



NEWS FOR AND BY BARS MEMBERS

BARS BillERICA Amateur Radio Society

JULY 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.

Next BARS Zoom meeting: July 6 at 7:00 PM: "The History of Radio in New England"

By Donna Halper

What we now think of as commercial AM broadcasting began in the homes of amateurs. Historian and radio personality Donna Halper will join us to describe the early days of radio in New

England, from its modest beginnings to what has become a multi-billion-dollar industry.

Donna was born here in Massachusetts and began working in the broadcasting field in 1968 as a DJ and music director. In 1974, while at WMMS in Cleveland she "discovered" the progressive rock band Rush.

She has written several books, including the first book-length study devoted to the history of women in American broadcasting, [Invisible Stars: A Social History of Women in American Broadcasting](#). She also has taught college-level courses in broadcasting, media criticism, media history and radio programming and has a PhD from UMass Amherst.

There's a Wikipedia article about her at https://en.wikipedia.org/wiki/Donna_Halper and she has a website (and blog) at <http://donnahalper.com/>.



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@wlhh.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 7/6 here at 1900.

Gary, W1GFF
President, Billerica Amateur Radio Society

A Message From the Editor

from Marla Wallace, WA1GSF

“The Magic Band”

Many years ago, when the odor of burning draft cards was in the air, I operated six meters. Back then, the conditions were similar to what we are going to have this summer. It was approaching the peak of that decade’s sunspot cycle, resulting in sporadic E “skip” and weather conditions occasionally favored tropospheric bending. Six and ten meters are particularly well suited to surprise DX openings from these propagation modes.

I had passed my Technician class exam in 1966, just before my high school graduation, and set about assembling a station. My transmitter was a 25w AM set made from a modified taxi radio (2E26 driving an 829B with a home-brew modulator) and my receiver was an all solid-state, triple conversion superheterodyne, of my own design. My first antenna was a J-pole stapled to the side of the house; this was eventually replaced by a two-element cubical quad on a ten foot TV mast using an “Armstrong” rotator. Back then, there were no repeaters and darned little FM of any kind – there was limited CW and SSB, mostly restricted to the first couple of hundred kilohertz, and AM ruled the band.

I worked seventeen states during the summer of 1966, as far west as Wisconsin and as far south as Florida. Unfortunately, I had to set ham radio aside, mostly, that fall, as I started engineering school and had no time for the hobby. When I got back into the hobby, my six meter rig had suffered from being underneath a leaking dishwasher and was unusable. And two meter FM was becoming the VHF mode of choice; I got onboard the repeater bandwagon back before there was commercial gear for it, helping to put W1DC/R on the air. But by then the sunspot cycle was past its peak, so the “magic” had gone away.

KC1FTJ recently told me that the “magic” is back. He’s pretty close to beating my six meter achievements with modest gear and an indoor antenna. So if you can generate photons on 50 MHz, you really should keep an eye out for band openings this summer. You, too, can be a wizard!

Feature Article: Singer NF-105 Noise and Field Intensity Meter donation becomes BARS donation

By Andy Wallace, KA1GTT

A couple of months ago, my friend Don Piantaggini WA1KVK handed (well, hefted) to me a Singer NF-105 Noise and Field Intensity Meter. This (claimed) portable unit is very heavy and uses vacuum tubes. In ham parlance it is called a BOATANCHOR! For good reason! The device is used to measure radiated and conducted emissions in the spectrum from 150 kHz to 1000 MHz. Basically, it is a superheterodyne receiver with four plug-in tuning units to cover the range.



Being a fan of tube gear, Don had purchased the unit at a hamfest in CT. Based on the stickers attached, it was actually used at one time by the ARRL lab. It cost him \$15 and had three of the four plug-ins. He later spent a little more on the one missing unit via eBay. He just thought the device would be interesting and added it to his test equipment. But recently, he decided to move and rearrange his hamshack and decided the Singer had to go. He gave it to me hoping I could find a home for it. It even had the front cover and 2” thick manual. The manual by the way, can be seen here: [Download Singer Empire NF-105 Instruction Manual | ManualsLib](#)

I emailed the BARS and NVARC lists and had no takers. It is a specialized unit after all and unless someone was familiar with Compliance Engineering they might not have interest in it.

