NOVEMBER 2022   Volume 11   Issue 11

VE3ERC-LUB

ERC   REPEATERS

UHF 444.700 + TONE: 131.8
UHF 444.700 + TONE: 123.0
VHF 147.390 + TONE: 123.0
VHF 147.255 + TONE: 131.8
EMERGENCY SIMPLEX: 146.550
UHF–IRLP node 2404,ECHOLINK VE3ERC-L
VHF– IRLP node 2403,ECHOLINK VE3ERC-R

**In an emergency, tune
Into our repeaters,
UHF 444.700 or
VHF 147.390 or
HF 3.755 LSB or
Simplex 146.550
For coordination and
assignments.**

WW2 US SCR-536 BC-611 transceiver
With SCR-625 Walkie Talkie Radio top Cover Antenna

THE PREZ SEZ!

This club is Radio-ACTIVE

President's Update for November 2022

We are well on our way to turning to Internet-assisted digital voice. All radio manufacturers have their own proprietary or open standards. Since the Elmira Radio Club owns three Yaesu Fusion repeaters, it makes sense to set up a Wires-X system for digital voice. Add to this the intent to connect all three Fusion repeaters together, the reach will be impressive - especially when one repeater has world-wide reach!

Unfortunately, our EchoLink connection to the UHF repeater continues to be troublesome. It's still unclear whether the link radio or the antenna is at fault - it may be both. A definite solution would be to have an IRLP / EchoLink node at one repeater site, with all other repeaters connected.

December will give us the opportunity to all get together in St. Jacobs at the Harvest Moon Restaurant on Wednesday Dec 7 at 6 PM. Be sure to email / contact Secretary Kirk VA3KXS at ve3erc@gmail.com to let him know you are coming.

There will be no December meeting. The next meeting of the Elmira Radio Club will be on Wednesday January 25, 2023.

Ted Rypma VE3TRQ

Code Talkers

The Code Talkers: Who Were They & What was Their Legacy? Code Talkers were some of the most valiant and vital men and women deployed to battlefields around the years 1941-1945, during the WWII era. These people were special because they knew a type of code that no other German, Japanese, or Italian Soldier knew: Native American Language.

The main Native American tongue that was spoken was the Navajo language, and it was special because it was largely unwritten and unknown to those outside of the Navajo people. These Code talkers carried out crucial messages transmitted by radio that couldn't be decoded by enemies like other languages could.

During battle, codetalkers were placed in pairs. One codetalker would man the radio, while the other would relay and receive messages in the Native American language. They would then translate and relay that communication in English for coded communication throughout World War Two. The work of the codetalkers were essential to Allied victory and helped secure victory on D-Day, and in Iwo Jima. 5th Marine Division signal officer Major Howard Connor stated, "Were it not for the Navajos, the Marines would never have taken Iwo Jima."

Special thanks to Tony VE3DWI for passing this article along.

Join Us for Christmas Dinner

December 7, 2022
6 pm
At the Harvest Moon Restaurant
5 Parkside Dr, St. Jacobs, ON N0B 2N0
Spouses or Guests are all welcome.

Please RSVP to ve3erc@gmail.com by December 1 if you plan to attend.

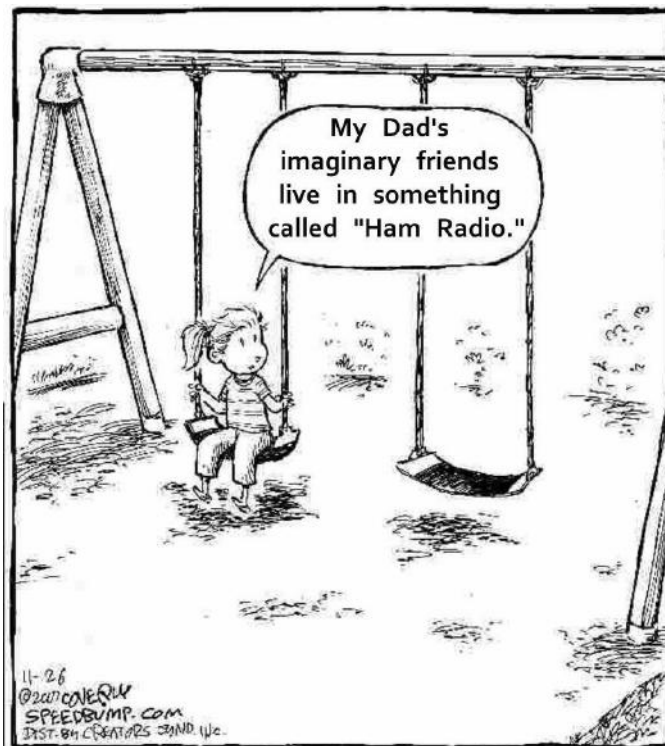**Hope to see you all there!**

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

(519-787-2279)

