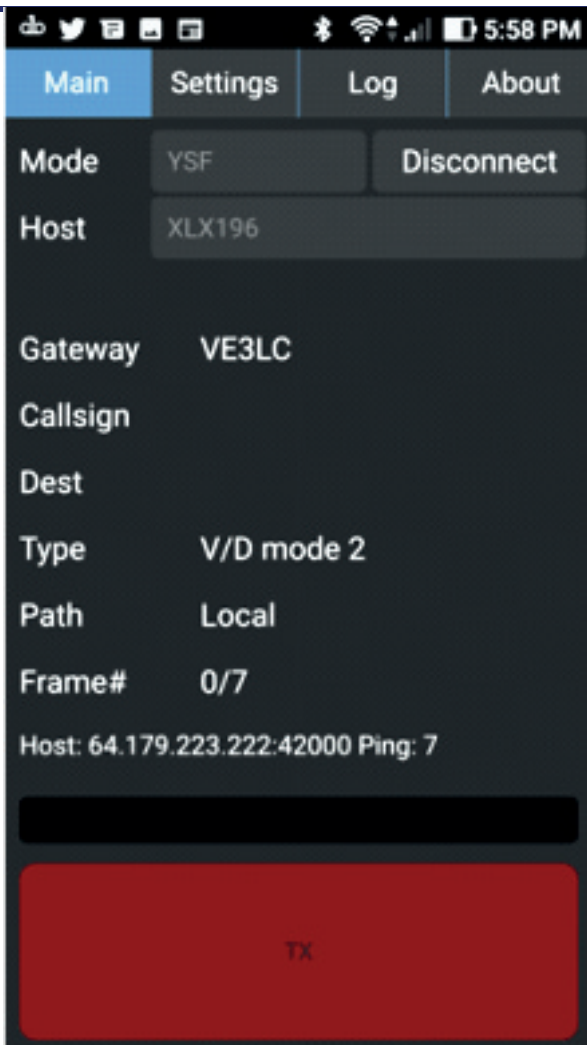
Here on this screen of the Main Page, I have selected "YSF" (Yaesu System Fusion). I have also selected as a Host "XLX196"; this is a multi-mode XLX (transcoding) Reflector on a Linux computer managed by Jeff VE3EFF in Arnprior. XLX196 conferences several repeaters in the area on DMR, YSF and D-Star as well as individual ham –radio hotspots. The OVMRC DMR Repeater (VE3RAM) has a static connection to this reflector using TG 6. I show on this screen shot of Droid-Star, the app is actively connected and transmitting into the reflector. By transmitting into XLX196 and emulating YSF, it causes g VE3RAM to transmit out on DMR on TG6 on Time Slot 2. Transcoding is taking place in the XLX196 reflector. The Red TX button shows an active Transmit function.

This screen shot shows the selection of the YSF mode and Host selection and connection to the FCS00319 reflector managed by Don VE3IGN for access to the Wednesday evening (9 pm) Cross-Canada C4FM net. This net can also be accessed in digital Fusion mode on OVMRC repeater VE3TWO with linkage provided by Steve VA3MPS in Orleans.