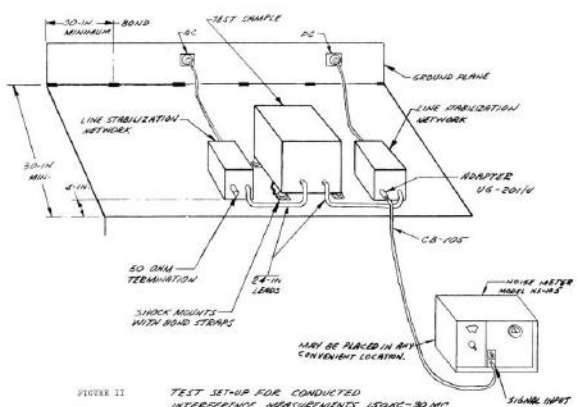


FIGURE II TEST SETUP FOR CONDUCTED INTERFERENCE MEASUREMENTS (150K-30 MC)

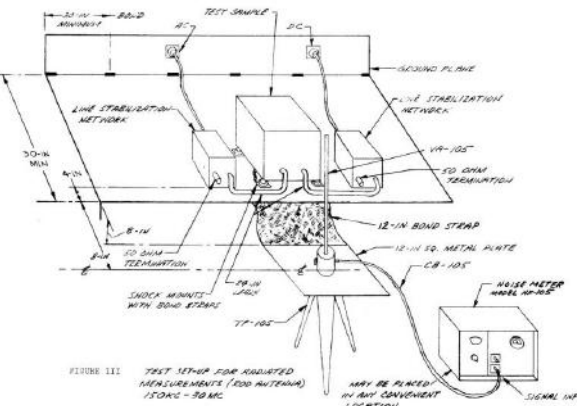


FIGURE III TEST SETUP FOR RADIATED MEASUREMENTS (150K-30 MC)

The power cord was missing but I was able to crimp some ferrules on a line cord and power it up. It came to life! With the .15-20 MHz plug-in installed I connected a few feet of wire and was receiving stations. The meter has extreme sensitivity so the IF gain had to be turned down and the attenuator switched in. But WBZ was coming out of the internal speaker. Heck, someone could use it as a basic radio if nothing else.

I was concerned that I would be left holding the bag and hated the thought of giving it away only to have it cannibalized for parts. The device was top notch construction and probably contained the very best components. It was missing the antennas and other accessories, and today is an archaic device replaced by modern spectrum analyzers and other easier-to-use gear. But I was hopeful I could find a home for it.

I thought of Mike Murphy, WU2D. I have told BARS about him before, and met him at Near-Fest too. He is quite the enthusiast and has put dozens of fascinating videos on YouTube: [\(139\) MIKROWAVE1 - YouTube](#) [WU2D - Callsign Lookup by QRZ Ham Radio](#)

Some of my favorites from Mike are:

REGEN NUTS: [\(139\) Regen Nuts - YouTube](#)

CRYSTAL SETS, ADMITTEDLY BIASED: [\(139\) Crystal Sets - Admittedly Biased - YouTube](#)

BIG RECEIVING LOOP PART 1: [\(139\) Big Receiving Loop - Introduction - YouTube](#)

THE NOVICE STATION 1960-1975 PART 1: [\(139\) The Novice Station 1960-75 Part 1 - YouTube](#)

You get the idea. I thought if anyone could use the Singer, or at least explore what it does, and maybe make a video of it, Mike was the guy!

I reached out to Mike and he came to my hamshack to see and hear it. After seeing my station and some of the interesting tube gear, we tried the Singer and he decided to take it. He was already familiar with its use and similar equipment from other manufacturers. When we first made contact, I said that if he took the unit it would be nice if he passed on a donation to BARS for it. My friend Don did not want any money. The manual alone is worth \$50 on eBay. So I am happy to say Mike generously donated \$60 cash to BARS for the gear. I then paypal'd the money to our Treasurer, W1LUS. Good for all of us!

Mike and I each grabbed a handle and lugged the thing to his car. I'll be interested to see if he ever makes a Youtube video on it.

Thanks very much, Don and Mike!

