



NEWS FOR AND BY BARS MEMBERS

# BARS BillERICA Amateur Radio Society

AUGUST 2022

## BARS physical meetings are on hiatus until further notice.

The decision to resume in-person club meetings will be made entirely by the Board based on the outlook of this medical emergency.

Meanwhile, virtual club meetings using Zoom have proved an enjoyable substitute. Please ignore the section, below which gives directions and schedule for in-person meetings. It is hoped that we can resume in-person meetings by the new year.

**The Board has decided to resume in-person Saturday morning breakfasts at Stelio's Restaurant.** However, virtual breakfast meetings using Zoom will continue to provide an enjoyable substitute for those who wish to avoid physical presence.

**The VE License Exam Sessions, have gone back to in-person exams – see the VE section near the end of the newsletter for details.**

The safety and well-being of our membership is important to us.

--BARS Management.

## From the President's Desk By Gary Frascarelli, W1GFF

Can you believe that July is over and August is beginning..what happened to summer!?! The kids will be going back to school in just a few weeks.

Our thanks to Donna Halper for her excellent talk at the July 2022 Zoom meeting. She is a fountain of knowledge on both ham radio and broadcast radio and is always happy to share it.

We are just a few weeks away from the HamXposition Convention. It will be held August 26-28, 2022 at the Best Western Royal Plaza & Trade Center in Marlborough, just off Rt 495. As always there will be exciting talks and presentations lined up on the three-day program.

Phil Temples, ARRL Vice Director for the New England Division and a former Eastern MA Section Manager will be the guest at our Wednesday August 3<sup>rd</sup> BARS meeting (on Zoom). Phil will preview the HamXposition. Bruce (W1LUS) will send out the link to the meeting a few days in advance.

If you have any potential guests that you would like to hear from (or aspects of ham radio) at future monthly meetings please reach out to either me (W1GFF) or Tom Walsh (K1TW).

Hope to see you all at the August 3rd meeting.  
Gary (W1GFF)  
BARS President

## Next BARS Zoom meeting: August 3 at 7:00 PM: "HamXposition: It's not your father's Boxboro"

By Phil Temples, K9HI

Now that you know what it *isn't*, come to the next BillERICA ARS meeting and hear what it *is* from HamXposition Program Chair Phil Temples, K9HI.

Phil will highlight some of the exciting talks and presentations lined up on the three-day program, as well as discussing some of the less-known activities that will occur at the Convention on August 26-28, 2022 at the Best Western Royal Plaza & Trade Center in Marlborough.

(By the way, it's okay to forget and call it "Boxboro." Phil does it occasionally, too!)

Phil Temples is ARRL Vice Director for the New England Division and a former Eastern MA Section Manager. A ham for over fifty years, he's a Life Member of the ARRL and QCWA.

When not involved with HamXposition and ARRL matters, Phil also likes to write. He's authored hundreds of short stories and published several novels and story anthologies.



BARS 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](mailto: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.

We are looking forward to “seeing” many of you on Wednesday 8/3 here at 1900.

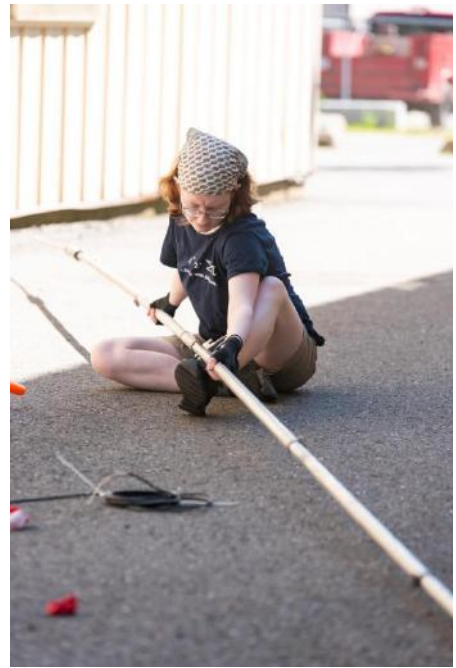
Billerica Amateur Radio Society

## A Message From the Editor

from Marla Wallace, WA1GSF

For those whose memory is better than your editor's, no reminder is needed. For the rest of us, here are just some pictures to remind us all of just how much fun some of the BARS members had at our Field Day operation in June. There are more pictures up on the club website's [Blog - Billerica Amateur Radio Society \(w1hh.org\)](#).

Thanks to Kayla Creamer for the excellent photography.





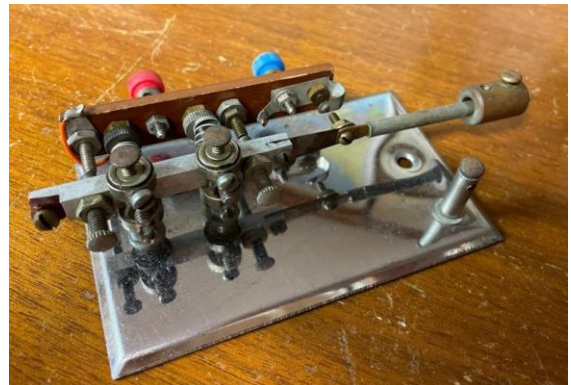
## Feature Article: My Smallest, Cheapest, and Most Interesting Bug

### By Andy Wallace, KA1GTT

At a non-ham flea market recently I bought a homemade bug key. You may remember that I love bugs, and have several that I use on the air all the time. I even gave a presentation on bugs to BARS (as well as Pepperell's NVARC). A bug is a telegraph key for CW, but the way it works is different from the up and down motion of a straight key. With a bug, the key makes dashes manually and dots automatically. This was an innovation developed to prevent carpal tunnel syndrome back in the landline telegraph days.