WEDNESDAY NITE NET CONTROLLERS

NOVEMBER 30 - BRIAN VA3DXK

DECEMBER 7 - CHRISTMAS DINNER

DECEMBER 14 - BOB VE3IXX

DECEMBER 21 - TED VE3TRQ

DECEMBER 28 - BILL VA3QB

2023 JANUARY 4 - KIRK VA3KXS

JANUARY 11 - REG VE3RVH

JANUARY 18 - FRANK VA3FJM

JANUARY 25 - M E E T I N G

FEBRUARY 1 - TOM VE3DXQ

FEBRUARY 8 - TONY VE3DWI

BLAST

From the

PAST

Amateur Radio STATIONS

W6CNE's Mobile Rig

WE SUPPOSE there are a few of the ten-meter 'phone gang who haven't heard W6CNE hamming away while bowling along over the Southern California highways. The many who have heard the rig have been mighty curious about it, so here are the pictures and dope.

This is not just a station installed in a car—it's a radio car throughout. Besides the radio apparatus the car, a '36 Willys panel delivery, is equipped for emergency operation, carrying four days' rations, a two-burner stove, 25-pound icebox, wash basin, five gallons of water, cooking utensils and dishes for four people, and bedding. The seats fold into a double bed, and a small folding table serves as a desk. Besides the above, an extra supply of heavy clothing, rubber boots and similar accessories also is carried. The inside of the car is well lighted and is provided with an electric fan, the lights and fan running from 110 volts taken from the portable power plant.

The cabinet occupying most of the space under the dash at the right-hand side contains the station. The transmitter is capable of working on 5, 10 and 20 meters, using plug-in coils. A 6A6 oscillator-frequency-multiplier, working from a 7-Mc. crystal, gives output on 28 Mc. to drive an 802 buffer which in turn drives a pair of 801's in the final stage. The modulator uses a pair of 46's in Class-B. A crystal microphone, equipped with a W.E. chest mounting, is used for voice pickup. The mounting leaves both hands free for driving—an absolute necessity in Los Angeles, Roy says!

Two receivers are mounted in the cabinet. A special job is used for five and ten meters—a super having acorns in the r.f., mixer and oscillator stages. An all-wave broadcast receiver takes

In This Cabinet—Transmitter, Modulator, Special 5 and 10 Meter Super, All-Wave B.C. Receiver

Left to Right: W6CNE, Joe Penner, Parkyakarkus, Lorraine Krueger

ALL SET FOR EMERGENCIES! THE RADIO CAR CARRIES BEDDING, STOVE, ICEBOX, AND EMERGENCY RATIONS

THE GAS-ENGINE DRIVEN GENERATOR IS MOUNTED IN FRONT OF THE RADIATOR GRILLE

August, 1937   55

State of the art mobile station in 1937.

This article was taken from QST in August of 1937 and is freely available on the Internet Archive.

Cheap HF Quarter-Wave Stubs
By: Al Duncan VE3RRD

Some may ask "why would I need a quarter-wave stub"? When our club is activating a lighthouse, beach or park, we are often setting up two or even three stations with antennas in fairly close proximity to each other. Although some stations may be QRP, many times we are also including a 100W transceiver for SSB.

This can cause major interference between stations, even when everyone is on a different band. For example, a transmitter on 40m (7 MHz) can overload a receiver on the 20m (14 MHz) band, making it almost impossible for the 20m station to copy CW or even voice.

A "shorted" quarter-wavelength (for a particular frequency) piece of coax, will appear as an open at the other end of this shorted stub. For example, if we make a shorted stub for 20m and connect it to the transceiver, it will not affect the SWR on 20m but will appear as a partial short to signals on the 40m band. This is because the 20m quarter-wave stub will appear as an eighth-wavelength shorted stub on 7 MHz and will greatly attenuate these signals. Likewise, also placing a 40m stub on the 7 MHz station can greatly reduce any harmonic RF it is producing on the 14 MHz band.