LIST OF EQUIPMENT AND ACCESSORIES					
QTY	DESCRIPTION	CAT.#	QTY	DESCRIPTION	CAT.#
1	Basic Receiving Unit	SA-100	10	Dipole Antenna Set (100-300MC)	DA-100-1
1	Tuning Unit (200-300MC)	T-1,NF-100	10	Line Probe (50-ohms)	LP-100
2	Switching Unit	SW-100	10	High Impedance Reading Post	PA-100
3	Tuning Unit (300-400MC)	T-2,NF-100	10	Dipole Antenna Set (300-400MC)	DA-100-2
4	Tuning Unit (400-1000MC)	T-3,NF-100	10	Dipole Antenna Set (400-1000MC)	DA-100-3
5	Tuning Unit (15-300MC) (300-400 MC)	T-4,NF-100	10	Antenna Masts	MA-100
6	Filters (100-200 MC) (200-400 MC)	FB,NF-100	10	Mast Socket	MS-100-A
7	50' RF Cables	CB-100	10	Low Antenna	LA-100
8	Power Cord, AC	CP-100	10	Vertical Antenna	VA-100
9	Grounding Strap	GR-100	10	Allen Wrenches	AW-100
10	RF Cable	LC-100	10	Magnetic Field Probe	EP-100-A
11	18" RF Cables	LL-100	10	Electric Field Probe	EP-100-B
12	Line Probe	LP-100	10	Clamp-On Probe	CP-100
			10	Block Clamp	BC-100
			10	Magnetic Line Probe	LP-100
			10	Line Probe (500-ohms)	LP-100

Feature Article: Wireless Intercept – Historical and Social Impact

By Henry Christle, WA1VAB

“Better than spies in enemies’ camps, better than balloons, planes or satellites, since invention of wireless it is better to listen to him than watch him.”

**“Wireless Morse code is the media,
read by people, and machines”**

Since Samuel Morse’s code and Marconi’s wireless merged, secure, accurate signals intelligence wins wars.

In 1916 three amateur radio operators near Hunston, Norfolk UK, call signs THX, HLX, and G2ST pioneered signals intelligence. Their success in CW messaging and radio direction finding in WW1 paved the way for signals encryption. See video link below, timeline, start to 4:00

<https://www.youtube.com/watch?v=RwbzV2Jx5Qo>

In 1939 Churchill decreed 100-year mandatory secrecy over Bletchley Park decoding operations, Y Stations, VIS, RSS CW messaging, and the 8 one-ton Colossi 2500 valve programmable computers built and used at Bletchley Park. Only since 2013 have operational details been made public. Bletchley Park decoding, and Beaumanor Hall intercept operation, now host web information and welcome guests to zoom and personal visits, more remarkable secret is still to be released.

Investigating this story has totally engaged me. In this article I am trying to summarize the key points and providing links for the reader’s further engagement. The article is organized in 3 sections: EVENTS, PEOPLE and MACHINES. Let’s begin:

EVENTS

WW2 Wireless Morse and Radio Direction finding (Fox hunting?)

The first successful RDF was at the Jutland Naval Battle, according to information released in 2014. Radio direction finding was equally as important as decoded military orders. See the example, below, relative to Jutland Naval battle.

Remember the mystery flick on TV, a corpse planted at sea to deceive? Check time 24:30 to see how it was engineered and succeeded.

<https://www.youtube.com/watch?v=RwbzV2Jx5Qo>

Note these specific time marks:

05:00 – 07:00	Jutland
07:00 – 12:30	first ham recruiting to VIs and Y stations
12:30 – 21:50	what VI discovered
21:50 – end	how secret messaging deceived Germans 2 battles.

Bletchley Park (Station X) Begins Signals Intelligence Value Proof

In March of 1941, Bletchley broke the Italian Enigma Code and learned Mussolini was about to spring a trap for American troop ships headed for North Africa Campaign. This enabled the Allies to save the day at Battle of Cape Matapan, which convinced bureaucrats heretofore unable to fathom dits and dahs, and wireless that intercepting this wireless Morse stuff was valuable.

