BARS Billerica Amateur Radio Society

NEWS FOR AND BY BARS MEMBERS

OCTOBER 2020

BARS physical meetings are on hiatus until further notice.

The decision to resume in-person club meetings and breakfasts at Stellio's will be made entirely by the Board based on the outlook of this medical emergency. The safety and well-being of our membership is important to us.

Meanwhile, virtual club and breakfast meetings using Zoom have proved an enjoyable substitute. Please ignore the sections, below which give directions and schedule for in-person meetings.

However, in-person VE License Exams have resumed using a different protocol – see the VE section near the end of the newsletter for details.

--BARS Management.

From the President's Desk

from the President of BARS, Andy Wallace, KA1GTT

Everyone,

I am very happy to announce that we now have our first candidate for President of BARS for the Wednesday, 11/4 election. Doug Bruce ("from the cookie sheet in Reading") has stepped up to the plate. I met Doug last year at my Boston Area DXers shortwave listening club. When he found half the BADX members in attendance were hams and members of BARS, Doug studied and got his Tech license ASAP and then achieved General class soon afterwards. If you have been on our Wednesday net you have heard Doug running many of them as Net Control. Doug rapidly progressed from enjoying 2M FM to getting on HF SSB and even A.M.!

I feel Doug's positive attitude and enthusiasm for any aspect of the ham radio hobby will be good for BARS. Check out Doug's QRZ page here:

https://www.qrz.com/lookup/KC1MJK

Of course, this does not prevent someone else from trying to compete for President or any other position in BARS! Get in touch if you'd like to.

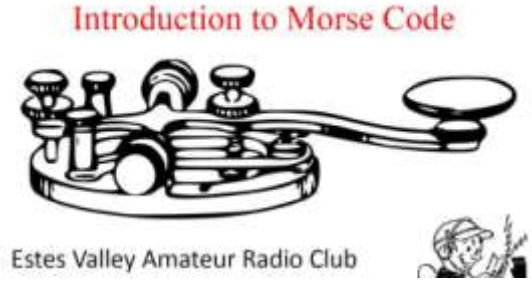
The current election slate is now:
President: Doug Bruce, KC1MJK
Vice President: Kayla Creamer, W2IRY
Secretary: Scott Ginsburg, K1OA
Treasurer: Bruce Anderson, W1LUS
BOD Member: Mike Raisbeck, K1TWF
BOD Member: Henry Christle, WA1VAB
(Ex-Officio: Andy Wallace, KA1GTT – with Tom Walsh, K1TW's departure in that seat as former President)

Thank you,
Andy, KA1GTT
President, Billerica Amateur Radio Society

Next BARS Zoom meeting: October 7 at 7:00 PM

"Morse Code 101 and 201"

By David O'Farrell WBOIXV



Folks, I am very happy to announce we will have a distant guest speaker for our October Zoom meeting!

A few weeks ago, I was thinking about trying to promote CW in our club and introduce it to members who have never tried it. Google gave me a path to David O'Farrell's presentations Morse Code 101 and 201. Dave was first licensed as KN7YXO in 1963 (at 15). He was a telegraph operator for the Northern Pacific Railway, holds Amateur Extra and Commercial General Radio Operator licenses, and loves CW! he is also the Treasurer of the Estes Valley Amateur Radio Club in Estes Park, Colorado.

Part of the reason I think BARS should talk more about CW is some of our newer Technician members may not know how much fun they could have with it. Did you know Techs have 650 kHz of CW band space on HF in the 80, 40, 15, and 10 meter bands? (They only get 200 kHz of SSB on 10!) Did you know there are apps and online resources to learn Morse code? And that receiving and sending apps and computer programs exist to help you out? Transceiving CW can be done with much simpler equipment than SSB or even a 2m FM HT. It also cuts through interference and local electrical hash better – you'll make more contacts. Knowing how to understand CW opens up a whole world of fun operating. The FCC dropped the CW requirement for licensing but you will have a BALL knowing it – just ask any Novice licensee!

Dave sent me a sneak preview of his presentation and it is super. He goes through some very interesting history of Morse code, and digs deep into how to learn it properly. If you already know CW, you will still learn something here. We'll have time for Q&A and I am sure Dave will elaborate on concepts so anyone new to this world will understand what they will be in for.

Please help me show appreciation for David making time – several time zones away – to present to our club. Let's have a great turnout for CW 101 and 201.

We will announce the link to join the Zoom meeting before the meeting, but it will be posted to the BARS email list and should not be shared outside our Club. Are you on the email list? If not, please send an email to bars-subscribe@w1hh.org and then simply reply to the robot response from the server and you will be subscribed.

Observing our Zoom meeting requires only a web browser and headphones/speakers. You do not need a webcam or microphone unless you want to speak or be seen.

Before our meeting date, please go to https://zoom.us/test and see if it will function for you. If you have problems, we can try to assist – feel free to ask questions on the BARS email list.

I am looking forward to "seeing" many of you on Wednesday 10/7 here at 1900.

Andy, KA1GTT
President, Billerica Amateur Radio Society

A Message From the Editor

from Marla Wallace, WA1GSF

As I write this, the autumnal equinox is fast approaching. (By the time you read this, it will have passed.) Now it the time to ensure that your antenna systems are prepared for the coming ice and snow season. As the saying goes, if it lasts the winter, it wasn't big enough. But having your antenna come down is a major annoyance and there are things you can do to ensure that you're still on the air come next spring.

Just keep in mind that the antenna that stayed up fine all summer might not be up to a New England winter. Now is the time to ensure that it will be.