You can use a regular T-connector (either BNC or UHF as required) attached directly to the transceiver, with the antenna coax connected to one side and the quarter-wavelength shorted stub (for the band you will be operating on) connected to the other side of the T.

After searching the internet and reading several articles on the difficulty of making precision quarter-wave stubs out of expensive 50 ohm coax, and placing them in precise locations on the station feed line; I almost gave up on the idea of trying to make my own.

The fact is that a multiband antenna is not always 50 ohms on every band, and a transceiver's internal tuner can compensate for mismatches that may be introduced by the antenna or by attaching a quarter-wave stub. Since I didn't plan on using a KW, any small coax should work for QRP levels. And why should it have to be 50 ohm coax, I had lots of quality 75 ohm RG6 satellite TV coax laying around. I put an F-connector on the RG6 and then used an F to BNC adapter.

I cut the RG6 for each band, using the formula "(468 / MHz) / 2" to find the length in feet. I didn't know the velocity factor for my RG6 so I multiplied the result by 0.9 which made it a bit long.

My little YouKits FG-01 antenna analyzer made it very easy to trim the coax to the proper frequency. It can visually display the center frequency for an open quarter-wave stub in real-time also, so I just kept cutting off an inch or so at a time until it looked good while attached to

the T-connector along with a 50 ohm load. Then I shorted the center conductor to the shield braid at the end and used a crimp-on lug, its tab can be cut off and heat shrink used to insulate the end of the stub if desired. After shorting the stub, the exact 1:1 SWR bandwidth can be measured, with a 50 ohm load where the antenna will connect.

Everyone in our group has made a stub for each of the various HF bands they plan on using when we are operating together. I have found that these stubs even work well on the club TS-480SAT at 100W, and have also used them on my KXPA-100 PA when operating my KX3 at 100W. I used a UHF type T-connector on the transceiver/PA output and then used a UHF to BNC adapter to mate to the stubs.

When everyone is on a different band and all are using their quarter-wave shorted stubs, interference between stations has been greatly reduced (and in many cases, completely eliminated). Also the stub tends to attenuate out-of-band signals from other (non-amateur radio) sources.

Maybe my version isn't as effective as the "real thing"; but it's cheap, easy to make and works well for us. This project proved to me that it's better to try it and see if it works, rather than just accept that the "experts" say it probably won't. Total cost was very low - half a dozen type F crimp-on connectors, one or two F to BNC adaptors, a BNC or UHF "T", and a UHF to BNC adaptor if needed; the RG6 coax was free.

Set of 5 quarter-wave stubs for 10, 15, 17, 20 and 40m bands. I plan on also making one for the 80m band. These are compact and light-weight, and all fit into a small bag (wind some in diameters that can nest inside others). Don't forget to label each stub with the band it is for, as you make them. We will definitely be trying them out during the next Field Day with two 100W club stations; usually one is on SSB and the other on CW or a digital mode.

Thanks to Mike VE3MKX for sending along this article.

Ladder line & Antenna Switching
By Randy Yakabuskie VA3XV

Not all hams run ladder line straight into the shack to the tuner. However, for the ones that do, especially multiple antennas like myself, a switching system is needed. Now this is nothing new. I've spoken to a few that do similar. Just passing along information on an inexpensive way this can be accomplished, and what I have used. There are commercial switches on the market for ladder line such as the MFJ-1706, which retails around $200 CAD. If you want to save some money and don't mind it being a bit sloppy, Amazon sells DPDT knife switches, which are affordable and perfect for this application. The ones I purchased seem sturdy and lock tightly into position. I started with one about a year and a half ago, using it often, and it hasn't failed or shown any signs of wear. There is no metal exposed, including the line attachment points, so there is a low chance of getting zapped. They come anywhere between the 32-100A range, and prices vary from $20-$40. Mine are 32A models, and I purchased a 2 pack for $19.99. A good bang for the buck so far. I bought a spare just in case of failure. Mine are mounted on a window sill right beside my desk. But you could mount them on a desk, wall, etc. I would suggest labelling them to avoid confusion.