Bletchley Park Codebreakers Bismarck Sunk May 1941

Locating Bismarck after Hood is sunk, finding intercept wireless message from a query of Bismarck Commander for Bismarck’s destination because his son was on the Bismarck. Jane Fawcett (below) searched Bletchley messages and where Brest was name destination. Loose lips sink ships



Jane Fawcett, The Young British Code ...
warhistoryonline.com

Bletchley Park Warns Roosevelt of U Boat Attack on US East Coast December 1941

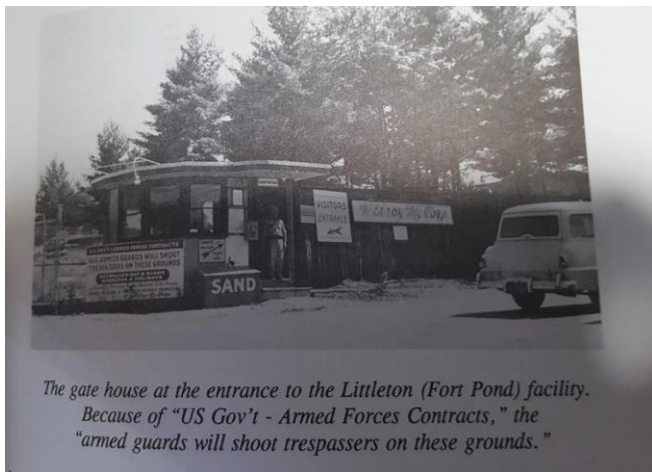
The US ignores the warning and suffers the worst Naval defeat of WW2, and Germany celebrates their largest Naval victory. 397 US merchant ships were sunk. Cape Hatteras AKA torpedo alley. Timeline 39:00 – 48:10

<https://www.youtube.com/watch?v=oGDu-rVTMG4>

Decoded German Enigma messages alerted the US of German U boats attacks in US protected waters. America could not intercede without exposing the fact that the Enigma cipher was broken. There were reported sub sightings in the Gulf, and off Cape Hatteras, which the US denied. In 1940 Ted McElroy moved his factory for manufacturing telegraph keys and automated Morse sending/reading machines from Quincy, MA to Littleton, MA, because he feared attempted acquisition of this technology by U Boats. This 3-minute video released in 2008 is about 300 lost ships shot from information released by Bletchley in 2013.

<https://www.youtube.com/watch?v=W8DahoJdpOs&t=35s>

This photo was taken of McElroy’s protected Littleton site 8 years after end of WW2, cold war is my guess. Ted McElroy’s Telegraph Apparatus Co, Chicago, <http://kb8tt.net/TAC/>



The gate house at the entrance to the Littleton (Fort Pond) facility. Because of "US Gov't - Armed Forces Contracts," the "armed guards will shoot trespassers on these grounds."

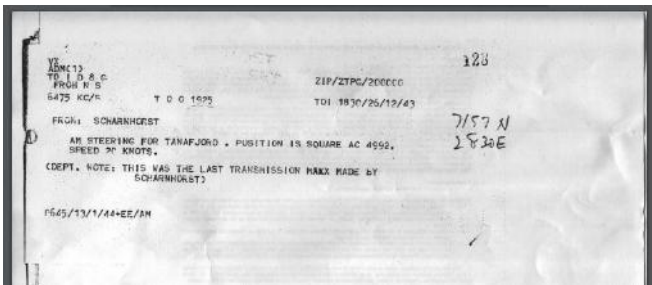
Last Message from Scharnhorst

One of the early decrypted Naval Enigma (1942) messages was the last message of cruiser Scharnhorst, which was sunk within the hour of the time the W/T RED FORM message copy below was transmitted, on December 26, 1942.

W/T RED FORM was standard format that wireless operators used to copy message content for intercepted radio messages. Note the top line heading "Set" entry is HRO No 2, which was National Radio, Malden, MA HRO, popular interceptor receiver. The white image below is English language translation.

The text format is 4 alpha characters, in 4 columns. Later forms went to 5 alpha characters in 5 rows, and finally 5 numbers in 5 columns, which was became standard format for Sarnoff RCA Radiograms, the current ARRL Radiograms, and also the format used in the "numbers" shortwave broadcasts, which only vanished the past few years.

Millions of W/T RED FORMs were destroyed at the war's end.