Most bugs have an arm that pivots toward the front, and a paddle pressed by the thumb making dots (automatically, by a vibrating arm and weight) and a knob which makes dashes by the index finger. You operate the bug horizontally, left and right motion. Vibroplex had the early patent on this and they went after other companies trying to copy it. As a result there are a few designs that vary from the Vibroplex scheme mechanically. But most hams, should they make a bug at home, simply copy the Vibroplex action.

What I found at the flea market was something novel.



*The Bug as Found*

The key was assembled on a chrome wall switch plate. Its fingerpiece/paddle was broken off, and the damper which stopped the vibration of the dot arm was missing. I found a phenolic

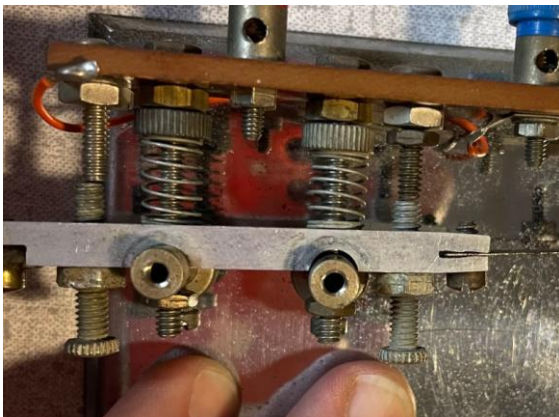
paddle that would fit in my “junkbox” of parts, and made a damper out of a piece of old whip antenna and wire insulation.

Whoever created this, I would like to have shaken his or her hand! The key is very unusual in that instead of pivoting, the main arm rocks on semicircular cutouts in the arm. These are not bearings, but simply parts used as standoffs and spacers.



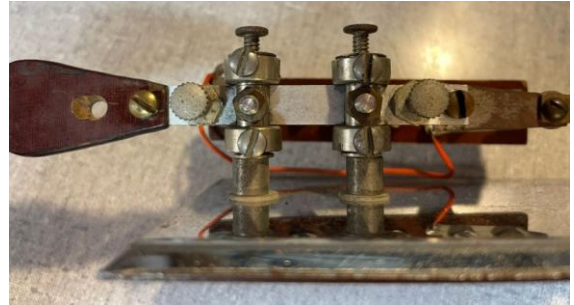
*A Close-up of the Standoffs*

I've removed the top collar so you can see the mechanism. The two springs exert force and keep the arm in the depressions. Tilt one way for dots, the other for dashes. Here's a closeup of the action during a dot paddle press. It may be hard to see but the front standoff is seated in the cutout and the rear one is angled out of it.



*The Dot Mechanism*

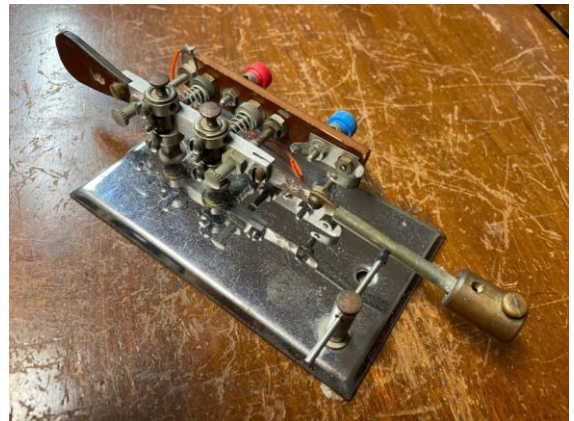
Whoever made this used very strong springs. I did not change them, as I am displaying this as something created in the past. For all I knew the person had this screwed down on the operating desk or the dash of his '65 Galaxie 500. The action as a result is very stiff – but once I adjusted things, it sends well at 25 words per minute. It was clearly made to be adjusted for this one user and then never changed. It's constructed of repurposed relay parts and other mechanical items. A “junkbox” build for sure.



*With Replacement Paddle*



*Overall Shot Showing Terminals and Dot Damper*



*And From the Other Side*

At any antique shop or flea market I am sometimes shocked to see ham gear or keys and this little bug (my smallest at 7" long) was a neat find. It was also my cheapest to date. The price? Three dollars!

## Feature Article: Project Big E - Request to BARS Members

By Larry Krainson, W1AST

Do you remember when you were first interested in ham radio? Do you remember being a new ham? Do you remember the excitement of being a new ham?

Do you remember when you joined your first ham club? Whether it was BARS or another club. The club was excited to have you join.

In these semi post-COVID days, all clubs are lacking new members in the form of new hams to grow your club. Those that have been active keeping your club running, need new members to bring new ideas and club growth into the future.

The Big E in West Springfield MA runs from September 16 through October 2nd. The booth will showcase modern ham radio to the public. Each day, the booth will have 4 to 6 hams from around New England manning the booth and talking to the public. The goal is to get this public signed up to learn more and take ham classes.

*[There is more information about Project Big E in the "Strays" column – ed.]*

The Big E draws people from all over New England as well as eastern NY. It's not just a local Western MA or northern CT fair, it's all of New England.

We need people to man the booth, to talk to the public, to operate the Special Event Station (N1E) and to help get people signed up. At the end of the Big E, the info of those that signed up will be organized and distributed to clubs close to them. Clubs that helped run the booth get priority with the list of names.

This will be an amazing opportunity for all clubs to help create new hams and to then grow their clubs. Which will then help to grow ham radio in New England!

Being a volunteer is not just for your club board, it's for all hams. This gives you an opportunity to give back to the hobby by recruiting others to join it. Will you help?

There are 17 twelve hour days that need to be filled. Each day has two 6 hour sessions. Some have been completely filled and blocked out, some are still open. Sign up for a session, a day or multiple days.

There are host families available to stay overnight for free if you'll be traveling long distances. Also, each person entering will be re-implemented for their admission costs and on Big E fairgrounds parking costs.

We also offer (if notified in advance) the availability of discounted admission costs for family members of \$8 each person vs \$15 regular cost).