A Correction to Last Month's Column

In last month's column, I wrote something about the interlinking of repeaters and implied a network architecture for the MMRA system which was not correct. Fortunately, somebody spotted my error and set me straight.

> Hi Marla,
>
> *I saw your article about "Is it still ham radio if you need a computer" and would like to correct some information about the MMRA repeater network.*
>
> *The repeaters with some exceptions use radio waves to connect together. Each system has a link radio that is used to connect to the two UHF hubs, in Marlboro and Weston <* MMRA repeater system*>.*
>
> *The local system acts a standard repeater. If it is in link mode, it will also transmit to the hub, which then retransmits the signal to the other repeaters which are linked at that time.*
>
> *The two Dstar systems use the Internet for functioning, since that is their design. They do not link to the rest of the system. The two 900MHz repeaters use the Internet to access the NE900 IRLP Reflector for greater coverage.*

The Belmont system has a part time link to the Broadcast Employees Amateur Radio Society and the Disney Amateur Radio Interconnect network using the Internet.

So 18 repeaters are linked using RF only, four do use the Internet for connection and one uses both. You can connect to either hub by IRLP, which is for users outside the local coverage area.

--de Bruce Pigott KC1US - 146.715 North Reading; 224.880 Burlington; Trustee Minuteman Repeater Association < https://www.mmra.org/*>*

Thanks, Bruce. That'll teach me to fact-check rather than relying on my memory from a Boxboro presentation!

Feature Article: What Goes Up ~~Must~~ Sometimes Has to Come Down

By Andy Wallace, KA1GTT

My ham stations since 1981 have continually lacked something a lot of you possess – a rotatable HF antenna! Over beers or coffee I will be happy to tell you how tough it was for me to work over 100 countries at 5W QRP CW using a random length of wire draped out a 12' high window and down to a clothesline pole at shoulder level! End fed, too! (My landlady allowed me the one antenna and there were no trees in the yard.) So I have been envious of those of you who could squirt RF toward where the DX is!

Marla remembers our father (Bob Wallace, W1MQV, later W1HH-SK) sinking a full size telephone pole at the house in Chelmsford on Steadman St. and mounting a 20m cubical quad atop it, with a rotator, of course. [Eventually, he had several cubical quads, including an infamous experiment with a tri-band quad using EMT (metal tubing) for the spreaders, which did not survive the first ice storm. –ed.] When he moved to a hill across town in 1964 one of the earliest priorities (perhaps secondary to getting a separate room for Baby Andy) was putting up another beam for DX.

On August 1, 1965, my father erected a used, 50' windmill tower with the help of his friends, some ropes, and some 2x4s. Below are two pictures that may amaze you. The first one shows the crew tilting the huge pyramid aloft by hand, and the second is of a plaque his friends Chuck Banta (K1SHN, later N6FX) and Jim Dossett (K1TIH-SK) presented to him! The tower was erected by building it like an Erector set in the side yard and pushing and pulling it aloft. Dad sunk each of the four legs in about 36 square feet of concrete. It was there to stay!

Erecting the Tower

Commemorative Plaque

So all my life I looked at this monstrosity in the back yard. Dad had apparently bought it from a farmer up in Maine. What I did not know (thanks, Marla) was that part of the reason he got it was it had FALLEN DOWN. So whatever condition he found it, dad had it hauled to Chelmsford and rebuilt the bottom section which was damaged, put it up, and raked in lots of DX with it until he died in 2006. Early on it had a monster 20m five element monobander

20m Monobander

and sometime in the early 70s he replaced that with a Mosley Classic 36 six element tribander. The Mosley is still produced as the CL-36-M.

http://www.mosley-electronics.com/classic.html

"The **CL-36-M** is designed for the operator who wants the best performance possible in a tri-band antenna. Six wide spaced elements: 4 elements on 10 meters, 3 operating elements on 15 and 20 meters." (photo from Mosley)

And over those years, Bob roped many of his friends into doing maintenance on that tower and antenna. Like me, Bob hated heights! But after forty years of being in service, upkeep could not counteract the aging of a windmill made of galvanized steel. In addition, the bottom section and the parts Dad added to repair it were not properly protected from the elements. By the time Dad passed, the antenna and tower were in a sad state. The bottom 10' was rusting badly, and the sender winding of the rotator which told you where you were pointed had failed. And ice storms had taken down the 80m and 40m inverted vees that hung from the tower.

Current Condition

Of note is the ladder attached to the tower – I do not know whether it reached the ground when on the farm, but my dad surely removed the bottom section to keep this kid from climbing and getting killed!

For many years and many BARS breakfasts I bent the ears of anyone who had a tower or knew about them, wishing that someone would take on the repair of dad's windmill. They saw my pictures and heard the story about rust, rust, rust. I knew as the years went on the chances were that it could not be saved. What a shame! My uncle Gus Fallgren (W1OGU, later W1OG-SK, of PART) had a windmill in the back of his yard for a tower early on. I loved the idea of a self-supporting tower and a pyramidal windmill has a very wide stance. In all the years it stood, my dad's tower never worried him – ice and wind on the tribander was another story. Friends seeing it told me gee, Andy, refurbish that thing and your station would be a great BARS club station! And my auto insurance broker even told me that her son would make up stories about what that tower was for as they drove by the house – he thought it was for communicating with Mars!