Product Review - Atolla 7-Port USB 3.0 Expander

by Hugo Kneve, VE3KTN

If you're like me when it comes to USB devices in the ham shack, there comes a time when you run out of USB ports and need to add some kind of outboard expansion. In my case, the 6 external USB hard drives, SDR digitiser, FT991A, printer, external DVD R/W drive, nanoVNA, USB keyboard/mouse and USB headset pretty much had the ol' laptop tapped out and I got into a situation where I was removing and reconnecting devices more often than I'd like, not to mention having a tangle of USB cables everywhere. So, the search went out for a USB expander and I landed on the Atolla USB 3.0 Hub.
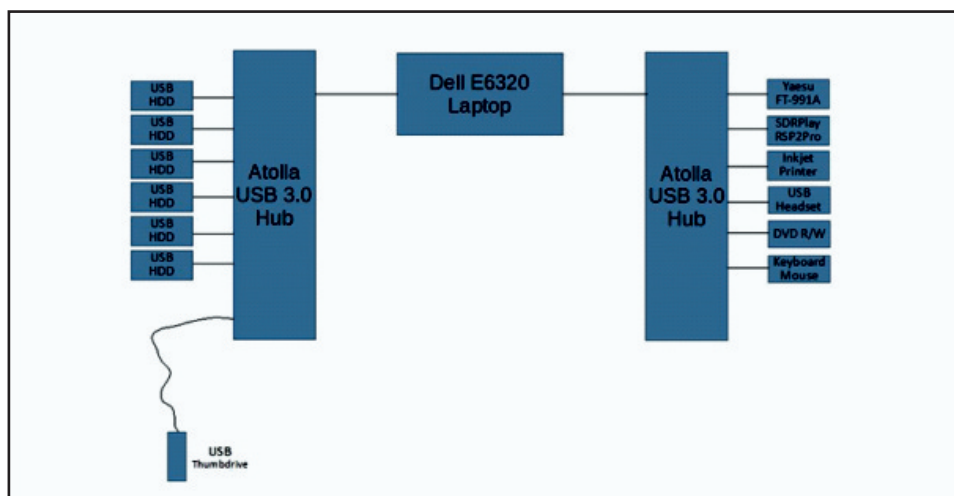
Why this hub, you may ask? There are lots of hubs out there at various prices that can do the job, so what makes this one so special? Well, it's true that most other hubs offer 7 powered ports but when I saw the Atolla product having individual switches allowing each USB port to be enabled or not, that sold me. I have some devices and software that sometimes conflict if the wrong thing is connected; for example one of my audio editing suites throws a warning that a new audio device is added every time I plug in the inkjet printer. Go figure why a printer should be considered an audio device. The switched hub now facilitates permanently connecting these conflicting devices to the computer and switching them in or out as needed without having to fiddle with cables and risk breaking a USB connection or burning a port from static discharge. In fact, when I was adding up all the devices needing attention the best thing was to have two hubs rather than one.

I've been running these hubs for several weeks and they work great. The USB 3.0 interface runs at a speed good enough to handle the attached devices. I was especially concerned about how well the RSP2 SDR would work while other things were running and have had no problems running it with the complementary SDRUno software while simultaneously controlling the FT991A from FLDigi/FLRig and dumping a real time SDR I-Q data recording to an attached USB hard drive. Rather impressive in my view considering that the core computer is an 8 year old Dell E6320 Win7 laptop.

The Atolla hub is available from Amazon for C$44.00 and free shipping. Perhaps a bit pricey but I think it's a good value considering the ability to control each USB port independently. The only thing that could have been done better would be a smaller form factor wall-wart power supply. Like most wall-warts, this one covers adjacent plug points on a power bar thus taking up maybe three spaces instead of the single one that's needed. I've had other power modules that are much smaller but don't handle the 4 amperes of current needed by the Atolla hub and that may be a reason for the larger module. I haven't checked as of this writing, but it may be that the 4A rating comes from the hub providing a separate charge-only USB port rated at 2.4 A, so I wonder if leaving the charge port unused that a 1.5 or 2.0 A module might be enough for the USB data ports.

73,
Hugo, VE3KTN.

Minutes of December Meeting

Date / Time: Wednesday, December 16, 2020 at 19:15

Location: Via ZOOM on line meeting

1. Call to order:

President Barry Allison, VE3NA called the annual Christmas meeting to order at 19:21. There were 59 check-ins including new ham Shou Han, VA3HSH and a visitor, Andrew Lavigne who is considering becoming a ham.

2. Approval of minutes from November 18, 2020.

MOTION: Moved by Peter Carss, VE3XEM and seconded by Douglas King, VE3YDK that the minutes of the meeting held Wednesday, November 18, 2020 be approved.

VOTE: All in favour.

CARRIED.

3. Greetings:

Barry Allison, VE3NA extended greetings to all attending and explained how the 6 door prize draws would work this evening.