We need your help to man the Ham Radio booth at this year's Big E. It's very possible that admission this year will exceed 1.5 million people! If a fraction of those admissions sign up, those are possible new hams that can grow your club.

Please visit the following for more information and to sign up or to join the group:

<https://groups.io/g/ProjectBigE>

<https://nediv.arrl.org/project-big-e>

[https://docs.google.com/forms/d/e/1FAIpQLSd9\\_iH1ZucHuCFCNwreEuVPWnmLOT5D\\_s92vHPuEUASS78Tew/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSd9_iH1ZucHuCFCNwreEuVPWnmLOT5D_s92vHPuEUASS78Tew/viewform?usp=sf_link)

If you require further info, please contact Larry, W1AST at [W1AST@arrl.net](mailto:W1AST@arrl.net). Larry will be at the HamXpo in August.

## Feature Article: Measure Your Antenna's SWR

By Richard Fine, KC1PYV

A few weeks ago, I purchased a 40M End Fed Dipole antenna specifically for use with my QCX (5W) transceiver. I decided to acquire an SWR meter to 'tune' the antenna, if necessary, for my "technician" class use. Documentation accompanying the antenna indicated its resonant frequency was 7.150 MHz -- about 100Khz higher than desired.

During my 'search', I learned more about SWR meters, tuners and analysis equipment -- capabilities, similarities and differences. After indentifying an SWR product which seemed to fit the bill, I reached out to a few BARS members (Tom Walsh, Andy Wallace and Eric Johnson) for their advice in helping to find the best instrument for me. Their feedback was very helpful in making my final decision. It was suggested that I "convert" the email trail between us to an article so that others may share their insight.

The email order is chronological starting with the initial conversation -- with redundant email header removed.

~~~~~  
From: Richard Fine

Sent: Monday, July 11, 2022 12:41 PM

To: 'Tom Walsh', 'Andy Wallace', 'Eric Johnson'

Hi Tom, Andy, Eric,

I just acquired an end-fed antenna for my 40M QCX transceiver - - reception is great but not sure about transmission "quality". What SWR meter would you suggest to optimize the antenna? I didn't have any plans to acquire a tuner since the QRP rig will be

used as portable. The meter may be used in the future for higher power rigs. but not the case right now.

Also, I wanted to let Tom know that the CW friends meetings helped me enormously -- the information gathered and experience of the group made a big difference for me -- Probably couldn't have progressed without it. Incredibly, I'm on the air!!!

regards, Rich Fine  
KC1PYV

~~~~~  
From: Tom Walsh  
Sent: Tuesday, July 12, 2022 11:27 AM

A few questions first,

1. Do you want a kit or a commercially built product?
2. Do you want something simple (LED indicator lights) or with a full-fledged SWR indicator?
3. Do you want least cost or something more?

The answer can be as simple as an inexpensive QRP tuner or a NanoVNA all the way up to the somewhat expensive but popular Rig Expert and MFJ SWR analyzers.

The nice thing about an antenna analyzer is you can measure your antenna SWR and resonance without a rig attached to read the SWR when transmitting. These are simple to use and great to have while building, testing and using all kinds of antennas.

I personally could not live without a full-fledged SWR analyzer which can sweep an entire band and measure antenna SWR without transmitting from your rig. Great for constructing and testing unfinished antennas.

Or you can just buy an inexpensive SWR meter of which many models exist but have very limited use other than measuring SWR while transmitting.

Tom

~~~~~  
From: Richard Fine  
Sent: Tuesday, July 12, 2022 2:41 PM  
To: 'Tom Walsh'

Hi Tom,

Thx for the quick response -- my immediate need relates to my QCX 5W transceiver -- I have an end-fed antenna I'd like to 'optimize' (i.e.: lengthen or shorten) for the best SWR. I'd prefer to buy vs build and have a meter display.

The MFJ 813 (~\$65.00) seems to do the trick; I hope to use the rig while on vacation (various cape cod locations) later in the summer. How would this device differ from an "antenna analyzer"?

My ICOM 7100 has built SWR capability (and I have an LDG tuner) so I don't need (at least right now) a higher power and more expensive device. You mention below ("I personally could not live without a full-fledged SWR analyzer"); would an external SWR meter be more desirable than the internal one on my home rig?

regards, Rich

~~~~~  
On Jul 12, 2022, at 5:52 PM, Tom Walsh wrote:

Rich,

I understand what you want to do. BTW, Andy and Eric may have a different view point than I will but that will allow you to consider different solutions. Let me start with a few simple observations and my advice.

1. Yes the MFJ-813 will tell you the SWR on your antenna when using the QCX on any one frequency at a time. But to help you determine where the antenna has the lowest SWR, you will need to make multiple measurement across the band; one measurement at a time as you change frequency. And you will only be able to take readings where you can transmit legally. So you will only get data over a very limited frequency range.

2. The antenna resonance could well fall on a frequency outside the ham band. Since you can't transmit outside the ham band, you may not be able to find the actual resonant frequency of the antenna with the MFJ-813. Therefore it will be harder to determine whether to shorten or lengthen the antenna and by how much.

3.. The MFJ-813 is OK if all you want is to check is SWR on your transmit frequency or on the band. I would consider a getting cross needle meter though.

4.. The Antenna Analyzer allows you to sweep the antenna SWR across the entire HF radio spectrum. So you can immediately see if the antenna has the lowest SWR inside the desired band or whether it is resonant above or below. That information really helps when you want to adjust the antenna length.

Antenna Analyzers are a lot more expensive (\$300 or so). If you want to build lots of antennas and experiment an SWR analyzer is indispensable and worth the extra cost. If you go the analyzer route think of it as a long term investment that you will use over a decade or more. I have an MFJ analyzer that has been with me for close to 40 years now.

5.. Let's see what Andy and Eric have to say.