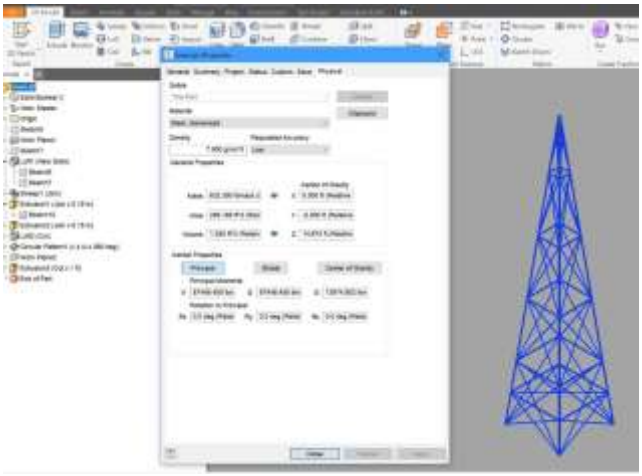
Last year I enlisted an experienced MA tower climber to come and evaluate repair of the tower. I described the issues and even sent him pictures of the footings. When he arrived in a subcompact car with no ladder I knew I was in for a disappointment. He came over to the tower and basically frowned at it, very quietly. He wasn't going to risk going up at all, and told me what others already guessed – Andy, it should come down. I still paid him for his trip, but my heart was heavy.

What convinced me it had to go was seeing the excellent tower safety presentation Jim Idelson, K1IR did for BARS in November of last year. I knew that having an unusual tower was a recipe for the unknown, and when you send someone 60' in the air that is not what they want to experience. How would I get it down? Bucket truck was suggested but I bit my nails worrying how much a full size crane would cost – the more likely tool. After seeing Jim's talk I knew that even though manpower and ropes put it up, getting it down the same way could be a disaster, and certainly I would not attempt anything alone even after eyeing the big trees in the back yard as fulcrums. And a primary unknown was that I didn't truly know the age of the tower. It could have been put on that Maine farm in 1960….or 1920 for all I knew!

Fast forward to August of this year. A truck pulls into the driveway and a man gets out, walking into the yard and squinting up in the sun. I yelled "can I help you" out the window and he turned and said, "hey, is that thing just used for ham radio?" Oh boy, a live one. Yes, I said. He then asked me DO YOU WANT TO GET RID OF IT?

I went outside and we talked and some of you folks know I am a fan of Wayne Dyer lectures and sometimes I do believe things happen for a reason. But this was truly serendipity! This man wanted the tower – to put in his yard as a decoration! After 50+ years, it was going to live on, as a windmill again! Not only that but he was going to call in a dozen favors and get a crane and crew over! This would not cost me, either. What a windfall, bittersweet as it was. I told the man that all I cared about was getting the tribander down undamaged and that the driveway would survive the process.

To plan for the removal I thought I should tell the guy how heavy this thing was. I never knew but I do mechanical modeling in 3D all day long. So I went out with calipers and measured the windmill's brackets and braces and angle stock and made a mockup of it fairly close to reality. At 50', the tower may have been between 600-700 lbs, and add another 100 for the mast and beam. Wow. Doesn't that sound like something this amateur (not in the radio sense) was wise not to fool with taking down?



3D Model

It took a couple of weeks for schedules to converge but the crane arrived. Just like a tree operation, they roped a man aloft with a Sawzall and he cut the U bolts to release the antenna from the mast. (It turns out the hardware all over the antenna was stainless and in perfect shape and those bolts could have been loosened. Oh well!) Off came the beam, and was carefully lowered to the ground.

Removing the Beam

The crane moved position and they harnessed the windmill about 15' down from the top. Two of the feet were so rusty they broke free immediately and the Sawzall cut through the other two. Up and away went one of my dad's prize possessions!

Down Comes the Tower

You know, I forgot to ask the crane operator if his sensors showed the weight of the tower. I would have been interested to know how close I was.

The windmill is on its side in the yard – this is a view you probably won't see often!

A Very Different Perspective

The man who wants it has to arrange more favors for transport. But it will happen. He was surprised to find that if he does intend to turn it back into a windmill, getting the vanes and such for the top will take a lot of prowling on Craigslist. I never knew what brand the windmill could have been but Aermotor is one still making them. Check out what a forty-seven footer will cost you:

https://aermotorwindmill.com/collections/windmills/products/steel-towers-for-16-mill?variant=32005306177

Now that the tower is down I can see how the weather had done damage all over. Rust is insidious and without mechanical analysis you don't always know how deep it goes. I thought of Jim's presentation as I loosened square nuts decades-old to access the rotator for removal. And speaking of the rotator, here's how not to protect the connections from the elements.

Unlikely to Turn Anything

And in addition, the mast was so rusty to me it sure looked like an old water pipe, and what could have been a thrust bearing wasn't much of a bearing anymore.

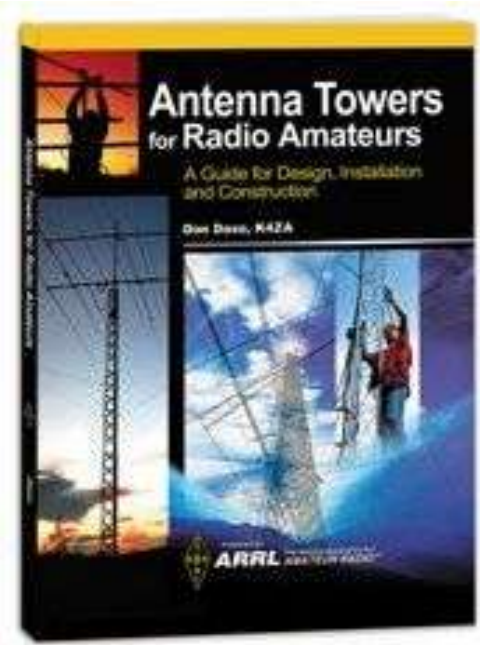
This Has no Bearing on the Matter

This should teach anyone that when your pride and joy sits 50' aloft you need to get up there and maintain it regularly. And most importantly, do sensible things installing it so it lasts. Here's a shot of the ladder – it is riveted on. I don't think there are welds; the material could be just galvanizing.