4. Presentations:

Barry Allison, VE3NA introduced Vice President, Norm Rashleigh, VE3LC who had prepared a photo collage of some members' shacks and operating positions. Members were able to ask questions about the equipment and antennas and share their comments.

Door Prize draws were held after every two or three slides using Nicole Boivin,VE3GIQ's one-armed bandit. The winners are listed here:

Prize #1 – Butane Torch was won by Richard Haberl, VA3HBL who returned the prize into a secondary draw won by Ralph Cameron, VE3BBM who also passed it along. The torch was finally won by David Niemi, VA3NIE.

Prize #2 – 300-Watt Inverter – won by Harrie Jones, VE3HYS.

Prize #3 – 19 Adapters in a carrying pouch – won by Bryan Rawlings, VE3QN.

Prize #4 – 8 cable adapter set for the Nano VNA – won by Colin Guillas, VA3CSG.

Prize #5 – Multimeter – won by Sandy Haggart, VE3HAZ.

Prize #6 – Soldering Kit – won by Roger Egan, VA3EGY.

Additional photo presentations were made by Peter Carss, VE3XEM of his home shack and metal shop. Thanks Pete!

Nicole Boivin, VE3GIQ shared her newly designed QSL card…very nice, Nicole.

David Scobie, VE3BOW presented slides of his HF/VHF Mobile set up. Very impressive.

5. Announcements:

1) Jeffrey Arcand, VA3PEW is running for the volunteer position of national IEEE President (Institute of Electrical and Electronic Engineers) would appreciate member support by signing the on-line support petition at Volunteering | IEEE Canada

6. Agenda, Meeting Content and Directors' Reports:

Barry Allison, VE3NA outlined the agenda for the meeting which included:

• **DMR Repeater Update**: Norm Rashleigh, VE3LC updated members on the status of the VE3RAM, the DMR repeater at his home QTH. Norm hopes to upgrade the repeater antenna and move it up higher on the tower to improve performance.

• **Finance and Membership Report**

Nicole Boivin, VE3GIQ noted there are 101 paid members as of the meeting date including 5 life and 1 honorary member. Under the Financial Report, the Club has $10,406.28 in the bank account, $47.00 in cash and $17,500 in GIC's maturing in February, 2021 for a total of $27,953.28.

• **Fox Hunting Update**:

Roger Egan, VA3EGY reminded members that an event is being planned for a Saturday in February, 2021 between 10 am and 4 pm. There will be advance notice and details will be available on groups.io. This event will have a foot and vehicle option and a competitive foot and vehicle option. There are two Scout presentations planned. More on that in the New Year.

7. Upcoming contests:

For more detailed information on upcoming contests, see the WA7BNM contest calendar:

https://www.contestcalendar.com/

RAC Members can login and go here:

https://wp.rac.ca/amateur-radio-contest-calendars/

ARRL Members can log in and go here:

http://contests.arrl.org/

8. Next meeting:

The special Christmas meeting concluded at 22:04. The next virtual monthly meeting of the OVMRC will be held Wednesday, January 20, 2021 at 7:15 pm via ZOOM. Please watch for your email meeting invitation and link to Zoom.

Minutes recorded and prepared by Secretary Ron Smith, VE3LBU.

Add-On Push-Button Tune Gadget Accessory for the IC-7300 to Generate 10 Watts RF for Tuning a Generic External Antenna Tuner

The Problem:

The ICOM IC-7300 has become a very popular HF transceiver since its introduction a few years ago. Besides a very nice spectrum display scope, this direct sampling SDR radio includes an automatic antenna tuner that works very well correcting for impedance mismatches up to about 3:1 SWR. Antenna tuning using the 7300 internal tuner is quick and comes into play by simply pushing the transceiver's "Tuner" button and holding it for a second or more until tuning match is accomplished if indeed it can be accomplished within the impedance mismatch tuning range of the tuner. However, if the antenna system has an SWR greater than 3:1, an external tuner, either manual or automatic, will be required. ICOM offers a remote automatic antenna tuner, model AH-4, designed to interface with the IC-7300 transceiver and other ICOM radios using the 4-pin Molex connector on the rear of the radio. LDG and MFJ also offer ICOM compatible tuners in some of their models that interface the same way. Connection of compatible tuners to Molex connector on the transceiver's back panel by-passes the internal tuner of the 7300 and the radio's "Tuner" button now commands the transceiver to transmit a steady 10 watt RF carrier for the external tuner to operate and "tune" for a match. Without simulating the connection between an ICOM AH-4 or a compatible tuner, the only way of using a generic external antenna tuner (manual or automatic) and produce RF for adjusting the tuner is to put the