Tom

~~~~~  
On Wed, Jul 13, 2022 at 11:25 AM Andy Wallace wrote:

Hi guys. I have been watching and Tom thoughtful responses I agree.

Rich, I have a 7300 but if the 7100 has an SWR function, as Tom says you can check the SWR with that but only within the ham bands. I see you are a Technician (big kudos for learning the code!) so you can transmit only from 7.025 to 7.125. So you could by law only check the SWR there.

Best way to check would be turn the 7100 down to 10w, select straight key input, and transmit a long dash and see what the meter reads. Try at 7.025 and move up. Does the SWR get better or worse? Go every 25 kHz and record the numbers and that may tell you.

If it is 1.5 at the bottom, 2.0 at the middle, and 3.0 at the top that means the resonance is below the band. Get the idea?

As Tom says an analyzer makes things much easier.

I have a RigExpert AA-230 Zoom. Fairly expensive. One button push shows you the plot across the band and it is helpful. If you don't see yourself doing many experiments maybe someone who owns one can help. Oh gosh. I just realized you are Eric's friend with the MG. I'd be happy to come over with it and help.

But you may want to test the SWR with the 7100 to get a rough idea of where we start.

Eric, what did you use to test your EFHW?  
See the full manual page 6-13 for how to measure SWR.  
Andy

From: Eric L. Johnson  
Sent: Wednesday, July 13, 2022 12:18 PM

I used my \$25 SWR meter and noted a nice dip at low end of 40 and 20 meter bands. (2 different end fed half wave wires with ununs).

Eric KC1OAV  
~~~~~  
On Jul 13, 2022, at 1:17 PM, Tom Walsh

1. Yes, an SWR meter will tell you some data but if the SWR is above 3:1 or 4:1 across the entire 40 meters is it resonant above or below? What if its resonant at 8 MHz instead of 7 MHz? How would you know?

a. My personal opinion is a stand alone SWR meter is of very limited usefulness since all but the simplest rigs already have an SWR indicator built in.

2. On the other hand....  
The cheapest Analyzer I can find at the moment is the MFJ 207 at \$160. So for \$95 more than an MFJ-813 you can purchase an analyzer that operates from 160-10 meters. It will also tell you the SWR in the vicinity to where you want to operate and across the entire frequency range but not with a precise frequency readout which could be a problem.

[https://mfjenterprises.com/products/mfj-207?\\_pos=2&\\_sid=00ff017fb&\\_ss=r](https://mfjenterprises.com/products/mfj-207?_pos=2&_sid=00ff017fb&_ss=r)

Only Rich can answer which device is better for him of the 2.

3. On yet another hand...  
The most popular analyzers are more costly. Both Rig Expert and MFJ make very useful popular devices which can sometimes be found on the used market. These give you precise frequency readout of SWR on any frequency from 160-10 meters and you are not limited by your license on where you can measure SWR.

a. Check out  
<https://mfjenterprises.com/search?q=SWR+Analyzer>  
for their complete line.

b. The MFJ-213 looks decent for the price.  
[https://mfjenterprises.com/products/mfj-213?\\_pos=7&\\_sid=00ff017fb&\\_ss=r](https://mfjenterprises.com/products/mfj-213?_pos=7&_sid=00ff017fb&_ss=r)

One last suggestion is follow local flea markets and swaps net as Analyzers sometimes show up though rarely at decent prices below what a new one costs.

However, Next month there is a large flea market at HamXposition in Marlboro on August 26-27.

Summary,

1. The MFJ-813 has very limited usefulness but will tell you the SWR on your QCX or any other radio you are using. It will do what you want.
2. An Analyzer will tell you the SWR your QCX sees but at a much higher cost.
3. The Analyzer would be indispensable only if you expect to a lot of antenna work, such as , adjusting commercial antennas for resonance, or making your own antennas. Otherwise get the simple meter and save the money.
4. The Analyzer allows you to measure SWR on any frequency whether inside or outside all bands from 160-10. Some analyzers also provide a graphical display (i.e., a sweep) of an entire range or band.
5. You might get lucky and find something used at a good price.

~~~~~  
From: Tom Walsh  
Sent: Wednesday, July 13, 2022 6:01 PM

I just found this blog post which is relevant to our discussion here. Tom K4SWL posted this story on the Kanga Phoenix QRP Tuner that some used with his QCX mini. Read the story here <https://qrper.com/tag/phoenix-tranzmatch-kanga/>

Note also the review of the Kanga Tuner on eham.net <https://www.eham.net/reviews/view-product?id=15337>

I post this because it costs less than the MFJ SWR meter and has a QRP tuner included with an LED indicator for the low SWR. This seems to me a better solution to matching an antenna for the QCX transceiver. It's available already built for about the same cost as the MFJ. Can't beat that for the \$50 US cost.

Kanga is a long time QRP vendor in the UK.

Tom  
~~~~~  
From: Richard Fine  
Sent: Thursday, July 14, 2022 12:49 PM

Hello everybody,

Thx for all the input -- I decided break things down into 2 categories -- short term and long term. The first is simple (for upcoming vacation) -- I have a QCX 40M transceiver connected to an end-fed antenna (ENDFEDZ EF-40 by Vibroplex -- I've attached the 'manual'). Reception is great (Technician frequencies) - but I've not had any success yet transmitting.

The manual indicates a resonant frequency of ~7.150 Mhz --- I typically work 7.030 to 7.070 where I hear the most traffic; thus I plan to reduce the resonant frequency by 100Khz. The manual indicates that a 6" length of wire (added) will reduce the frequency by 25Khz -- thus I need a 2 foot extension.

Does the "matchbox end" (box with the SO-239 connector) have to be at the end of the antenna? Or can I just add the 2 feet of wire at the Matchbox post?

Either way, Eric kindly offered me his SWR meter to take antenna measurements; doesn't have to be perfect... (I have an old SWR meter in our attic which, unfortunately, has 35 years of stuff in front of it)

My long term goal is a bit more complicated -- with all the info provided by everyone, I'm not sure right now of the best solution -- but I plan to investigate the variety of options and then choose the best product(s) for my use. Could not have done it without your input.