Unsafe to Climb?

Would you trust it to hold your 225-lb friend going up to fix things???

I purchased the Antenna Towers for Radio Amateurs book by Don Daso, K4ZA:
https://www.arrl.org/shop/Antenna-Towers-for-Radio-Amateurs



Putting up a replacement for W1HH's windmill will need careful planning to do safely. I'm only partway through this book and already I am shocked at my assumptions about towers which were incorrect. As a casual DXer with the desire to have something rotatable, I know I will have something more modest in the air compared to what Dad built. But as I age I want to hit a target to get me something that is safe, effective for DX, and most importantly a known quantity that a tower expert can help me maintain.

And before you ask, yes, I fully expect my father to be haunting the house as of now!

Technical Article: Building the µBITX, Part One

By Marla Wallace, WA1GSF

I'm old and decrepit. My hands have trouble holding a soldering iron steady and my vision has been getting steadily worse over the years. I used to build a lot of my own gear and I must have built close to 100 Heathkits. So in a fit of insanity, I decided, 'One more time!' after seeing a presentation by Andy Stewart KB1OIQ at Boxboro in 2017 on the µBITX transceiver. I ordered the kit (from India) and was very pleasantly surprised at the quality and price. It sat around waiting for me to do the metalworking to put it in a box until September, 2020, when I found that I could also order a case for it. The kit for the case was likewise a good value and nice workmanship. In the meantime, the µBITX had evolved to version 6 which sports a larger touch-screen interface and a number of other improvements. So now that I have all the pieces, I figured it was time to make a rig out of what I already had. I'm hoping to eventually put this on the air and run FT8 as well as SSB and CW.

Figure 1: A µBITX version 4 in the Universal Case – What I Hope to Have when I'm Done

What follows is my notes taken as I constructed the rig. There is quite a bit of information about the kit, but it is scattered over several websites and some of it seems inconsistent. Hopefully, this article will lessen, rather than add to the confusion.

Getting my Feet Wet

I decided to start with the easiest thing I could think of: the indicator board for the Universal Case. I figured that this would let me determine if I was still physically able to do construction of the non-challenging type that this kit required. If that was successful, I would proceed to construct the other subassemblies and then tackle mounting the main circuit board and hooking everything up.

The Subassemblies of the Universal Case

TX/RX indicator board subassembly

1. The on-line documentation for this subassembly (https://ubitx.com/2018/09/07/led-board-tx-rx/) shows a prototype that was built on perfboard, not the PC board supplied. This subassembly consists of a tiny (smaller than a postage stamp) single-sided PC board, two resistors, a bi-color LED, a 3-pin header and a 3-wire cable (more about the cable later). Wiring was through-hole, with all components mounted on the etch-free surface.
2. The resistors supplied were 2.2k; the packing list said 1k, but the on-line documentation advised that anything between 1k and 10k works, depending on how bright you want the LED to be. By my calculations, the resistors supplied will provide about 5mA to the LED. The resistors must be mounted vertically. See figure 2.
3. You will need a 3-pin header clipped from one of the supplied header strips. (I selected the 39-pin header.) The holes for the 3-pin header on the PC board were too small and had to be enlarged.
4. No instructions were provided as to LED orientation. You will have to apply power to determine which pin is TX (red) and which is RX (green). Fortunately, the header and cable connector mating is not polarized, so flipping the cable connector over corrects the problem if RX lights up red.
5. The LED is mounted off the end of the PC board, so its leads must be bent 90°. See figure 2.
6. There are three 3-wire cables supplied, two with black connectors and one with white. The two cables with black connectors are identical; I assumed that the odd one was for the LED board. Note: the center wire (brown in my case) ***must*** be soldered to ground, with the other two soldered to TX_Switch and RX_Switch, respectively, on the underside of the main board. [The photos on the blog at https://amateurradiokits.in website are very helpful in showing where these wires connect and confirmed that I had chosen the correct cable.]
7. The PC board didn't want to take solder well. I advise polishing the pads for future boards.

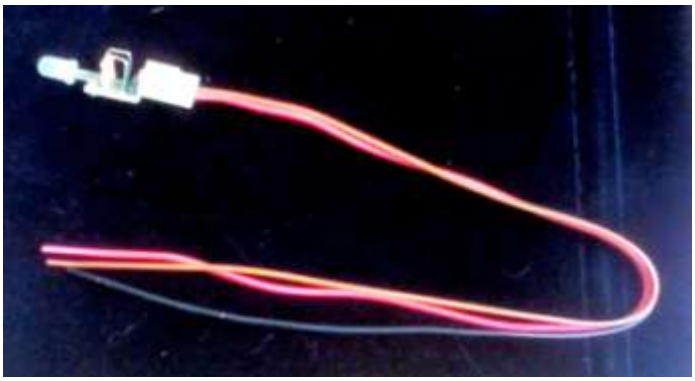


Figure 2: The Assembled RX/TX Indicator Board

Assembly time for this portion of the kit was about 30 minutes, mostly hunting up a tiny awl to enlarge three holes. I didn't bother to test this subassembly, beyond a careful visual inspection, as the cure for any conceivable error was to simply flip the cable over.