73' va3xv.

Mike VE3MKX sent the following pictures from Randy VE3JO/VE3AAZ from Stratford, showing how inexpensive it can be to get started in ham radio. Mike wrote:

Randy sent me a pic of his cool set-up !
You don't need much to have fun !!
That's the QRB labs QCX mini that sells for $50 US. Less than a trip to Starbucks ?? LOL LOL
73 Mike

Here is a setup with the QCXmini, a ZM-2 tuner and 42' wire. I had just contacted a Summit in Pennsylvania.
73 Randy
VE3JO/VE3AAZ
NAQCC 11197

And Randy is also active in POTA activations.

Here are a few more. I am trying to take pictures of all my activations now.

Randy
VE3JO/VE3AAZ
NAQCC 11197

ERC Elmira Radio Club Inc. - Meeting Minutes

November 23, 2022

Attendance - Members	Attendance - Officers
Bill Reid VA3QB	Ted Rypma VE3TRQ – President
Bob Koechl VE3IXX	Paul Curtin VA3PDC – Treasurer
Brian Filbey VA3DXK	Kirk Sinclair VA3KXS – Secretary
Bruce McLellan VE3QB	
Doug Kuhn VE3CXU	
Graham Bauman VE3BYP	**Guests**:
Jack Sinclair VA3WPJ	Brian Wickenfelder
Jim Heidmiller VE3JMU	
Judd Hodge N4WXU/VE3WXU	
Ken Buehler VE3KCY	
Linda Willis VE3CZ	
Marianne Lelieveld VE3MXT	
Mike Willis VE3FE	
Rene Paquin VA3RRP	
Rich Clausi VE3DCC	
Rod Murray VA3MZD	
Ron Webb VE3WBE	
Thomas Daniel VA3VRA	
Tom Mahony VE3DXQ	
Tony Lelieveld VE3DWI	

Meeting Location: Elmira Fire Hall & Zoom

Meeting Minutes

1. **Call to Order:**
    a. Meeting was called to order by President, Ted Rypma VE3TRQ at 7:29 pm and he welcomed every-one present.

2. **Roll Call:**
    a. A roll call established those present and it was noted quorum had been attained.

3. **Presentation**

a. Video presentation on the Yaesu Wires-X system. https://www.youtube.com/watch?v=FPb2iHF3GdE. The video is a little dense and specific to setting up a Wires-X system directly connected to a computer. At a future meeting we will ask the Repeater Technical Committee to explain the configuration which will be setup at the Alma site with our new Yaesu Repeater and ideally provide a cheat-sheet for easy connections via RF for those with Yaesu Fusion radios capable of Wires-X.

4. **Approval of Agenda:**

   a. Ted displayed the agenda onscreen for those in the room and on Zoom.

   b. *MOTION to approve the agenda as circulated.*

      Motion By: Ted VE3TRQ

      Carried

5. **Secretary Report:** Presented by Kirk Sinclair VA3KXS.

   a. Correspondence Received:

      i. None.

   b. Minutes of the October 27, 2022 meeting were emailed to members on October 29th.

      i. Two corrections were noted - Ron Webb VE3WBE was noted as a Guest when in fact he is a member. The callsign for Rene Paquin is VA3RRP, not VE3RRP.

   c. *MOTION to approve the minutes of the October 27, 2022 meeting.*

      Motion By: Kirk VA3KXS

      Carried

6. **Treasurers Report:** Presented by Paul Curtin VA3PDC

   a. Details of transactions for the month of October were displayed on the screen.

   b. *MOTION to approve the financial statement for October 2022.*

      Motion By: Paul Curtin VA3PDC

      Carried

7. **Presidents Report:**

   a. We seem to be on the way to implementing Wires-X and Fusion since we have Fusion repeaters now. Connecting the 3 repeaters will be an important part of the overall solution to allow wide coverage.

   b. The Echolink connection to the UHF repeater is still having some issues. Continue to investigate if the antenna or the link radio is at fault.

   c. In December there is no meeting, however there is a holiday dinner on the 7th @ 6:00pm at the Harvest Moon in St. Jacobs. Please email ve3erc@gmail.com by Dec. 1 to RSVP if you plan to attend. Spouses are welcome.