I'll volunteer to make a newsletter article out of the email content -- before submitting, I'll pass it around.

regards, Rich ..  
~~~~~  
From: Tom Walsh  
Sent: Thursday, July 14, 2022 7:44 PM

Rich,

Interesting the EF-40 SWR is set for 7.150. I would have expected them to make it lower since its usually easier to trim

wire to raise the frequency than it is to add wire to lower the frequency.

I purchased an Alpha Delta 80 meter wire dipole. (I like dipoles for home stations). Out of the box it was resonant below 3.5 MHz allowing it to be easily trimmed for the desired 80 meter frequency.

Your short vs long term strategy is sensible I think. Half the fun is experimentation.

Tom  
~~~~~  
On Jul 19, 2022, at 9:01 AM, Richard Fine wrote:

Hi All,

This past weekend, I borrowed Eric's SWR meter (MFJ-207). I was able to find the SWR 'dip' (1.5:1) at around 7Mhz .. due to the analog meter, it was a bit difficult to locate an exact (or close to it) frequency. I then decided a digital display would be real handy. Mentioned in the below (MFJ) recommendations was a unit with a digital display (MFJ-213) -- \$249. Looking at a number of product reviews, the MFJ Analyzer (MFJ-259D) costing \$349 was always highly recommended ("Best thing since sliced bread"); digital and analog displays. My (short term) requirements were certainly satisfied .. many other antenna features that I didn't even know about are also included. Convincing myself these features may be handy later, I decided on the MFJ-259D ... and HRO sells the unit at a discount of \$305. It should arrive later this week.

Thx everyone for the help ..