Digital Interface board subassembly

1. This subassembly is the intriguingly-named Digital Interface. This subassembly consists of a single-sided PC board, two pc-mount audio jacks, a 9-pin D connector, a USB style B jack, a 9-pin header and two 5-pin headers. Note: it looks like the board wants a 4-pin header as well, but the instructions say that a mini B USB cable (not supplied) gets wired directly to those pads. Since the USB cable polarity is critical, this is probably a good idea. Wiring was through-hole, with all components mounted on the etch-free surface.
2. There is no documentation for this board except for instructions on wiring up the micro USB cable, which I did not have on hand. I'm not sure what the purpose of this board is except to provide a way to connect USB to the Raduino without having to open the case. It's tempting to hook up the audio jacks such that plugging in to them intercepts audio out, microphone in and PTT. Anyway, I wired it up. See figure 3.

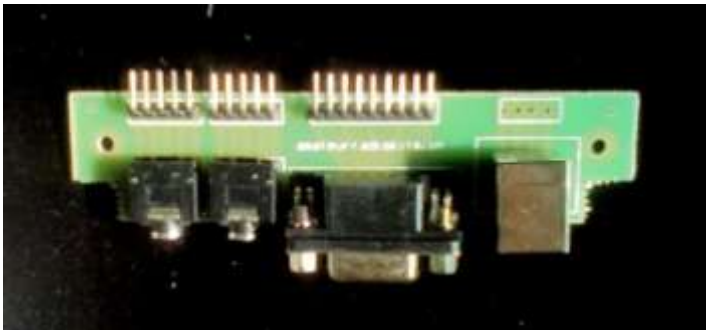


Figure 3: Digital Interface Board

Assembling this module was also a half-hour job. But wiring in the USB cable to the four pads on the right in Figure 3 will probably be another half hour, once I get the cable.

Encoder subassembly

1. This subassembly is for the rotary shaft encoder, which is how the µBITX is tuned and how menu items get selected, so it is the primary user interface. The subassembly consists a pre-assembled four-wire cable and the five-pin rotary shaft encoder control from the µBITX kit which are to be soldered to a 1-1/2" square, single-sided PC board.
2. The four pads for the four-wire cable had not been drilled out to allow for the gauge of wire used to make the cable. I had to enlarge those holes by about 50%. A simple thing, but why was it necessary? Either use a smaller gauge of wire or a larger drill!
3. The order of the wires is important. The four wires connect to the circuit board in the sequence of Orange, Black, Brown Red. (It's a bit hard to see in the photo.) This is NOT the same order as the wires are arranged at the connector end.

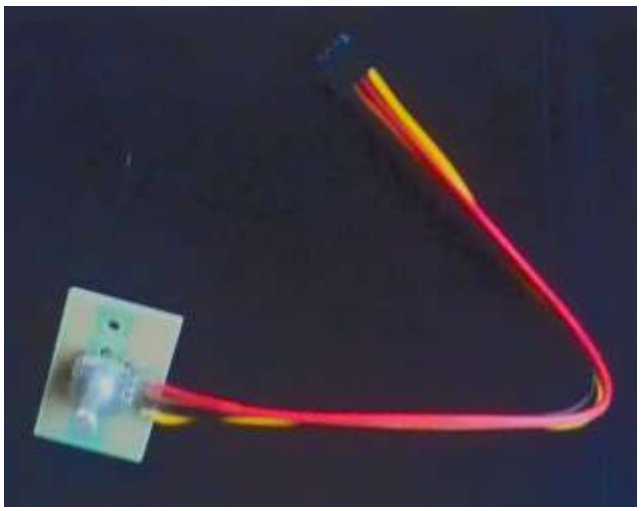


Figure 4: The shaft encoder board

It took me over an hour to assemble this module. For nine connections. It should have taken ten minutes. But my hands were pretty shaky and I had to correct a couple of solder bridges, which shook my confidence enough that I did not trust a simple visual inspection and wound up using a meter to assure myself that all connections were correct and there were no shorts.

The Front Panel Controls sub-assembly

1. This subassembly mounts the three audio jacks and connects to the microphone, volume control and rotary encoder, providing the connections for the analog and digital cables to the main µBITX board.

2. The subassembly consists of a single-sided PC board, three panel-mount 3.5mm audio jacks, a 4.7k resistor and six headers: two 8-pin, two 3-pin, a 4-pin and a 2-pin. The headers are cut from one of the long strips supplied.
3. As usual, the holes for the header pins were too small and had to be enlarged -- all 28 of them -- before the parts could be mounted to the board.

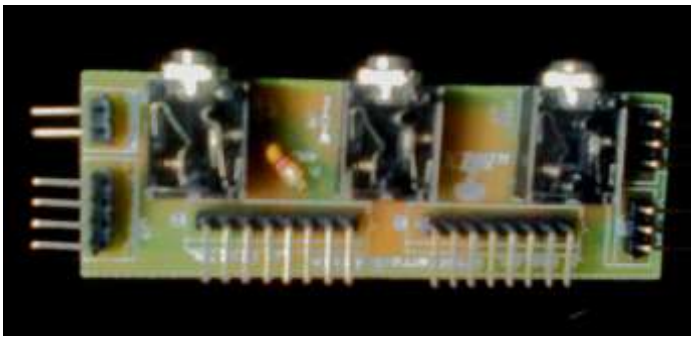


Figure 5: The Front Panel Controls Subassembly

Assembly of this module took about an hour, with enlarging the holes taking half the time.