S.1319. Ref. No. 23

W/T RED FORM.

Ship or Station.	Set	HRO. No 2	Date	26.12.42	Operator's Remarks *
Time	Op.	J Rough.	Time Ended	See below.	O. S. A. 51.
To†	From†		Frequency & System.	6475 KHz	Last transmission from "Scharnhorst"

All before the Text.

Text, Time of Origin, Signature, etc. Write across the page, code and cypher on every third line.

1)	du KR ANA	KR KR ANALE LA		
	(Time made: 1932Z)			
2)	Priority	205	1925	21.
	UTKZ	RBSB	YKAE	NZAP
	MSCH	ZGFO	CUNM	RMDP
	YCOF	HADZ	IZME	FXTH
	FLOZ	PZLF	GGBO	TGON
	GRET	DWTF	IQHL	MWVT
	WKRJ	ASTR	UTKZ	RBSB. FA
	(Time made: 1832Z. Some noise. No further work.)			

Do not use Left Margin.

S.1319.

Bletchley Park Timely Intelligence Guided Eisenhower D-Day Decision

The video below is the clearest explanation of German encryption technology and beginning at time 18:00 the presenter explains the good fortune, which if never was detected we would have been unable to read Lorenz code, prior to an IBM 370, it's 60 minutes but excellent material. At timeline 43:30 listen for how Eisenhower's D Day decision was made by timely message from Bletchley Park. To me the most interesting part is Eisenhower did not share the message with his generals.

<https://www.youtube.com/watch?v=g2tMcMQqSbA>

At the End the of War Bletchley Data/Machines were Destroyed

In November of 1946, the Intelligence Agency destroyed the data and decoding machinery. Timeline 47:10 to end.

<https://www.youtube.com/watch?v=B9rWodcS3qE&t=341s>

[to be continued...]

Welcome to the Fourteenth BARS CW Corner

By Tom Walsh, K1TW

“What you can do with a Dipole”

Last month I talked about how one wire dipole antenna can get you on all 10 bands from 80 through 10 meters. This month let's use it!

Safety First

First things first, however. Remember, as mentioned last month, you must keep people safe from your antenna. This means that people cannot accidentally come in physical contact with your antenna. It must be high enough or otherwise protected from unintentional contact with another person or animals such as deer, pets, coyotes, bears, etc. Height (and fences when necessary) usually help by keeping people, pets, and wildlife safe. In addition, don't forget about lightning protection. Get help if you do not have experience with this.

Watch the weather forecasts for impending storms and be prepared. There are some great web sites which show how far or close lightning is to you (e.g., Blitzortung and Weatherbug). These may not help much against a pop-up storm that has virtually no warning – so stay alert.

Off-Air Testing vs On-Air Testing

I strongly recommend testing the antenna off-air if possible before you even think of transmitting into it. To do this you will usually need an SWR analyzer that generates a tiny signal to measure the antenna SWR. There are many different commercial types of SWR analyzers available.

A resonant antenna can easily be built that provides a low SWR (typically under 2:1). However, it may be resonant only over a narrow bandwidth on the desired frequency band. A typical rule of thumb is the SWR of the antenna should be less than 2:1 before transmitting into it. Otherwise, in some transceivers, damage to the output devices may occur unless protected by the radio's internal circuitry.

If the antenna SWR is more than 2:1 where you want to transmit, you may also need an antenna tuner. Many transceivers have simple built-in antenna tuners to bring mismatches of about 3:1 SWR down to the desired 2:1 or less. If the built-in tuner can't do so, you will need to think about adding an external tuner or further adjusting the antenna length to make it resonant.

When an external antenna tuner may be needed

On some bands, the antenna may only have a narrow range where it can be easily matched. In this case, external tuners can provide a much broader range in which the antenna can be used with low SWR. Another consideration is whether you need a balun to transition from open wire to a coax feed line. Some external tuners have built in baluns.

You will also need to choose between using a manual or an automatic tuner. Both are easy to use. A manual tuner will need to be adjusted by hand frequently as you change frequencies or bands. A good auto-tuner with memories is about as easy as it gets when changing bands. Usually, just push the tune button to start it and wait for it to complete. At home, I have several tuners that I use as needed.