regards, rich ..  
~~~~~

Andy Wallace  
Sent: Tuesday, July 19, 2022 9:45 AM

Super! Simple to use and I am sure Eric will borrow it!  
Andy

## Welcome to the Fifteenth BARS CW and More Corner By Tom Walsh, K1TW

**Note: The CW Friends monthly Zoom meetings are currently on hiatus.**

Because I was running out of purely CW topics, I decided to expand the scope of this column to "CW and More" – Tom.



## **Summer Doldrums Got You? Here is the Cure!**

Last month I talked about putting your new antenna on the air. This month I will talk about Summer Fun and Ham Radio.

### **HamXposition in Marlboro on August 26-28 – The number 1 cure for summer blahs!**

If you are new to the hobby, the Northeast HamXposition held the weekend of August 26-28 is not to be missed. Three days of ham radio learning and adventure is at your disposal.

Speakers, vendors, and ARRL officials are coming from across the US to serve up a weekend menu of talks, displays of the latest equipment, and activities to suit almost any radio interest you have. You can often find a great bargain in the flea market, or a great price in the exhibit hall from the vendors present.

Headquarters for the event is the Best Western Royal Plaza Hotel & Trade Center at exit 63B off Route 495 in Marlboro. There is a block of hotel rooms available until August 5th, or you can drive there each day. The program schedule and all the event details can be found at <https://hamxposition.org/welcome-to-hamxposition.html>

Please come to our August 3rd Bars meeting with Phil, K9HI (HamXposition Program Chair) who will provide a complete preview of the convention.

### **Next cure for Summer Doldrums is the great summer propagation we are seeing!**

The sun has come alive and with-it great HF propagation. If you haven't tasted HF radio, now is an excellent time to get involved. Whether you are running low power (QRP) or full power or whatever in-between power, the bands will usually amaze. I have seen 10-meters open for summertime short-skip many evenings every week and worldwide propagation during the day.

People still talk about the amazing solar cycle-19 from 1954-1964. Check it out on Wikipedia. It was the highest ever seen and each new cycle (our current one is cycle-25) makes me hope for a repeat or something close. 10 meters is certainly responding along with 15-meters. Some nights 10-meters will stay open late to Asia, Australia, and Japan. Will we see another cycle like #19? Probably not, but this cycle-25 is already great fun and shouldn't be missed. Check the higher HF bands frequently for openings, especially 10-meters.

### **My Final cure for summer doldrums: Get-on-the-air!**

BARS is a GOTA (Get-On the Air) Club. There is so much to do every day and new friends to meet. I like CW best but am also on many other modes over a period of time. FT-8 is popular but don't miss the excitement of one-to-one interaction with another person on CW, SSB, RTTY, and many other modes too. Before I get on the air, I usually check the radio conditions. That means looking at a few web sites like:

<https://www.swpc.noaa.gov/products/planetary-k-index>

I check this hoping for a K-index of 3 or lower which usually means good propagation. K indices of 5 or higher mean solar storms and possible northern lights, especially in Northern New England.

<https://rbn.telegraphy.de/>

This is a variation of the reverse beacon network but easier to use in my opinion. Here you can see what bands are active in the last 5-10 minutes with stations calling CQ on CW. Even if you don't operate CW, an active CW band means an active SSB band too. You can choose any one or multiple bands from 10-160 meters. Pick skimmers located only in NA to see what we are hearing here.

<https://map.blitzortung.org>

Always check a lightning web site before connecting your antenna for safety. I like this one. Configure it for your QTH and stay safe during bad weather.

<https://parksontheair.com/>

Pick websites like Parks on the Air to find spots where people are activating parks right now. Great fun.

One More Website (a favorite): <https://ch.w6rk.com/>

This one is a bit of an acquired taste. There are 3077 counties in the 50 US states. CQ Magazine offers the great USA-CA (USA County Award) for working 500 or more of them. This website shows where people have activated counties today. Again, great fun.

CQ Website for USA-CA:



This website shows you the rules for USA-CA:

[https://cq-amateur-radio.com/cq\\_awards/cq\\_usa\\_ca\\_awards/cq\\_usa\\_ca\\_awards.html](https://cq-amateur-radio.com/cq_awards/cq_usa_ca_awards/cq_usa_ca_awards.html)

### **So that's it**

There is no reason to have the summertime blahs. Radio is better than ever even when its 90 degrees or more. CW flourishes as does SSB, FT-8, and Digital.

Until next month

73,

Tom K1TW

[k1tw@arrl.net](mailto:k1tw@arrl.net)

## Strays

### Found on the Web

Ever wonder how a transformer works? Here's a short video:  
<https://www.digikey.com/en/blog/what-is-a-transformer-and-how-does-it-work>

Not mentioned in the video, but important to understand what else a transformer does:

- The current in the transformer's secondary will be inversely proportional to the turns ratio. If the transformer doubles the voltage (secondary versus primary), then the current is halved.
- The impedance of the secondary is related to the impedance of the primary by the square of the turns ratio.

If you prefer the math:

$$V_s = N_s \div N_p \times V_p$$

$$I_s = N_p \div N_s \times I_p$$

$$Z_s = (N_s \div N_p)^2 \times Z_p$$

--de WA1GSF

### Is your Email address on the FCC site up to date?

#### § 97.23 Mailing and email addresses.

*Each license grant must show the grantee's correct name, mailing address, and email address. The email address must be an address where the grantee can receive electronic correspondence. Revocation of the station license or suspension of the operator license may result when correspondence from the FCC is returned as undeliverable because the grantee failed to provide the correct email address.  
 [85 FR 85533, Dec. 29, 2020]*

I recommend that you log on to the your FCC Registration at <https://apps.fcc.gov/coresWeb/updateRegistrationPre.do> to make sure that your email address is up to date. Also in the future should you change your home address or your email address be sure to remember to update it on the FCC site.

*[Note that the FCC is charging a \$35 fee for licence applications / renewals starting this month, but a change of address notification is still free. – ed.]*

--de Bruce, W1LUS

## Project Big E Press Release – ARRL New England Division

FOR IMMEDIATE RELEASE - May 1, 2022

Contact:

Larry Krainson, W1AST  
 100 Kenmore Drive  
 Longmeadow, MA 01106-2759  
 Tel: 413-348-3289  
 Email: [w1ast@arrl.net](mailto:w1ast@arrl.net)

### PROJECT BIG E TO HIGHLIGHT MODERN AMATEUR RADIO

Project Big E is a 17-day amateur radio exhibit to be held at the 2022 Big E from September 16-October 3, 2022 in West Springfield, Massachusetts. Western Massachusetts ARRL Affiliated Club Coordinator and Hampden County Radio Association president Larry Krainson, W1AST, is the Project Big E General Chairman.

The Big E, formerly known as The Eastern States Exposition, is billed as “New England’s Great State fair.” It is the largest agricultural event on the eastern seaboard and the sixth-largest fair in the nation. In 2021, the Big E had 1.5 million visitors, and over 1.6 million visitors in 2019. [according to Wikipedia.org]