Links:
https://hfsignals.com/ has information about the µBITX version 6 and some archived information about earlier versions.
https://ubitx.com a website run by Sunil Lakhani VU3SUA, promoting building bitx and ubitx and other qrp projects sold from his website, https://amateurradiokits.in.
https://amateurradiokits.in/blog contains additional construction details about the Universal Case, and some better photos.
https://ubitx.net/ provides help for constructors: Preventing catastrophes and providing guides, fixes and modifications for the µBITx. It is an information site only and not associated with HF Signals.

Nearfest News: NEAR-Fest and the Road Ahead

by Mister Mike, w1rc@near-fest.com

Dear Friends of NEAR-Fest:

Now that NEAR-Fest XXVII and XXVIII have been cancelled, there are some important issues with which we must deal.....

First, this is going to be a major hit on our treasury because, notwithstanding the reason we are being canceled, we have contracts that need to be honored. 2019 was, as you may remember, was plagued with wet weather for both May and October. Attendance was down and so are our cash reserves. Consequently, the hard facts are that we need to raise some new capital starting this Fall if NEAR-Fest is to survive.

In order to do this, beginning soon, we will be selling advance admission tickets for NEAR-Fest XXIX ($10.00) and inside parking passes ($10.00) either at Ham Radio Outlet in Salem NH and Ross Hochstrasser's Clock Shop, 40 Walnut Street, Whitman MA as well as by mail to Michael Crestohl, W1RC, 316 Atlantic Avenue, Marblehead MA 01945 with a check or money order and a SASE.

The exciting thing about the advance tickets are that all purchasers of advance tickets will be entered in a special prize drawing for either a Xiegu G90 HF SDR Transceiver (value $425.00) or a Yaesu FT-891 HF Mobile Transceiver (value $559.00). Winner does NOT have to be present to win.

We are going to offer a special "VIP Pass" to NEAR-Fest for those who really want to see us through this difficult and trying time. It will be good for the person to whom it was issued for life, allow that person and the occupants of their vehicle (up to four people) and the vehicle to enter at 8:00 AM on Friday morning. Cost of this VIP Pass is $250.00 and is available by mail only.

Additionally, the cost of admission at the Fairgrounds will be increased to $15.00. This added $5.00 is to help alleviate the cost of not having NEAR-Fest XXVII but advance ticket buyers will be able to save this $5.00 per ticket surcharge. I cannot tell you at this time if this $5.00 surcharge will be permanent. Once we are financially comfortable again we will decide whether or not to restore the cost to $10.00.

In the event that the May 2021 event cannot be held any tickets or passes purchased will be valid and honored at the next NEAR Fest so no one will lose.

We are asking our association and clubs if they can help us sell advance tickets to their members. The procedure will be simple and straightforward. Clubs would determine how many tickets and parking passes their members want, collect the money, send the list with this information along with a check payable to NEAR-Fest to us. We would take care of making sure that the prize draw stubs are properly filled in and put in the prize barrel for the drawing in July. After that takes place, we would ensure they are kept safe so they can be put in the prize barrel at NEAR Fest in May. The tickets would be sent to the club for distribution to the members. Members should be informed that they are buying admission tickets for our fall event. They are not buying a raffle ticket. However there is no limit on the number of tickets anyone may purchase. Drawing will take place at NEAR Fest XXIX in May 2021.

Secondly, clubs who have already applied for the 2020 Association and Club Early Entry passes will not have to reapply again in January 2021.

With your help we will survive this horrific nightmare.

73,
Mister Mike

Strays

Found on the Web

This month, I re-read the blurb on our web site about testing the new W1DC repeater and I got to wondering about CTSS tones (specifically, how many are they and what frequencies). I found a good article on Wikipedia:
https://en.wikipedia.org/wiki/Continuous_Tone-Coded_Squelch_System

--de Marla Wallace, WA1GSF

FM Repeater on the ISS

In case you didn't know it, there's now an amateur FM repeater aboard the ISS for our use. Wow!

To use it, you need to transmit on the uplink frequency (145.990 MHz, 67 Hz PL tone) and receive on the downlink frequency (437.80 MHz, no tone needed). I programmed my HT (the Yaesu FT-70DR which I recently purchased) and on Thursday, 9/17 I heard some hams on another repeater talking about hearing activity. I switched over and did hear a few snippets of comms on the downlink channel. Friday, I was prepared with knowing the pass timing by checking this website:

https://www.heavens-above.com/PassSummary.aspx?satid=25544&lat=42.5596&lng=-71.2717&loc=Unnamed&alt=0&tz=EST

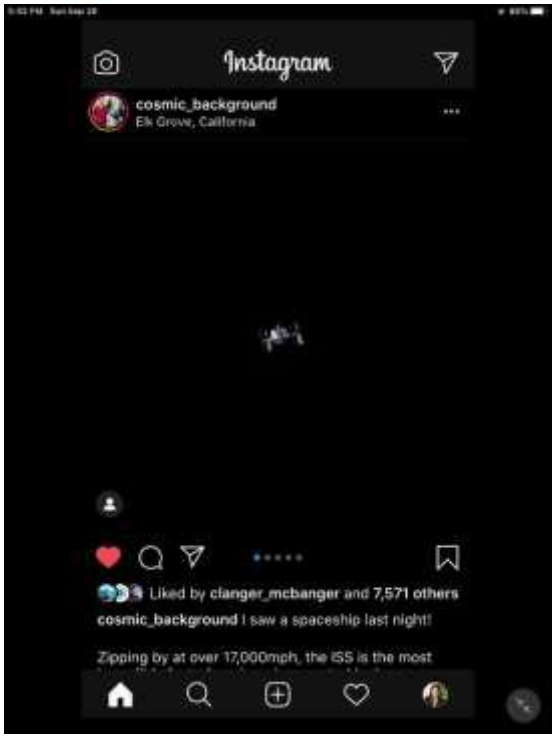
Note: if that link doesn't break, it should reveal ISS passes centered on Billerica. If your location is different, you can go to the main page and select "change my observing location." Also, since ham radio doesn't care as much about clouds, change "visible only" to "all"!