radio into a constant carrier mode of transmission such as AM, CW or FM, set the power output to 10 watts, and follow the external tuner tuning procedure for the best match. This then must be followed by reverting back again to the desired mode and power settings of operation. All in all, a long and awkward procedure that may have to be repeated frequently from band to band and even frequency to frequency in the same band while operating all over the place in a busy contest.

The Solution discussed:

The ideal solution is to buy and use an external antenna tuner that is designed to work with the IC-7300 by attachment to the rig's Molex connector. However, a lot of folks want to use other automatic or even manual tuners they already have for use with any transceiver, ICOM or not. For this, the solution is construction and connection of a Push-Button gadget to plug into the 4-pin Molex connector on the back-side of the IC-7300. Pushing the Button on the gadget causes the radio to output 10 watts of RF carrier power, releasing the Button restores the 7300 to its normal pre-set operation including the radio's internal tuner.

Let's first examine the IC-7300 Molex connector pins, their designation and function that we will be connecting to:

```
 /\
/O\  Pin 1: Key, normally high, this is an active low signal
|O|  Pin 2: Start signal
|O|  Pin 3: 13.6 VDC switched power
|O|  Pin 4: Ground (chassis) of the 7300
```

With nothing connected to the Molex connector, the 7300's internal tuner will operate actuated

by the "Tuner" button on the radio; however:

• if Pin 2 is pulled high to more than a couple volts by a suitable current limiting resister, the 7300 internal tuner is disabled and the radio's "Tuner" button doesn't work, but;

• if then Pin 1 is pulled low, this will cause the transceiver to transmit out a steady 10 watt RF carrier (independent of the mode selection). Just what is needed to tune up an external tuner.

From this we could build and use a simple accessory with two switches, one as a "Tune" push button and the other to switch selecting between using the 7300's internal or an external generic tuner.
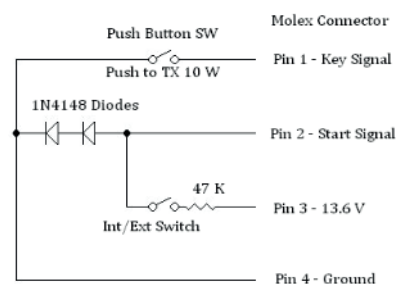
Another circuit I found on the internet that I built and tried on my IC-7300 uses a 100 K ohm resister (a ¼ watt will do) and a 1000 µfd electrolytic capacitor; I used one with a 25 volt rating. This circuit can simply reside on the Molex connector. While plugged into the 7300, it disables the radio's internal tuner. Pushing the radio's "Tuner" button momentarily produces a timed transmission of a 10 watt carrier from the 7300 for about 10 seconds for adjusting the

external tuner. If that is not long enough, push the button again (and again) if necessary. The disadvantage of this circuit is that it must be disconnected to restore operation of the radio's internal tuner.
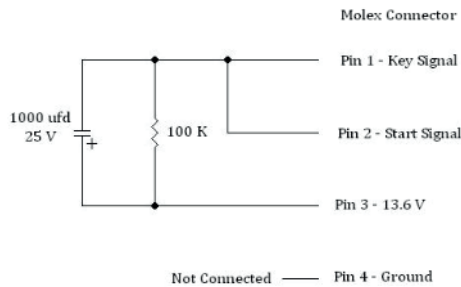
The Best Single Button External Tuner Solution that preserves the Operation of the Internal Tuner