8. **Committee Reports:**

   a. Repeater Technical Committee - Bill Reid VA3QB / Tony Lelieveld VE3DWI

      i. Tony advised that the old analog repeater currently at the Alma site has an issue and is offline. There are no plans to repair this as it will soon be replaced by the new Yaesu Fusion DR-2X repeater.

   ii.   The UHF repeater from the Firehall is in Tony's shack and it is now programmed for the correct PL tone. The duplexer is currently having an issue. Once that is fixed, this pair will go to the Feed Mill and the UHF repeater from the Feed Mill will go to the Fire Hall.

   iii.   Tony has new cables ready for whenever we install the Yaesu Fusion DR-2X repeater in Alma.

   iv.   *MOTION to order a new Yaesu MH-48A6JS DTMF microphone for use when performing maintenance on our Yaesu repeaters.*
      Motion By: Tony VE3DWI
      Carried

   v.   It was noted that the antenna at the Alma location belongs to Tony VE3DWI and is 2m only. The club should plan to purchase a new dual band antenna in the spring.

   vi.   Tony VE3DWI announced he is officially donating the duplexer currently at the Alma site to the club. Ted thanked Tony on behalf of the club.

  b.   Club Equipment Review Committee – Frank VA3FJM / Tony VE3DWI / Kirk VA3KXS

    i.   Kirk provided an update that the inventory file has been sent to Frank for review.

9. Unfinished Business

  a.   Yaesu System Fusion Repeater Installation Program - Paul VA3PDC

    i.   The repeater has arrived and is now with Ted to be programmed.

    ii.   Additional duty charges from FedEx have been paid by Paul and re-imbursed.

  b.   RAC Affiliation & Insurance Renewal - Paul VA3PDC / Kirk VA3KXS

    i.   Application forms were emailed to RAC on Nov. 16 by Kirk VA3KXS

10. New Business

  a.   Selection of Nomination Committee – Ted VE3TRQ.

    i.   Ted asked if anyone wishes to volunteer for the nomination committee.

    ii.   Brian VA3DXK, Rich VE3DCC, Tom VE3DXQ agreed to volunteer.

11. Announcements

  a.   The annual Christmas Dinner will be held at The Harvest Moon in St. Jacobs on December 7, 2022, at 6:00pm. Please RSVP to ve3erc@gmail.com by Dec. 1 if you plan to attend. We hope to see everyone & their spouses!

  b.   The next meeting will be held Wednesday, January 25, 2023.

  c.   There will be no December meeting.

12. Adjournment

  a.   *MOTION to adjourn at 9:05 pm*

    Motion By: Brian VA3DXK   **Carried**

Thanks to Tony VE3DWI for sending a photo of this pumpkin that was obviously carved by a ham with a scary message.

_____

Thanks to Mike VE3MKX for sending this along from FB News.

An External Keypad for Icom Transceivers (7300/705)

Some Icom transceivers have a function called "External Keypad." This is a convenient function to select memories, such as CW messages, SSB/AM/FM voices, and RTTY and PSK messages with a homemade keypad connected externally.

Some amateurs are reluctant to make something themselves, but the only necessary parts are switches, resistors, plugs, jacks, a few cables, screws and a case. All you have to do is simple case building, parts mounting, and soldering. No power supply is required.

Connect your favorite CW Paddle to the completed External Keypad

Figure 1. The completed external keypad

What is the function of the External Keypad keys?

Icom transceivers have 4 or 8 memories, depending on the model, in which the messages you want to send are stored. CW, SSB/AM/FM voice, and RTTY and PSK messages can be stored in those memories, and the contents can be sent by pushing the memory switch. Therefore, it is a convenient function for contests and portable operations.