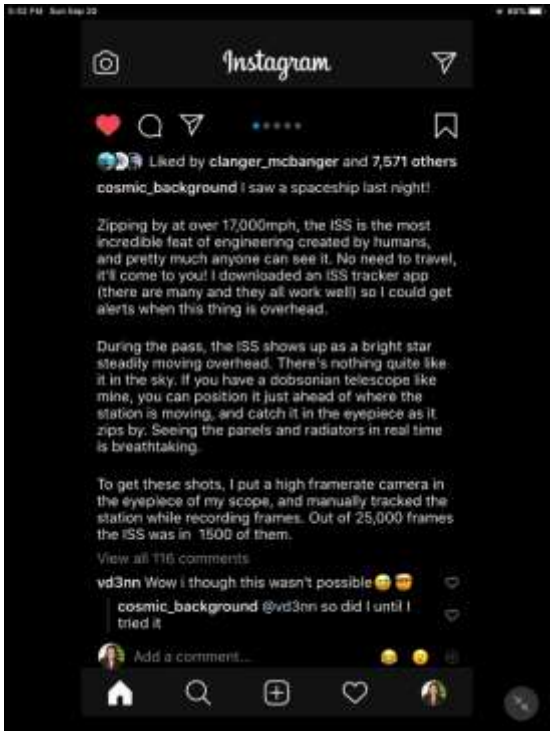
Friday was a clear evening so just after 8pm I was in the yard and actually saw the bright, fast object pass overhead. Again perhaps 30 seconds of crackly comms came out of the HT speaker. I did not have luck making a QSO but will keep trying. It sounds like I need to fabricate a little 2/70cm yagi. I did hear 3-land and 2-land callsigns, and last night I even heard someone say they were in FN42 grid square.

There are Apple and Android apps which can alert you realtime when the ISS passes overhead. I plan on installing one!

Of course if you have a receiver or scanner set to 437.8 you can hear the downlink. Note that not all rigs can do a split duplex like this. It is not cross-band repeat, just receiving on one band and transmitting on another. Check your rig's manual. [If you have to use a second rig to receive the downlink, be sure to use headphones to avoid echoes due to feedback when you transmit! –ed.]

Thanks to Kayla, W2IRY, for forwarding these interesting Instagram screencaps of someone actually getting shots of the ISS through a telescope.





This is a fabulous boost for ham radio in my opinion. Get your family out there to see and hear this.

--de Andy Wallace, KA1GTT

Mail Monitor Wanted

If anyone would like to volunteer to be the keeper of the club's PO Box in Nuttings Lake on Middlesex Turnpike, let me know. It means checking mail twice a month say in the middle of the month and then right before the club meeting.

Usual mail is dues and the club insurance.

I've been doing it since 2013 but if someone would like to take it over lets chat. It gets you out of the house and away from your honey-do list now and then.

--de Jim Evans N1HTS

The "Candy Store" Re-opens

I was monitoring the local repeaters on the HT one day and I heard one of the regulars – who it turns out works at HRO in Salem NH – say that as of Monday 9/21/20 the stores are REOPENING TO FOOT TRAFFIC. See the HRO policy here:

https://www.hamradio.com/coronavirus.cfm

Limit of 5 customers inside, and all must wear masks. This is great news. I do not know if they allow you to touch/operate the rigs at the station yet. Best to call ahead.

https://www.hamradio.com/locations.cfm?storeid=9

Salem, NH
224 N. Broadway D-12
Salem, NH
03079-2145

Store Hours:
10AM-5:30PM Mon – Sat
Closed Sundays

Telephone hours:
9:30AM-5:30PM Mon - Sat
Toll Free: 800-444-0047
Local: 603-898-3750
Fax: 603-898-1041

Email: salem@hamradio.com

--de Andy Wallace, KA1GTT

Another Python IDE

Hi Marla - Wanted to drop you a note to say I enjoy your python articles. I use python at work a bit and think it's a great language, especially for rapid prototyping.

Check out PyCharm for a great IDE. There's a free version.

73,

Scott Ginsburg, K1OA

[PyCharm is an IDE for Windows, Mac or Linux. The Community Edition is free; the Professional edition is not, but has more features. See

https://blog.jetbrains.com/pycharm/2020/08/pycharm-2020-2-1/

-- ed.]

Secretary's Reports

from Scott Ginsburg, K1OA, Secretary

The BARS General Meeting, September 2, 2020

President Andy Wallace, KA1GTT called the Zoom virtual meeting to order at 7:04 PM.

Dom Mallozzi, N1DM gave a talk on using FT4 and FT8. There were 24 attendees. KA1GTT closed the meeting at 9:00 PM.

BARS Board of Directors Meeting 14-Sep-2020

Board Members present were KA1GTT, W2IRY, W1LUS, WA1VAB, K1TW, K1OA

The Board discussed various options for the club if nobody steps forward to run for president.

BARS Membership

Bruce, W1LUS, our BARS Treasurer reports that as of 10/1/2020, we had 97 members.

2021 BARS Member Dues

The BARS Board has changed the policy on member dues. A $15 annual BARS membership now runs from January 1st and expires on December 31st. Any renewal or new membership made after September 1 will be valid until December 31st of the next year. Memberships allow us to

- Pay our bills;
- maintain our great web page;
- fund field day;
- and bring the membership a great variety of informative meetings and speakers.