What follows is a more elegant circuit I saw designed and posted by Mike WA7ARK. This circuit operates with just a single push button switch to transmit 10 Watts of RF carrier from the 7300 to tune an external tuner. The circuit provides a timed window of about 70 ms from actuating its "Push2Tune" Button by asserting an active high signal on the "Start" followed a delayed active low on the "Key" signal on the radio's Molex connector. The beauty of this circuit is it returns the IC-7300's internal tuner automatically to normal operation after use. It is then possible to use the radio's internal tuner to tune any residual mismatch out of the coaxial cable connection between the radio and the external tuner after the external tuner has been tuned.
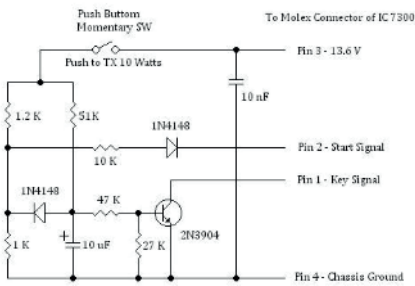
Design of this circuit is courtesy of WA7ARK

I built up this circuit shown above; it works like a charm with my 7300. The most difficult part to source in the above circuit may be the 4-pin Molex connector; it can be sourced from Digi-Key, part number WM1326-ND for the shell and for the pins, Digi-Key part number WM1100-ND, four are required. However, even though the purchase of these parts in themselves is very inexpensive, it would be a good idea to purchase several complete connectors and combine the order with other parts you may need from Digi-Key or you will likely be paying more for the shipping and handling than the parts.

The following pictures show my Push-To-Tune accessory box inside and out.
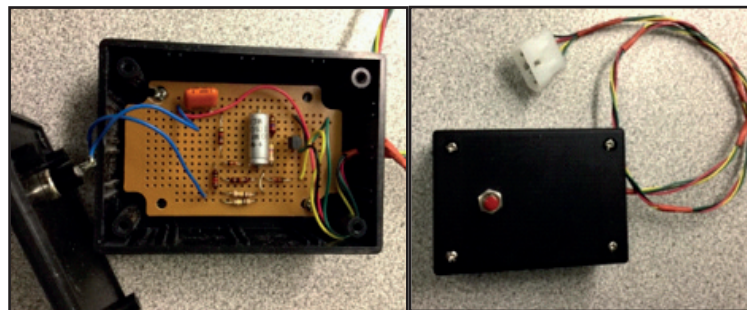
For those that want a finished product to buy, the SOTABeams

folks appear to have anticipated the need for IC-7300 owners.

See: Buy Click2Tune for ICOM | Ham Radio Accessories Online | Amateur Radio Equipment (sotabeams.co.uk). Also, DXEngineering carries the same product.

Schematic Diagrams drawn using Klunky Schematic Drawing (qsl.net)

Norm   ve3lc@rac.ca

OVMRC Digital Experimental Net: 144.210 MHz USB, V-pol Sundays 8 p.m. local.

Net meets on PSK31 before proceeding to the mode-of-the-day.

Date	Mode	Config
2021-01-03	IFKP	1.0X
2021-01-10	DominoEX	DominoEX5
2021-01-17	Thor	THOR11
2021-01-24	Throb	THROB4
2021-01-31	Hellschreiber	FELD HELL
2021-02-07	RTTY	45.45B/170Hz shift
2021-02-14	BPSK-63	
2021-02-21	QPSK-63	
2021-02-28	MFSK31	
2021-03-07	FSQ	FSQ4.5
2021-03-14	Olivia	16-1000
2021-03-21	Contestia	16-1000
2021-03-28	MT63	MT63-1000
2021-04-04	IFKP	1.0X
2021-04-11	DominoEX	DominoEX8
2021-04-18	Thor	THOR16
2021-04-25	Throb	THROBX4
2021-05-02	Hellschreiber	FELD HELL
2021-05-09	RTTY	45.45B/170Hz shift
2021-05-16	BPSK-31	
2021-05-23	QPSK-31	
2021-05-30	MFSK16	
2021-06-06	FSQ	FSQ4.5
2021-06-13	Olivia	8-1000
2021-06-20	Contestia	8-1000
2021-06-27	MT63	MT63-500

(Editor's note, the frequency of 144.210 MHz is the centre of the emission bandwidth when using FLDigi, the dialed frequency of the radio is usually set to 144.2085 MHz using the Upper Sideband data mode for listening and participation on the net.)