The discussion thus far assumes you are using a typical 100 watt or so basic amateur radio station. I should note that the QRP community (typically running 5-watts or less) have produced some ingeniously simple and inexpensive tuning devices that typically indicate a high or low SWR simply by illuminating red and green LEDs. These are great fun, simple to build and use – provided of course you respect the QRP power levels designed for.

Does it work?

If you have resolved all the issues mentioned thus far (i.e., safety, grounding, lightning protection, SWR, tuners, etc.), it's probably time to put the antenna to the test.

There are many ways to find out how well your beautiful new dipole works. Here are a few suggestions:

- Get on the air and see if you can make contacts. I'll bet you can!
- Test it on the reverse beacon network. Pick a clear frequency. Send several QRLs to make sure it is clear. Then spot yourself by sending test (3 times) followed by your call 3 times. Voila, you should see where and how strong your signal is from multiple locations.
- Lastly, I think a good test is to enter a CW contest. Do stations come back quickly when you call them or do you have to fight hard to be heard? How well are others being heard from New England?
- Try CW QRP in a contest and see how well you do.

If your antenna isn't performing, don't despair. Do you have trouble working stations when those with similar stations do not? In that case:

- Maybe your antenna needs attention;
- Check your connections and feedline;
- Maybe your antenna needs a bit more height;
- Maybe propagation isn't so good that day;
- A dipole is directional, if high enough. How is yours oriented?
- My favorite orientation is to make a dipole broadside NE and SW. Those directions favor Europe and much of the USA.

Now enjoy the beautiful antenna you have just built, tuned up, and matched!

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

Until next month
73,
Tom K1TW
k1tw@arri.org

Feature Article: BARS Field Day Preliminary Results

By Ken Caruso, WO1N

Hi all, I don't know about you but I had a great time at Field Day this year! I saw Marla's call for newsletter input and I didn't want it to go by without providing at least my take on it. Mark, KA1INE did a great job in his first time out as Field Day Chair and Kevin, KB1KTR and the Billerica Emergency Management Team made all of our lives super easy with them do 99% of the heavy lifting.



Mark knows how to keep his FD team happy

I volunteered to do the computer setups (at the very last minute, my apologies). I was thinking this was going to be a piece of cake since I had carefully packed away the Field Day computers from our effort from 2019. Nope!

I began tackling this as soon as we finished the Field Day readiness meeting on Thursday night. One computer started up and was in pretty good shape but I noticed it was not doing OS updates which I needed so we could run the latest version of N1MM+. Fortunately I "work" from home so I was able to babysit these things all day Friday. Hours of carefully walking through a few critical updates one by one finally broke the flood gates open and it finished updating around Friday evening at 11:00 PM. Updated N1MM+, connected to the FD Wireless network and was good to go...

The second computer was toast. The battery would not charge and the disk, though spinning and passing all tests would not boot. I did not have a recovery disk so I set out to reload from scratch. About 30 reboots later it was reloaded and up-to-date. This was about 1:00 AM Saturday.

I was so worried about that computer I set out to provision another two laptops I had. I use one pretty much daily for different ham applications. Loaded N1MM+, synced up with the first laptop and at that point it took the pressure off as I had a pair that we could use. The next one needed its disk replaced and had to be reloaded from scratch. I put an SSD in it and had it up and running about 2 hours later.

So, we went into Field Day with four usable laptops. I was good to go!

As I didn't have access to the radios beforehand, I knew there would be some challenges on-site. I was able to sort out Mark's Icom 7300 in short order so that was ready at the start. I never was able to get the 2nd radio to communicate with the computer but that is a survivable situation and we were able to use it and only had to make sure the log was on the band we were actually on.

Results

We were on the air for 12 hours. We had 14 different operators try their hand at operating on the two stations. Here is our score breakdown:

Band	Mode	QSOs	Pts	Pt/Q
3.5	LSB	22	22	1.0
7	LSB	79	79	1.0
14	CW	101	202	2.0
14	USB	28	28	1.0
21	CW	20	40	2.0
21	USB	19	19	1.0
28	CW	1	2	2.0
-----	-----	-----	-----	-----
Total	Both	270	392	1.5

So, 270 QSOs, 80-10M. Mark will provide our final tally when all of the special scoring points are added.