Let's take a look at the circuit diagram

This time, we will build an external keypad exclusively for the IC-705. The circuit diagram is shown in Figure 2. below. Please refer to the "Connector Information" page of the IC-705 instruction manual for this circuit diagram and its operation.
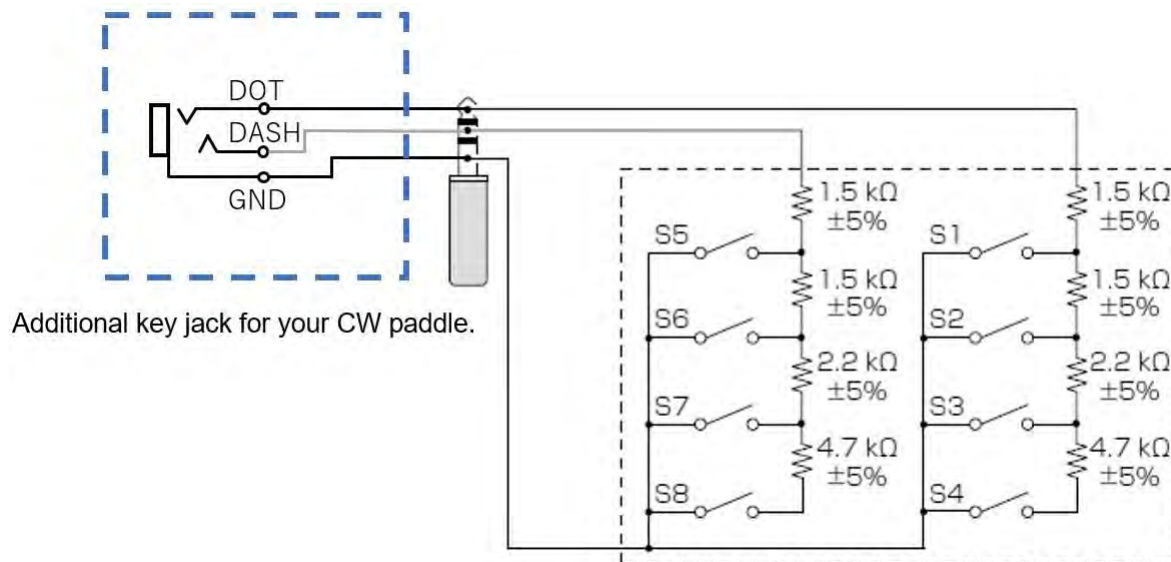
Figure 2. Circuit diagram of the external keypad from the instruction manual of Icom IC-705

Let's arrange the parts

Figure 3. below shows the necessary parts, as shown in the circuit diagram. The circuit is composed of switches S1 to S8. The required switches are called "momentary switch," which turns ON only when pushed and returns to OFF when released.

The external keypad also has a jack for the CW paddle so that you can use it with your usual CW paddle.

Component name		Qty.	Description	Outline view (for reference)
Switch		8	Momentary switch* *A switch that is turned ON while pushing down and turned OFF when released.	
Resister	1.5kΩ	4	Tolerance ± 5%	
	2.2kΩ	2		
	4.7kΩ	2		
Stereo plug	φ3.5mm	1	Used to connect to the IC-705 Key jack	
Stereo jack	φ3.5mm	1	Used to connect an external CW paddle	
Universal PCB		1	-	
Spacer		4	Used for installing the PCB to the case	
Plastic case		1	70 x 100 x 30mm	
Cable		50cm	3-wire cable	—
Rubber bush		1	Used to protect the 3-wire cable	
Rubber feet		4	-	

Figure 3. Parts list

Building the external keypad

Assuming that the IC-705 will be used in the field, I chose the smallest possible case so that it would not be bulky to carry. Also, I chose a switch with a large button so that you can easily see the switch number and activate it with the touch of your finger. In addition, the switch is physically strong, considering that it is used a lot in calls such as pile-ups, as you push the button many times.

If you print M1 to M8 on the completed external keypad with a lettering sticker, it will be even cooler!
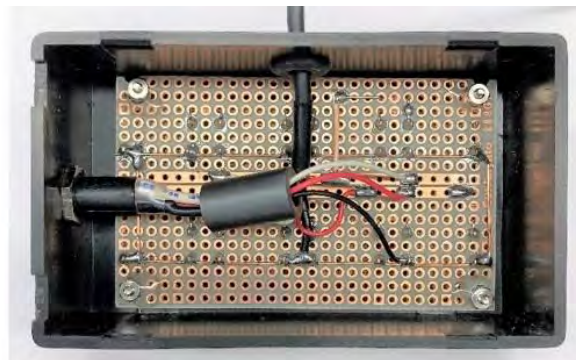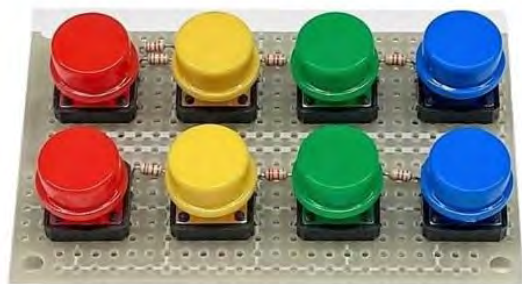
Figure 4. Parts are installed on the universal board.