OVMRC Net Activity, Check-ins for November, 2020.

Prepared by: Hugo Kneve VE3KTN

OVMRC 2 Metre Net: VE3TWO 147.300+ 100 Hz. tone, Thursdays 8 p.m. local.

December 3	December 10	December 17	December 24	December 31
VE3KTN - NCS	VE3KTN - NCS	VE3KTN - NCS	VE3KTN - NCS	VE3KTN - NCS
New & Visitors	New & Visitors	New & Visitors	New & Visitors	New & Visitors
Karl - VE3KLK	George - VE3ENU			
General Check-ins	**General Check-ins**	**General Check-ins**	**General Check-ins**	**General Check-ins**
VE3BOW	VE3ZZU	VA3ZZW	VE3RUU	VE3ZZU
VE2MPP	VE2MPP	VE3ZZU	VE2OCQ	VE3LAF
VE3NPO	VE3GIQ	VE3SYZ	VE3KLK	VA3EO
VE3RUU	VA3ZZW	VE3NA	VE3NA	VE3RUU
VA3CSG	VE3LAF	VE3LC	VE3LC	VE3NA
VE3OKD	VE3KLK	VE3KAE	VE3LBU	VE3LC
VA3AUM	VA3IAH	VE3YY	VA3PSI	VE3LBU
VE3NA	VE3RUU	VE3NPO	VE3KMV	VA3CSG
VA3EGY	VA3ORL	VE3ENU	VA3JSZ	VE3KLK
VE3LC	VE3NA	VA3BGO		
VE3LBU	VE3LC	VA3EO		
VE3GIQ	VE3LBU	VE3LBU		
VE3KAE	VA3EO	VE3KJQ		
VE3VIG	VE3WMB	VA2EEK		
VA3DEF	VA3CSG	VE3VIG		
VE3YY	VE3VIG			
VE3RXH	VE3KAE			
VA3IAH	VA3PSI			
VE3ZZU	VE3KJQ			
VE3XEM	VE2OCQ			
VE3KJQ	VE3RXH			
VA3BGO	VA2EEK			
VE3LEB				
VA2EEK				
VA3EO				
VE3LAF				

OVMRC Pothole Net: 3760 kHz. LSB Sunday mornings at 10 a.m. local

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December 6 SFI:95 A:5	December 13 SFI:81 A:4	December 20 SFI:81 A:2	December 27 SFI:88 A:4
VE3EJJ - NCS	VE3XRA - NCS	VE3EJJ - NCS	VE3EJJ - NCS
New & Visitors	**New & Visitors**	**New & Visitors**	**New & Visitors**
	Bart - VE3XBO		
General Check-ins	**General Check-ins**	**General Check-ins**	**General Check-ins**
VA3EO VE3LC VE3QN VA3PCJ VE3YY VE3NA VE3KTN VA3PSI VE3EKN VA3BGO VE3KAE VE3XRA VE3NPO	VE3MKX VE3NPO VE3KTN VE3LC VA3PCJ VE3EJJ VA3PSI VE3KAE VE3BOW VA3EO VA3BGO VE3YY VE3NA VE3QN	VE3NPO VE3LC VA3PSI VE3NA VE3YY VE3KTN VA3BGO VE3EKN VE3BOW VA3EO VE3XRA VE3MKX VA2EEK	VE3LC VE3QN VE3BOW VE3YY VE3NA VA3BGO VA3EO VE3KTN VE3XRA VA3PCJ

OVMRC Pothole Net: 3760 kHz. LSB Sunday mornings at 10 a.m. local