Someone asked who operated at the Post Event wrap up. As I mentioned, we had 14 different operators:

Operator	CW	LSB	USB	Total	Accum
AKI	0	11	0	11	11
KA1INE	0	0	4	4	15
KB1KTR	0	3	0	3	18
KB1KYS	0	1	0	1	19
KC1NMX	0	0	14	14	33
KC1OAV	0	4	0	4	37
KC1ONM	0	0	6	6	43
KC1QKU	0	1	0	1	44
KC1RET	0	17	9	26	70
N1ALO	0	0	12	12	82
W1LUS	0	13	0	13	95
W2IRY	0	36	0	36	131
WA1SMB	0	7	0	7	138
WO1N	122	8	2	132	270
-----	-----	-----	-----	-----	-----
Total	122	101	47	270	270



Aki with his dad taking a well deserved operating break

So there you go. Another great Field Day event had by BARS.

Strays

A NEARFest Haiku

Many boatanchors!
You had to collect them all.
Top floor crashes down.

--de Andy Wallace, KA1GTT

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 will be 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
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Longmeadow, MA 01106-2759
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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.

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

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

Further Questions? Contact Larry, WIAST at 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

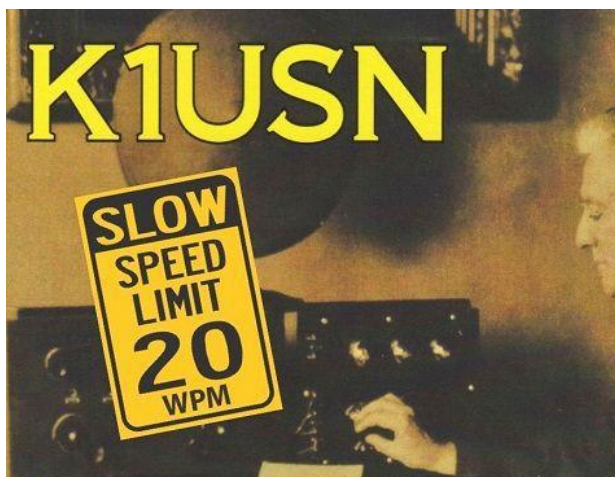
In this time of social distancing we have been using Zoom for our monthly club meetings. I have been thinking that Elmers could also be using Zoom to coach new hams instead of actually going to visit with them. Elmers could perhaps help with programming a new radio with the new ham sharing their computer 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, 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 June 6, 2022, 7 PM, EDT.

Bruce, W1LUS, called the meeting to order at 1900.

Tony's talk on troubleshooting began at 1905 and ended at 2010.

A Field Day discussion followed. We are still looking to fill all staff positions. Looking for equipment, too.

Gary wants two club members to commit to a radio interview about Field Day on 980am, WCAP on Friday June 24th at 4:05pm. The interview would take place in person at the WCAP Studios in Lowell, from 4:05 – 4:30 PM. This would qualify our club FD operation for the 100 Bonus Points for Media Publicity.

The program for our 7/6 meeting will be Donna Halper's talk on "The Origins of Ham Radio in New England".

There were 24 participants.

The meeting adjourned at 2045.

BARS Board of Directors Meeting: June 16.

The Board of Directors meeting was convened at 7:40 PM via Zoom.

Attending were Bruce, W1LUS; Gary, W1GFF; Tom, K1TW; Don, W1DM; Bill, WZ1L; Marla, WA1GSF; and (by invitation) Mark Nelson, KA1INE.

There were two items on the agenda:

- Project Big E

It was determined that it would be okay to run the announcements that Larry Krainson sent to me. They will appear in the July newsletter (see elsewhere).

- Field Day

We have 14 operators confirmed and most of the equipment and antennas, but we still need accessories such as tuners, computers and networking hardware. Logging software will either be N1MM+ (which is free) or N3FJP (which isn't, but can be purchased from the funds budgeted for Field Day operations at the June meeting).

We need to have an extra-class licensee on site throughout operations so that all operators are permitted to use the whole of each band.

Tom will arrange a visit by an elected official (for bonus points).