Planning for Project Big E is underway. An impressive ham radio booth will showcase the many aspects of modern ham radio, and provide an avenue for people to sign up for information and courses in their local area.

Features proposed for Project Big E will include:

- an EmComm display
- DMR and/or other digital mobile mode demo
- Digital HF modes on a big screen
- A special event station (N1E) with unique QSL cards
- SSB, CW and digital modes
- Demonstrations of portable stations for field operation (i.e., Parks On The Air, Summits On The Air)
- A live ARISS contact

Project Big E can succeed only if there is a sufficient number of volunteers and radio clubs who agree to participate in the event.

A web page has been created at <https://nediv.arrl.org/ProjectBigE>.

Also, a special Groups.io mailing list group has been established. To join, send an email to [ProjectBigE+subscribe@groups.io](mailto:ProjectBigE+subscribe@groups.io).

To volunteer for specific days/hours, go to the special Google form sign-up sheet and register.

--de Phil Temples, K9HI

[And some more info about Project Big E has arrived.]

June 9, 2022

Dear New England Section Managers,

Phil, K9HI, suggested that I reach out to you all. As you visit online and in person and speak the clubs in your coverage area, would you please announce the Big E project and urge clubs and individuals to participate?

If you visit in person, please print and bring the attached Big E Recruitment flier and hand them out.

Here are some key points to mention:

**Dates:** Friday, September 16th through Sunday, October 2nd for 17 days

**Why do a booth:** To help clubs in New England grow by bringing in new people that want to become hams. All clubs need new members to stay strong and to build a future.

### The Booth:

- To showcase modern ham radio to the public
- To interest the public in signing up for more information and ham classes
  - This list will then be first distributed to the clubs that participate in the Big E Booth. They will have priority in receiving interested parties near them.
  - It will then be up to that club to hold a ham radio class and issue testing
  - New hams from these tests are a natural to join the club that helped them get their license
  - Adding new hams to the club ranks to move the club into the future
- Demonstrations of
  - kit building – appealing to the growing maker community (various forms from parts to the completed project)
  - Raspberry Pi and what it can do
  - STEM (Science Technology Engineering Math) learning and how it connects to ham radio and an ARISS contact from the Big E for home schooled students with New England Sci-Tech (school)
  - Morse Code
  - DX – Work the World through ham radio
  - Emergency Communications & Public Service

### VOLUNTEERS

- Plan a club day and sign up for one session or the whole day!
- Sign up individually for days you are available
- Join with friends to be at the booth
- Operate the Special Event Station – N1E from the booth
- Morning sessions are 6 hours and run 9:30 am to 4:00 pm
- Afternoon sessions are 6 hours and run 3:30 pm through 10:00 pm
- Volunteer for the whole day, 9:30 am through 10:00 pm
- The option to stay with a host family closer to the Big E vs driving a long distance to home

- Two host families so far with 6 available beds (more if you want to camp outside in a big tent)

**Learn More At:** <https://nediv.arrrl.org/project-big-e>

### Sign up at:

[https://docs.google.com/forms/d/e/1FAIpQLSd9\\_iH1ZucHuCFCNwreEuVPWnmLOT5D\\_s92vHPuEUASS78Tew/viewform?usp=sf\\_link](https://docs.google.com/forms/d/e/1FAIpQLSd9_iH1ZucHuCFCNwreEuVPWnmLOT5D_s92vHPuEUASS78Tew/viewform?usp=sf_link)

**Group Chat:** <https://groups.io/g/ProjectBigE>

**Further Questions? Contact Larry, WIAST at** [WIAST@arrrl.net](mailto:WIAST@arrrl.net)

## BE A PART OF IT!

Amateur Radio Exhibit @ The Big E – N1E  
West Springfield, Massachusetts  
September 16 – October 2 2022

"Project Big E" is looking for radio club members and individuals throughout New England to staff a large amateur radio display. You'll help explain amateur radio to thousands of people during the 16-day event.

In the past, 1.5 million people have attended The Big E—billed as the fifth largest fair in the nation! The interested public from across New England will be directed to clubs in their respective hometowns for classes, mentoring, etc.

Planning is underway for this exciting ham radio project. Please promote Project Big E to your radio clubs and club members.



Go to <https://groups.io/g/ProjectBigE> or scan the QR code for more information and to get involved.



Conn. Building at the BIG E

- Live ARISS space station contact
- Emergency communications display
- SSB, CW, DMR, other digital mobile modes
- Highlight youth involvement
- Showcase today's modern amateur radio activities: Parks/Summits On The Air, QRP, kit building and more!



### Upgrading Your License? Here's a Resource

If you are thinking of upgrading your license using one of the Online exam sites. I recommend that you take some free practice exams on HamStudy.org. I recommend it because the software used to generate practice exams on HamStudy.org is the same software that is used to create exams for online tests. By doing that when you take an online upgrade exam the test question format will be familiar. With HamStudy.org practice tests you should use the keyboard to select the answer, A,B,C, or D and not your mouse as that is way online exams are run.

--de Bruce Anderson, W1LUS

### Making ZOOM available to Elmers

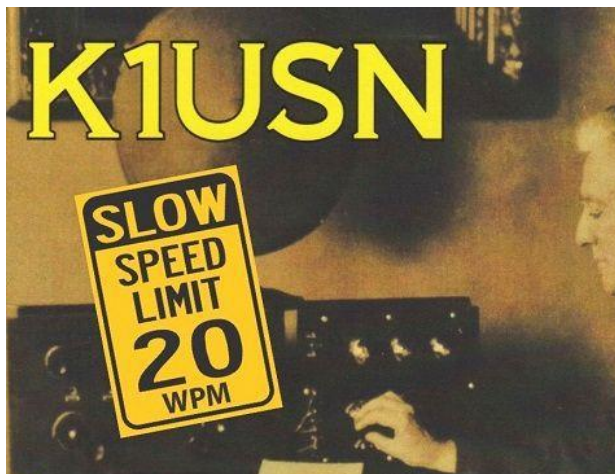
In this time of social distancing we have been using Zoom for our monthly club meetings. I have been thinking that Elmers could also be using Zoom to coach new hams instead of actually going to visit with them. Elmers could perhaps help with programming a new radio with the new ham sharing their computer screen and the Elmer helping to walk them thru the process. An Elmer could have Zoom on their cell phone and show a new ham how their shack was setup. Use your imagination and see how you might use this tool. If you would like to use Zoom for this, contact Bruce, [W1LUS@hotmail.com](mailto:W1LUS@hotmail.com), with a date and a time and a meeting will be setup for you. You may also contact Bruce if you would like training on using Zoom to Elmer someone.

--de Bruce Anderson, W1LUS

### Friday and Sunday Night CW Slow Speed Contest

Every Friday and Sunday night, there is a weekly slow-speed CW contest run by the local K1USN guys. This is a good way to polish up your CW skills. See <http://www.k1usn.com/sst.html> for details. Currently, the schedule is:

Fridays 20:00-21:00 UTC (3-4pm EST) and  
Mondays 00:00-01:00 UTC (7-8pm EST Sunday).



-- de Tom Walsh, K1TW

### Secretary's Reports

from Marla Wallace, WA1GSF, Secretary

#### BARS General Meeting July 6, 2022, 7 PM, EDT.

The meeting convened at 7:05. Mark Nelson reported on Field Day.

The program began at 7:10. It ended at 7:50, with discussion until 8:48. The meeting adjourned at 8:51.

There were 26 attendees.

#### There was no July BARS Board of Directors Meeting.

### BARS Membership

Our current combined membership is 148. To date 63 members have paid for 2022 membership. 44 members from 2021 have not yet renewed their membership. Anyone with a question about their renewal status can email me at [W1LUS@hotmail.com](mailto:W1LUS@hotmail.com) to get your current status.