Treasurers Report for October 2020

from Bruce Anderson, W1LUS, Treasurer

As of September, I have started accepting payment for 2021 dues. Dues can be paid several ways:

- Via bank to bank transfer with Zelle, Venmo, PayPal, etc. by sending $15 to bars.dues@outlook.com
- With credit card on the W1HH.org website by using the Join/Renewal membership form.
- By cash or check by mailing $15 to Billerica ARS, PO BOX 832, Nutting Lake, MA 01856

The only expense was Zoom $15.93. We had 10 new/renewals in September. We now have $216.53 in the Bank and $649.69 in our PayPal account for a total of $866.25

BARS Needs You!!!

We are looking for a few good hams to act as net control on the regularly scheduled Wednesday night nets! All it takes is one night a month; if you are interested contact Chris, KC1IUK. Also, the club needs volunteers for light tasks of ~ 1 hour a month. Are you able to pitch in? Contact Andy, KA1GTT

Wednesday Night Net

Join us on the Billerica Repeater for the weekly BARS net each Wednesday at 8:00 PM (**except on the first Wednesday of the month which is club meeting night**).

Repeater info:
147.12 MHz
+600 kHz (normal) offset
Encode CTCSS 103.5 Hz

Club Meetings

First Wednesday of the month at 7:00PM at Chelmsford Bible Church, 128 Gorham St., Chelmsford MA
Park in back and enter by rear door
Chelmsford Bible Church Hall, 128 Gorham St, Rear Door, Chelmsford MA 01824-3220 (map)

VE Sessions

We are conducting VE exams again. The exams are conducted differently than in the past. For now the new procedure will be

- The exams will take place in a parking lot where the examinees remain in their vehicles during the exam.
- Pre-registration will be required. No more "walk in" sessions because we must limit the number of people in order to maintain social distancing.
- To minimize paper handling by the VEs, the 605 form and CSCE form must be filled out and emailed to the VE team along with a copy of existing FCC license, if any, and an ID before the exam session.
- Masks must be worn.

We are also considering Saturday morning exams a couple times a month if the demand is there for tests.

For more information about the new exam process and to register for an exam session, contact Bruce, W1LUS, at W1LUS@hotmail.com

Eventually, we hope to resume holding VE sessions as before, every month on the 2nd Thursday at 7:00 PM at Chelmsford Bible Church, 128 Gorham St., Chelmsford MA. Park in back and enter by rear door. Chelmsford Bible Church Hall, 128 Gorham St, Rear Door, Chelmsford MA 01824-3220 (map)

September 2020 VE Session Report

On September 10 we had our second VE Exam using social distancing guidelines. Thanks to Peter N1ALO, Don W1DM, Deb AB1IC and Gary W1GFF for their help in running the session.

There was one upgrade to General, Richard KC1NQK and four new Technicians, Andreas KC1NTL, Harry KC1NTM, Roberto KC1NTN and Francis KC1NTO. If you should hear any of them on the air be sure to say hello.

We have decided to change the day, time and location of VE exam sessions for the next few months. The next VE exam session will be on Saturday, October 10, at 10:00 AM in the parking lot of Gary's Ice Cream store. (131 Gorham St Chelmsford MA 01824)

Bruce Anderson, W1LUS

Club Breakfast every Saturday

On Saturday mornings around 8:15AM, we also meet weekly for a casual, social breakfast at Stelio's restaurant. Stelio's Family Restaurant, Billerica, MA (map)

Future Meetings

The 11/4 meeting (election of officers) will be held via Zoom.

Subscribe to the BARS Mailing List

To subscribe to the BARS email list, send a blank email to bars-subscribe@w1hh.org and watch for an automated reply. Note that bars-subscribe is all one word.

Reply to that message from the list server and you are then subscribed.

To post to the list, address your email to bars@w1hh.org

BARS October Suggestions - Get-on-the-air Events

BARS is a "get-on-the-air" (GOTA) club. We encourage members to participate in the varied events on HF and VHF. Here are some popular suggestions for this month:

Date	Event
Oct 3-4	Oceania DX Contest, Phone http://www.oceaniadxcontest.com/OCDX-2020-Official-Rules.pdf
Oct 3-4	California QSO Party http://www.cqp.org/Rules.html
Oct 10	QRP ARCI Fall QSO Party http://qrparci.org/contests/2020%20Fall%20QSO%20Party.txt
Oct 10-11	Oceania DX Contest, CW http://www.oceaniadxcontest.com/OCDX-2020-Official-Rules.pdf
Oct 10-11	Straight Key Century Club (SKCC) Weekend Sprintathon https://skccgroup.com/operating_activities/weekend_sprintathon/
Oct 17-18	New York QSO Party http://nyqp.org/wordpress/
Oct 24-25	**CQ Worldwide DX Contest, Phone **** https://www.cqww.com/rules.htm

**** Top Recommendations for this month**

Details on each contest above and more events can be found every week on the WA7BNM contest calendar at : https://www.contestcalendar.com/weeklycont.php?mode=custom&week=current

BARS Leadership Team

President: Andy Wallace, KA1GTT
Vice President: Kayla Creamer, W2IRY
Treasurer: Bruce Anderson, W1LUS
Secretary: Scott Ginsburg, K1OA
Net Coordinator: Chris Lobdell, KC1IUK
Newsletter Editor: Marla Wallace, WA1GSF
BoD: Mike Raisbeck, K1TWF
BoD: Henry Christle, WA1VAB
Ex Officio: Tom Walsh, K1TW