We're still looking for two people to go to the WCAP studios to be interviewed (by Gary) about Field Day. Probably Mike, K1TWF, and Mark Nelson.

The meeting adjourned at 8:30.

BARS Membership

Our current combined membership is 138. To date 62 members have already renewed for 2022. And 46 members from 2021 have not yet renewed their membership. Anyone with a question about their renewal status can email me at W1LUS@hotmail.com to get your current status.

2022 BARS 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 June 2022

from Bruce Anderson, W1LUS, Treasurer

In June our expenses were Zoom \$15.93 and PayPal \$2.02 We had 2 new/renewals for an income of \$30. We now have \$682.91 in the Bank and \$1289.83 in our PayPal account for a total of \$1972.74.

A sum of \$300 was approved for Field Day expenses at the BARS May monthly 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.
- 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 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](#)

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 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 \(map\)](#)

June 9, 2022 VE Session Report

On June 9, we had six people show up for their exams. Five passed their Technician exam.

Thanks to Don, W1DM; Gary, W1GFF; and Niece, KA1ULN for their help in running the session.

Our next Exam session will be on July 14 at 7:00 PM.

--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 8/3 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 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

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. The IARU contest is the big activity for July. Also, if you're equipped for 6m and haven't been on yet now is the time! Sporadic E layer propagation is in full swing. There have been multiple openings to Europe and an occasional multi-hop Es opening to Japan. Fun can be had with as simple an antenna as a 6m dipole which is only about 9 feet in length.

Here are the popular suggestions for this month:

<u>Date</u>	<u>Event</u>
Jul 9-10	IARU HF World Championship** http://www.arrl.org/iaru-hf-world-championship
Jul 16-17	North American QSO Party, RTTY https://www.ncjweb.com/NAQP-Rules.pdf
Jul 16-17	CQ Worldwide VHF Contest https://www.cqww-vhf.com/
Jul 23	Youth On The Air (YOTA) Contest https://www.ham-yota.com/contest/
Jul 30-31	RSGB Islands On The Air (IOTA) Contest** http://www.arrl.org/field-day

**** 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 6th of every month at 1200 UTC
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

.....

A Visit to the CW OptHAMologist

OK, Let's check your copy, Mister Jones. What's the faintest you can copy?

DIT-DAH-DAH-DIT DAH-DAH-DAH DIT DIT-DIT-DAH-DIT

Thats "P", then "O", then "E", and "F"

Very good! Now try this:

Dit-Dah Dit-Dit-Dit-Dah Dah-Dah-Dit-Dah Dit-Dit

OK thats "A", "V", "Q", and I think "S".

Thats pretty good, but you missed the last letter "I". Now try this:

dit-dit-dit-dit dit-dit-dit dit-dit-dah dit-dit-dit-dah

I think it's "S", then "I", then "U" and maybe "B". Did I get that right?

No you did not. Lets try that last line this way. Now which is better:

IAMBIC-A

dit-dit-dit-dit dit-dit-dit dit-dit-dah dit-dit-dit-dah

or

IAMBIC-B

dit-dit-dit-dit dit-dit-dit dit-dit-dah dit-dit-dit-dah

I think it's IAMBIC-B...can you go back, please?

...and so it goes...

(later)

Now lets check your sending Mister Jones. Send this line as accurately as you can:

"Ben's Best Bent Wire"

dithahtiddididahdddiitt

Slow down! try for accuracy!

Dah-Did-Dit-Dit Dit-Dit Dah-Dit Dah-

Stop right there! Are you using a straight key?

Er...yes.

Mister Jones, you should not be using a straight key. I'm going to recommend a paddle for you.

Meanwhile, have you cleaned your contacts?

.....

BARS Leadership Team

President: Gary Frascarelli, W1GFF

Vice President: Mike Raisbeck, K1TWF

Treasurer: Bruce Anderson, W1LUS

Secretary: Marla Wallace, WA1GSF

Ex Officio: Tom Walsh, K1TW

Net Coordinator: Doug Bruce, N1WRN

Newsletter Editor: Marla Wallace, WA1GSF

New Member Outreach: John Fisher, KC1FTJ

BoD: Don Melanson, W1DM

BoD: Bill Poulin, WZ1L

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