### 2022 BARS Member Dues

A \$15 annual BARS membership now runs from January 1<sup>st</sup> and expires on December 31<sup>st</sup>. Any renewal or new membership made after September 1 will be valid until December 31<sup>st</sup> 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 July 2022

from Bruce Anderson, W1LUS, Treasurer

In July our expenses were Zoom \$15.93, PayPal \$.92. Our Field Day expenses were \$177 for food and I still am waiting for the Field Day meat bill. We had 3 new/renewals for an income of \$45. We now have \$520.94 in the Bank and \$1302.98 in our PayPal account for a total of \$1823.92.

The club liability insurance payment is due in September. We will vote on approving the payment of \$257.55 for the club liability insurance at the August club meeting.

We are accepting renewals for 2022. For 2022 dues will remain at \$15.

Dues can be paid several ways:

- Via bank to bank transfer with Zelle, Venmo, PayPal, etc. by sending \$15 to [bars.dues@outlook.com](mailto:bars.dues@outlook.com).
- With credit card by using the Join/Renewal membership form on the W1HH.org website.

## 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 Doug, N1WRN.

Also, the club needs volunteers for light tasks of ~ 1 hour a month. Are you able to pitch in? Contact Tom Walsh, K1TW.

## Wednesday Night Net

Join us on the Westford 146.955 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**). *Note: Thanks to the Westford Police Amateur Radio Team (PART) for their generous act of making their repeater available to us.*

Repeater info:

WB1GOF

146.955 MHz

-600 kHz (normal) offset

Encode CTCSS 74.4 Hz

Reminder: “kerchunking” the repeater is not only impolite, it’s illegal. It constitutes an unidentified transmission. If you need to check that you’re making the repeater, say something like “This is <your call> standing by on the frequency.” Thanks for your courtesy.

## Club Meetings

**Because of the continuing COVID health crisis, in-person club meetings are on hiatus. Club meetings are being held “virtually” using Zoom. We hope to resume in-person meetings in the fall.**

Club meetings are held on the first Wednesday of the month.

## VE Sessions

**Our VE sessions are again being held in-person at the Chelmsford Bible Church. Pre-registration for our in-person**

**exams is suggested. Contact [w1lus@hotmail.com](mailto:w1lus@hotmail.com) for registration information.**

VE sessions are held 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 \(map\)](#)

## July 14, 2022 VE Session Report

We had five people show up for their exams. Two passed their Technician exam. Two got their General upgrade and one got his Extra upgrade.

Our next Exam session will be on August 11 at 7:00 PM.

Thanks to Don W1DM, Gary W1GFF and Bill W1ZL for their help in running the session.

--de Bruce Anderson, W1LUS

## Club Breakfast every Saturday

On Saturday mornings around 8:30AM, have a virtual Zoom breakfast session (link provided in email if you subscribe).

We also meet in-person weekly at 8:00AM for a casual, social breakfast at Stelio’s restaurant.

[Stelio’s Family Restaurant, Billerica, MA](#)

## Future Meetings

**The 9/7 meeting 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](mailto: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](mailto:bars@w1hh.org)

## July Get-on-the-Air Suggestions from Scott Ginsburg, K1OA

BARS is a “get-on-the-air” (GOTA) club. We encourage members to participate in the varied events on HF and VHF.

Here are the popular suggestions for this month:

| <u>Date</u> | <u>Event</u>                                                                                                                                                                                                                   |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aug 6-7     | <b>10-10 International Summer Contest, SSB **</b><br><a href="http://www.ten-ten.org/index.php/activity/2013-07-22-20-26-48/qso-party-rules">http://www.ten-ten.org/index.php/activity/2013-07-22-20-26-48/qso-party-rules</a> |
| Aug 6-7     | North American QSO Party, CW<br><a href="https://www.ncjweb.com/NAQP-Rules.pdf">https://www.ncjweb.com/NAQP-Rules.pdf</a>                                                                                                      |
| Aug 10      | VHF-UHF FT8 Activity Contest<br><a href="http://www.ft8activity.eu/index.php/en/">http://www.ft8activity.eu/index.php/en/</a>                                                                                                  |
| Aug 13-14   | WAE DX Contest, CW<br><a href="https://www.darc.de/der-club/referate/conteste/wae-dx-contest/en/">https://www.darc.de/der-club/referate/conteste/wae-dx-contest/en/</a>                                                        |
| Aug 20-21   | <b>North American QSO Party, SSB **</b><br><a href="http://www.ncjweb.com/NAQP-Rules.pdf">http://www.ncjweb.com/NAQP-Rules.pdf</a>                                                                                             |

### \*\* Top recommendations for this month

Recurring Events – visit webpage for exact times and dates:

K1USN Slow Speed Test - Every Friday 20:00 UTC / Every Monday 00:00 UTC <http://www.k1usn.com/sst.html>

Straight Key Century Club (SKCC) Weekend Sprintathon – the Saturday following the 6<sup>th</sup> of every month at 1200 UTC  
[http://www.skccgroup.com/operating\\_activities/weekend\\_sprintathon](http://www.skccgroup.com/operating_activities/weekend_sprintathon)

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>

## Parting Shots

By Eric L. Johnson, KC1OAV

In a Galaxy Far, Far Away...

[Translated liberally from Blorg-ese.]

Blorg-1: Captain, we've intercepted signals from another distant civilization that has discovered E-waves.

Blorg-2: Have you detected any signs of intelligence?

Blorg-1: Not yet, sir. Their communication seems to consist of "on" and "off". Very crude, but I detect some basic two way messaging. I will attempt to study their culture.

[40 Earth-years later]

Blorg-1: I've learned a lot about their culture from their transmissions. They call themselves "Earth". They seem to be rather warlike. And I have some bad news: I've

picked up pulses that indicate they have discovered the secret of the atom.

Blorg-2: That's too bad. Most civilizations that followed this path have simply vanished.

[40 more Earth-years pass]

Blorg-2: How has that "Earth" civilization been doing? Any more blasts?

Blorg-1: They have continued as before, but now they've gone digital.

Blorg-2: Well, keep me posted. I'd hate to see them self-destruct.

[20 more Earth-years later]

Blorg-1: Oh the horror! The horror!

Blorg-2: What happened? Did they nuke out?

Blorg-1: No, I'm sorry... it's worse than that. **They're contesting!**

## BARS Leadership Team

### OFFICERS:

President: Gary Frascarelli, W1GFF  
Vice President: Mike Raisbeck, K1TWF  
Treasurer: Bruce Anderson, W1LUS  
Secretary: Marla Wallace, WA1GSF  
BoD: Don Melanson, W1DM  
BoD: Bill Poulin, WZ1L  
Ex Officio: Tom Walsh, K1TW

### VOULENTEERS:

Net Coordinator: Doug Bruce, N1WRN  
Newsletter Editor: Marla Wallace, WA1GSF  
New Member Outreach: John Fisher, KC1FTJ  
Field Day Chair: Mark Nelson, KA1INE