Connect the stereo plug to the IC-705 KEY jack.

Connect your favorite CW Paddle to this external keypad

Figure 5. Completed external keypad

Turn ON the external keypad function in the IC-705 settings

Before you insert the stereo plug of the external keypad into the key jack of the IC-705, you need to select "External Keypad" in the SET mode in the IC-705. The following is an excerpt of the contents described in the IC-705 instruction manual.

By connecting the external keypad to [KEY], you can send memory content from one of the 8 memories.

You can send memory content from a CW Keyer Memory (M1-M8), SSB/AM/FM/DV Voice Memory (T1-T8), or RTTY Memory (RT1-RT8) to be transmitted.

· Push a switch to send memory content.
· Hold down the switch for 1 second to repeatedly send memory content.

To use the external keypad, turn ON the following item.

MENU » **SET > Connectors > External Keypad**

Figure 6. How to set IC-705 required when connecting an external keypad

You can also connect your usual CW paddle to the jack on the side of the keypad case.

_____

Rob Noakes VE3PCP sent the following Notice:

Monday December 12, 2022 is the 121st anniversary of Marconi receiving the first Transatlantic radio signal. He received it at Signal Hill in Newfoundland which now has a remote station VO1AA set up.

Christopher Hillier VO1IDX, Chris Hillier SONRA [Society of Newfoundland Radio Amateurs] President, is going to be at the station from 13:30 UTC until 17:30 UTC. There may also be other members of SONRA there as well. A few of us will be operating remotely and I plan on doing a livestream when we are on the air.

Please subscribe to my YouTube channel and click on the bell to be notified when the livestream begins. You will be able to follow along and see the frequency we are operating on at any given time.
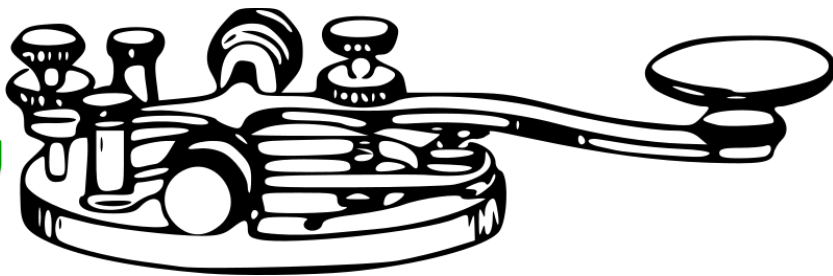
https://www.youtube.com/@ve3pcp

I will also have the Clublog website open so you can see the stations that have been worked on the map.

      Rob VE3PCP

All Keyed Up by

Dan Romanchik, KB6NU

Operating Notes: Setting goals

November 6, 2022

One of the operating activities that I partici-pate in is the

[CWops QTX competition](#).

Technically, QTX is the Q signal for "I will keep my station open for further communication with you until further notice (*or* until _____ hours)," but in amateur radio we use QTX to mean a long contact or rag-chew.

To qualify as a QTX QSO in this activity, the contact has to last for at least 20 minutes. Every month, a bunch of us send our results in, and they get posted in the [CWops newsletter](#).

One of my goals is to finish in the top ten, and I almost always manage that. Another goal is to make at least one QTX QSO every day. So far, I have only managed to this once. I re-cently submitted my score for October and noted, "Fell just short again of my goal of one per day. I guess that's just going to be how it goes. :)" To which, Bruce, K8UDH, who com-piles the reports, replied, "Yes, you're just a little bit short of your goal, but you probably wouldn't be where you are today without your solid goal."

I think he's got a point there.Setting goals for oneself, even for something as silly as making ragchew QSOs will help you achieve more. You may not always reach your goal, but you will achieve more than if you don't have one. Next, I'm going to have to set up a goal to com-plete some of the homebrew projects that I have littering my workbench. Maybe I'll finally get one or two built.

I'm thinking that completing one every two or three months is reasonable. What do you think?